Martin Audio & TiMax Team for Immersive TED Theatre

Pictures: Gilberto Tadday & Jason Redmond / TED



For one memorable week each year a wing of the large Vancouver Convention Centre event space transforms into the custom-built 1,200-seat TED Theatre - which hosts powerful, high-profile talks aimed at driving meaningful change. As the non-profit TED Organisation’s relationship with its current PA supplier was nearing an end, their long-serving and highly experienced audio consultant, Michael Nunan was working on a TED Countdown project in Brussels, alongside FOH sound engineer Miles Barton, another veteran of TED event sound mixing. “We were discussing what PA manufacturer would be a good choice going forwards,” Barton recalls. “I’ve used Martin Audio gear since leaving college 24 years ago - and now use it regularly with [Martin Audio rental partner] 22Live.”

He believed the two brands - TED and Martin Audio - would make a good alliance, and duly asked 22live director Spencer Beard to make the connection with TED Head of Production, Mina Sabet. She, in turn, contacted Martin Audio MD Dom Harter - and the idea quickly gathered momentum. Sabet was determined to disrupt the orthodoxy when it came to audio projection. “There's a level of perfection and

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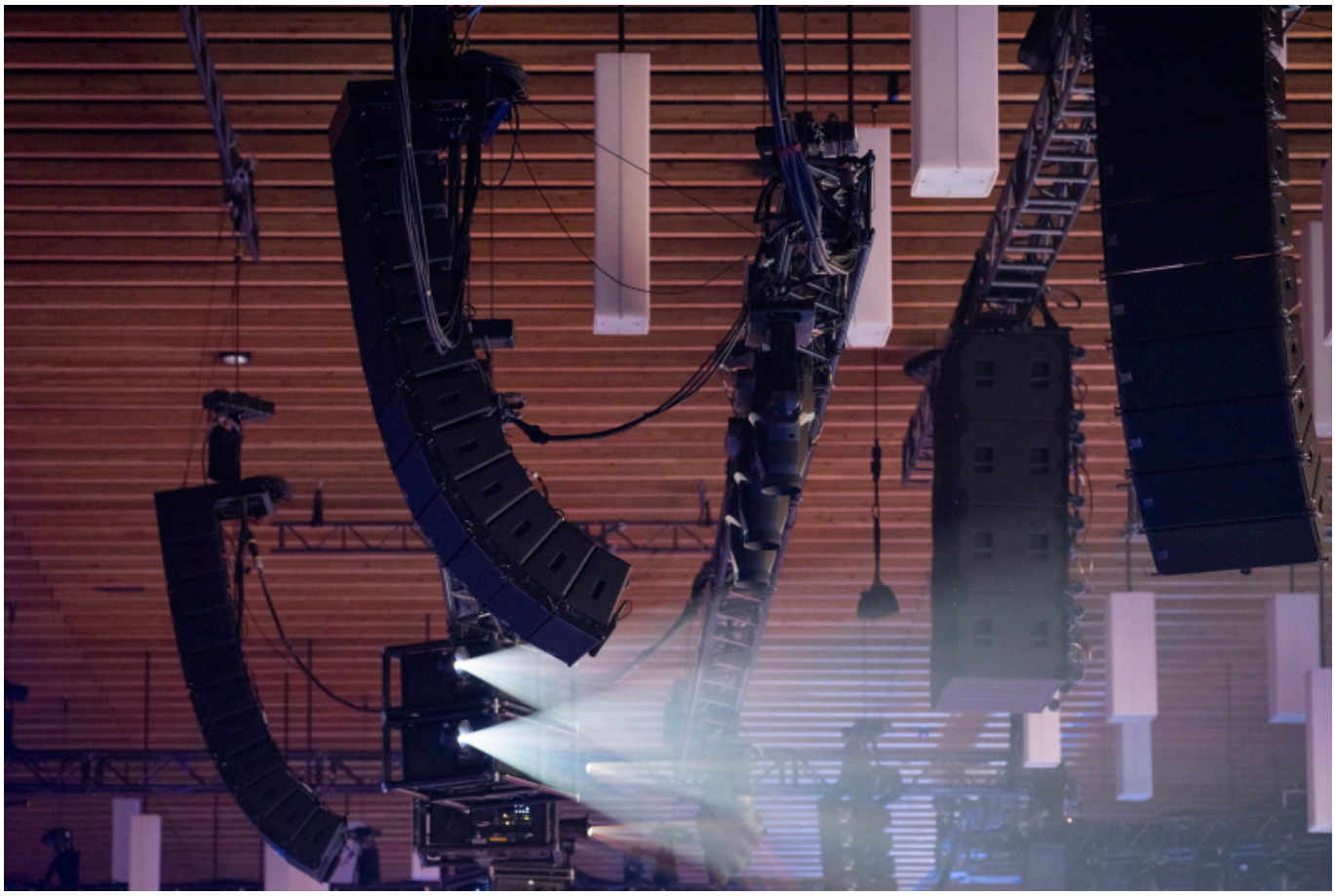
excellence that we look for and a very specific sound. I want speakers to be very ‘present’ - as if they’re standing in front of you - something very different from a corporate event. And for performances and music we really want an immersive space, so that attendees would feel a deep sense of connection with both the speaker and the room.”

This was a challenge that Dom Harter readily embraced. “Miles had recommended our optimisation as a tool to improve TED broadcast quality by reducing spill from the PA. At that point we introduced Simon Honywill to design and spec it - and upgraded it to a TiMax spatialisation platform.” Honywill himself said, “I was thrilled, as I’ve been a long-term advocate of all things TED related, having worked on a TED Global event back in 2013, and even delivered my own TEDx talk.

Another bonus was the fact that this was to be in their own portable auditorium, made entirely of sourced Douglas fir trees that has been reused annually since 2014 when it was originally designed. “This made it a really beautiful environment to work in,” said Simon Honywill. “It’s the reason I really wanted to go to town on the design, because while most of the output is speech, video content, audio bumpers and live music also play a major part.” Simon Honywill knew that by incorporating fellow Focusrite Group sister brand, TiMax into his design, a spatialised solution would enable seated audiences of up to 1200 people in the auditorium to receive the sound naturally at their seat rather than it appearing to emanate from a loudspeaker.

For the designer, the challenge as much as anything was the fact that he would be liaising with Nunan, Sabet - and Martin Audio integration partner Alford Media - remotely from his base 4,600 miles away. He was also acutely aware that aside from the live audience, TED would want to deliver a pristine broadcast feed on its streaming platform for its many subscribers. Honywill developed the workflow, creating a sound system model and transferring designs created in Vectorworks to SketchUp and then importing into Martin Audio’s proprietary DISPLAY3 - before handing over responsibility to Eric Faulk at Alford Media for implementation. “The model actually looked great,” he smiles. This enabled him to send comprehensive, and immersive delayed sound to both surround and overhead speaker locations.

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Five hangs of WPS line array were positioned in an arc - the three centre hangs with 11 elements deep and the two outer hangs with nine deep - making 51 fully-optimised boxes in total. These were supported by a central array of 10 SXC118 cardioid subs. The main surround rear speakers comprise four hangs of four Martin Audio TORUS horizontal arrays, with FlexPoint 12 high performance coaxial point source boxes enveloping the space and distributing all the overheads to create full immersion in an object-based scenario. Subwoofers for surround comprised of SXH218 below the TORUS arrays.

To optimise the implementation of TiMax SoundHub distribution matrix, Simon Honywill worked closely with TiMax co-founder Dave Haydon and Senior Product Developer, Dan Higgott. “With Martin Audio’s DISPLAY prediction software we could very accurately predict what the sound system was going to sound like. And with the TiMax software we were able to pre-calculate all the level and delay to every element of the system,” said the latter. “The big difference with a TiMax immersive system such as TiMax is that with TiMax we can calculate the delay times for every loudspeaker and input source back to the position of that source. It allows the perception of the sound system to completely disappear for the audience; if you do it correctly the audience can forget they are listening to amplified sound.”

TED presenters occupy a set position downstage centre for their delivery - and the PA is aligned to that. Simon Honywill: “While TiMax handles that elegantly - there

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was content submitted in 5.1, and between Dave Haydon and I, we came up with a concept whereby there was a kind of generic set of image definitions that spread the 5.1 source out across the system in a very convincing way. “Michael Nunan was saying that the broadcast feed sounded the best it had ever done.” In fact he reports that the FOH (and Broadcast A1) team were hearing between 6-10dB less PA in the Presenter's headset mic than in the past. “That is, the PA design was very effective at preventing the energy from the house spilling back onto the stage,” he says, giving it further context.

Both Nunan and Martin Audio’s Brad Stephens also emphasised the importance of having a sound system “that doesn’t put audio where it’s not wanted.” Said Stephens, “With the sound optimised for the room we can define coverage from front to back and exclude areas, either by ignoring them or actively excluding them with the ‘Hard Avoid’ [feature].” This was particularly appropriate for the stage area - an attribute also highlighted by Mina Sabet.

Reflecting on the fit-out, she said, “What sets this experience apart is that Martin Audio has been really focused in making the venue deeply immersive in a way that we haven’t experienced before at a TED conference. And in that respect TiMax is unmatched. The partnership between Martin Audio and TED is taking us to another level of audio that we never thought possible.”

Michael Nunan agreed. “Previously it has been unavoidable hear the voice coming from the loudspeaker that I am sitting closest to. But the first time we put up a microphone on the stage this year the big, distributed Martin Audio PA was effectively transparent. It has completely changed their approach to pathways and how to manage the show in a single workflow. Using TiMax SoundHub creates enormous operational efficiencies.” In summary, Mina Sabet said, “What I'm very impressed with is the time, energy, thoughtfulness and expertise that the Focusrite Group has brought to the event. They really came through, in what was a complicated set-up. I know Michael Nunan was thrilled, and very excited about the potential.”

Next year will be the TED Conference’s 12th and final year at the Vancouver Conference Centre before relocating to California and she is confident that the sound will make a further quantum leap. “I’m really excited about the future and the opportunity to make it even more immersive,” she exclaimed. “The potential is amazing, and I further expect to be blown away in year two.”

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