Martin Audio TORUS for Leeds United Stadium



Over a decade after installing a Martin Audio public address system at Leeds United's Elland Road stadium, Alan Inkster, and his company Imperium Integration, have returned to totally renew the PA/VA set-up with the British manufacturer's latest tech, headed by the TORUS constant curvature arrays. As part of a general stadium upgrade, and as a precursor to increasing the ground's capacity as Leeds United return to the Premier League, more than 100 Martin Audio speakers have been carefully detailed to provide seamless coverage across all four stands - including the corners - as well as the TV production studios, hospitality and general ancillary areas. This reflects the growing influence and ambition of the club's owners, 49ers Enterprises, and their desire to create a more engaging match day experience while meeting all life safety standard compliances.

"The club needed to replace the PA system because it had reached end of life," explained Inkster. They originally reviewed a number of potential solutions almost three years ago at the inception of the contract. "But then TORUS came out just as we received the order, and so we changed it to TORUS. It was perfect timing. As a fixed curvature array it's brilliant and absolutely kills it in a stadium this size. It's almost like it's designed for it. We tested it side by side with other people's equipment and sonically and acoustically, it's stunning as well."

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The club sanctioned Imperium's recommendation and each stand is now equipped with TORUS T1230 (12in, 30° constant curvature) arrays. "We kept uniformity with TORUS because you get a different timbre when you use different speakers. We needed more bass, and the moderate weight of TORUS allowed us to put subs in the hang configuration, without giving the structural engineers heart failure!"

The East Stand comprises six 3-box TORUS arrays, each with an SXCF118 cardioid sub, with double TORUS arrays for the top tier. The North Stand comprises six TORUS arrays (every second one with an added SXCF118). The West Stand is populated with eight TORUS arrays, every second one with a sub, and at the rear the installers have used CDD12s in view of the physical barrier presented by the press gantry. Finally, the South stand is equipped with six TORUS arrays (every alternate one with a sub).



Maintaining seamless sound into each corner are further triple TORUS T1230 arrays, which can equally be raised and lowered. This is vital, as the owners were insistent that they didn't want to bring in cherry pickers and heavy equipment to raise and lower the PA. This required them to fly the system and assign large double drum electric hoists to each array for lowering the rig.

For the rest of the stadium Imperium have turned to Martin Audio's CDD series and Blackline. "For instance in the broadcast studio, we've used eight CDD5 because

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when not being used as a studio the area is used for private boxes, and since it’s sound-proofed we have to pipe the sound from the stadium back through them.” Elsewhere Blackline X12s are used in the 2,000 sq.m Centenary Pavilion event space, as well as CDD LIVE 12 in Yeboah’s Crossbar, a hospitality area found opposite the East Stand. Some 40 different banqueting suites and boxes, Bars and other areas have been equipped with Cuboid 6 speakers from Focusrite Pro sister company Optimal Audio, and a further 20 Cuboid 5 models have been fitted elsewhere around the ground.

TORUS ticked so many boxes, confirmed Alan Inkster, mitigating many of the inherent problems. “Each stand is totally different, both in structure and materials it’s built with, which acoustically causes issues. Yet we managed to address this by using TORUS which answered 95% of all the questions the stadium environment asked of it. In terms of being able to fly the arrays in a semi-permanent manner, the metalwork that comes with TORUS is brilliant and really easy to put together, so the actual flying of them was the easiest part in the end.”

Given that the stands were older and of disparate manufacture not least of Imperium’s concerns had been weight-loading. The icing on the cake was when they realised how light TORUS was. “The weight saving we made through using TORUS allowed us to use those subs,” he explains. “I also like the manufacturing quality and the way it looks, as well as the fact TORUS has different 15° and 30° options … although in this instance we only used one.” Imperium also focused on system intelligibility by deploying Martin Audio’s proprietary DISPLAY 3 software … “as direct SPL is the key in a loud stadium,” says Alan Inkster.

In summary, he says, “The feedback we have received from the club has been stunning; they knew as soon as we put the first array into the South Stand. The difference between that and the old system was amazing. Putting uncompressed audio through it reveals the true performance of the system.” Finally, he recognises, any installation project of this magnitude is only as successful as the partnership between vendor and service company. “Martin Audio were onboard and cooperative right through the process, exactly as they were when we equipped the stadium first time around. “And that’s another reason we chose Martin Audio … because we don’t forget!”

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