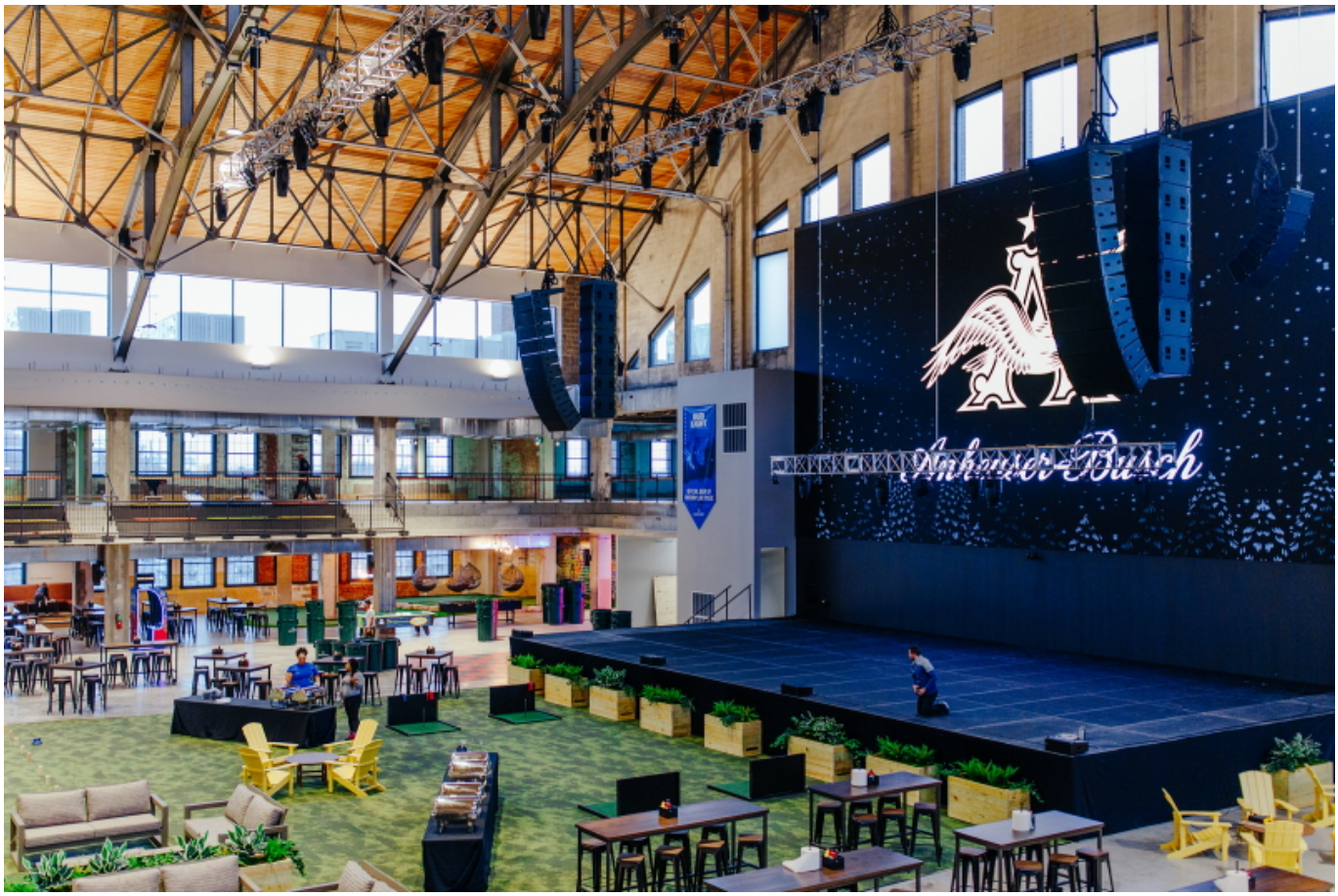
Martin Audio at St. Louis' Armory Restoration



Headed by their flagship WPL line array, Martin Audio systems have been specified throughout the vast 250,000 sq. ft Armory complex in St. Louis, MO. Originally constructed in 1938 as an Armory for the Missouri National Guard - part of the New Deal after the Great Recession - it later became a US tennis HQ before transforming into a concert venue in the 1960s and 1970s (featuring Ike & Tina Turner and the Grateful Dead among others).

More recently it has had a chequered life, before falling into disrepair. Several times it went back to the drawing board before Jake Miller and Chris Honstain of hospitality specialists Brick + Bev, an affiliate of local developers Green Street Real Estate Ventures, took it over. Honstain and Green Street's Phil Hulse put their heads together and the project then went into overdrive.

The operators' principal focus was The Commons, the huge 85,000 sq. ft main concert hall, with a 60ft x 32ft stage - the first of three spaces that will feature Martin Audio components over a phased opening. They were put in contact with Brad Stephens at Martin Audio North America, and their integration partner AVI Systems, who had worked with some of the facility's operational staff over the previous six years, were awarded the contract.

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They in turn specified Martin Audio's WPL line array as being the optimum solution for the 5,200-cap space - a decision endorsed by both Honstain and Production Director, Rek Mohr. The former described the sound system as "incredible", adding "it really blows you away." He characterises the building itself "as one of a kind; there's no way anyone would build it again."

Rek Mohr also gave the sound system an unconditional thumbs-up. "I had never worked with Martin Audio before, but I just love the sound—and the quality you get is incredible. All the different boxes we have in here sound fantastic in their own right and I'm very impressed." By this he is also referring to TORUS, CDD and ADORN series, which feature elsewhere.

The Commons sound reinforcement system was designed by AVI's John VanStipdonk. His FOH system comprises 20 WPL (10 per side), with 12 of the smaller footprint WPS as outfills (six per side). They have flown 12 SXCF118 subwoofers, with a further four SXH218 ground subs. These are all powered and processed in Martin Audio's dedicated iKON iK42 and iK81 multichannel amplifiers. Explaining the subwoofer design philosophy, he said, "We decided to use the cardioid subs for rejection on the stage. There are two hangs of 6-deep behind each main array. Additional SXH ground stack subs are brought in for national artists and most larger shows."

John VanStipdonk further emphasised that Martin Audio's advanced system control had been a huge part in the decision making. "This is a mostly concrete building with a long reverb time. Wavefront Precision's ability to 'Hard Avoid' the rear wall and other highly reflective areas was critical." Continuing the theme, he said, "The main room is basically a long concrete box, with a 300ft-plus foot throw from the main stage to the rear coverage areas - the rear wall is a concrete elevator shaft. Optimisation with Martin Audio's DISPLAY software was key in taming the space, and while some acoustic treatment was done in that area, it was the Hard Avoid function that really brought it all home."

DISPLAY software was deployed for design and preset creation, with the manufacturer's proprietary VU-NET used to upload configs, tune and commission the rig. Using VU-NET software for the amplifier control and monitoring cut down system optimisation and calibration time, he said. The integrator was assisted in system set-up and tuning by Martin Audio's Joe Lima. "I had great support from Martin Audio as always; Brad Stephens and Joe were instrumental in making this project a success," he summarised.

Rek Mohr also pinpointed the attention to detail with the optimisation and agreed that, on reflection, "the control is one of the best parts of the whole system." He reports, "The Martin Audio guys came here to tune the PA and we worked on it to ensure everything was aligned, since the room is the biggest challenge—it's very cavernous with a lot of echo, and you have to know what you're doing. In fact, because of the size of the room and the number of traps, I had expected more challenges than there were."

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Now attention turns to finalising the two other key spaces - the EDM dance hall and a nightclub. The 3,200 sq. ft basement EDM space will be more of a challenge, believes Mohr. "The ceiling clearance is 15ft instead of 80ft and there are more highly reflective surfaces, so control is even more important." There is also a large, 8ft diameter original chimney which is being reactivated. Chris Honstain reveals that the 33,000 sq. ft nightclub will have a unique twist … "something that no one has done for decades", he teases.

AVI Systems are finalising Martin Audio installations in all these areas - with four TORUS arrays destined for the EDM room and eight CDD15 and four SX218 subs hung in the other space. ADORN speakers also feature in the ancillary areas, including the restrooms.

As the operation team reflect on the success of the sound system, the final word comes from Rek Mohr: "John [VanStipdonk] didn't know whether we'd like the [Wavefront Precision] when he first brought it in. But I absolutely love it!"

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