TO THE 5 BOROUGHS

NEW YORK, USA
THE AMERICAS

OUTPUT

Google 'Output Brooklyn' and you won't find a great deal, no press, barely any imagery, and no reviews…

And this is exactly how co-owner and international DJ, Nicolas Matar intends for it to stay. Inspired by the underground club scene of the '80s and '90s, and more recently the underground club scene in Berlin, the mystery that surrounds Output is part of what makes it so intriguing. Add to this, the fact it's found home in the up and coming, ultra-cool hotspot of Williamsburg, Brooklyn, which is fast becoming the epicentre of underground music culture in the US, and you've got yourself a recipe for one of the most exciting, most talked about, yet unpretentious clubbing venues in New York.

As with Nicolas' other nightclub Cielo, which has been part of the New York clubbing scene for 10 years this year, Output is all about the music. There is no bottle service, drinks are reasonably priced, there's no door policy and there is strictly no press or photography allowed. Output is a venue run by music lovers for music lovers.

Having worked with Dan Agne of Sound Investment - a Funktion One

specialist - for a number of years at Cielo, when it came to developing the sound system for Output it was a natural choice that Nicolas should work with him once again.

"After Cielo we had to up our game considerably," said Dan. "Output is a much bigger space than Cielo, "and every link in the chain had to be high quality, whether this was the PA system, processing, amplification, the DJ monitors and so on. Acoustically, the club's elements were really taken into consideration, even more so than at Cielo, every square inch of the building uses proper acoustic material. There isn't much you can do to prepare yourself for the experience of going into Output and seeing, hearing and feeling an artist that you appreciate. People keep saying to me that they've never heard a sound system like it."

With quality of sound of such high importance, it was only natural that Funktion One's very own Tony Andrews would work alongside Dan and Nicolas on the commission and installation of the sound system. Tony explained: "Nicolas had been searching for a suitable building to home Output for a number of years, so once he found it the first stage of the audio mission was to prevent sound leakage, particularly bass frequencies, into the neighbourhood. Project Manager George Alan of Design Department NYC suggested floating an eight-inch slab of concrete on four-inches of neoprene rubber over the entire
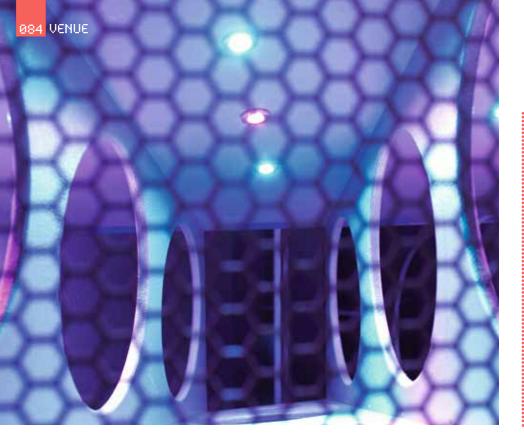
roof - this treatment proved to be very successful.

"The second stage was to treat all relevant internal surfaces with sound absorbing material. When I visited the club in late January to commission the system I could hear that the acoustic treatment was of the highest standard as soon as I walked into the room. There were no reflections from my footsteps or voice - this was a good place to start the audio from.

"Nicolas completely understands the importance of audio quality so it had to be pristine and balanced but also a step beyond Cielo," continued Tony. "The audio equipment brief was for a maxed out, no compromise, statement system. Whatever I suggested as being sufficient, Nicolas doubled it - he was very serious about this project." The only way to realise Nicolas' intent was to give him specifically tailored iterations of some of Funktion One's new technology, which fortunately Tony was in the process of finalising. Nevertheless, in many respects Nicolas was not only the first to experience the benefits of his progress but he was also the guinea pig. As the saying goes, nothing ventured, nothing gained.

"The main dancefloor area has to accommodate DJ club nights at one end and a live stage at the other," said Tony. "We achieved this with a four point system; this was one of the main challenges with the installation, but with such a well treated room, there really weren't

that many to contend with."

The main room at Output features a hybrid array of two Funktion One R63EH loudspeakers with 90° dispersion and two Funktion One R62EH loudspeakers with 60° dispersion for the mid/high frequencies - along with Funktion One F315 15-inch loudspeakers, which provide the mid-bass frequencies. A further two Funktion One F315 15-inch loudspeakers, two Funktion One F221 subwoofers and four Funktion One BR221 subwoofers are also used in the main room, with power coming from two MC² Audio T2000 amplifiers, two MC² Audio T3500 amplifiers and four MC² Audio E90 amplifiers. With a strong focus on DJs and electronic dance music, Output is also one of the first nightclubs to feature Funktion One's new PSM318 DJ monitoring system, as Tony explained: "We had originally been working on a specialised monitoring system with DJ Carl Cox, but it later turned out that DJ Richie Hawtin had very similar requirements. They wanted an awful lot of level - some DJs want incredible amounts of volume on stage. They were concerned about the horn-loaded stuff, which is good for projecting sound down the room – horns don't take any prisoners when you're only a metre or so from them and the bass waves don't necessarily develop immediately, they emerge from a horn, so we used direct radiators. We wanted a point source for the mid-bass, the mid and the top, which means ▶
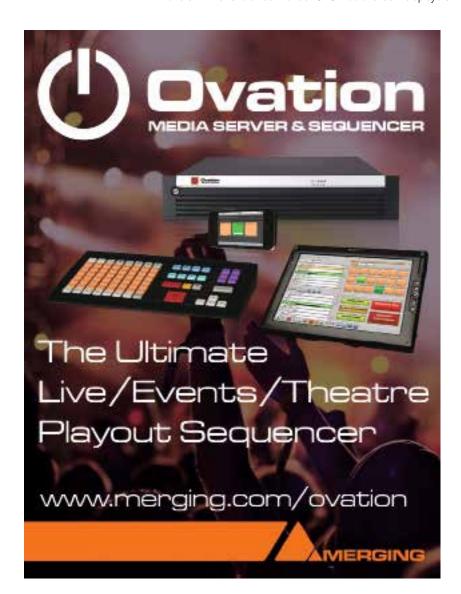
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that when you move around, the time relationship between the various components stays fairly consistent. In other words the sweet spot is larger.

"We work with Carl Cox and Ritchie Hawtin because they know what they need for their audio and it is my job to understand and translate their requirements into products which deliver their expectations," continued Tony. "We saw Output as the perfect place for one of the first installations of the new PSM318 DJ monitoring systems."

Power for the monitoring system comes from one MC² Audio T1000 amplifier, one MC² Audio T1500 amplifier and two MC² Audio T2000 amplifiers; while the DJ equipment includes two Technics SL-1210 Mk2 turntables, one Pioneer DJM-900 mixer, an Allen & Heath Xone:92 mixer and three Pioneer CDJ-2000nexus multiplayers.

For the raised VIP area and side bar, eight Funktion One F101 loudspeakers and two Funktion One F118 Mk2 loudspeakers have been installed, which are powered by three MC² Audio T2000 amplifiers and one MC² Audio E100 amplifier. Around the balcony six Funktion One Resolution 1.5 TT loudspeakers, specifically designed for venues with low ceilings can be found, next to six Funktion One F118 Mk2's, and four Funktion One F101's, these enclosures are powered by one MC² Audio E100 amplifier, two MC² Audio T1500 amplifiers, and one MC² Audio E90 amplifier. Behind the scenes, all processing is taken care of by two XTA DP448 digital audio processors and one BSS Soundweb London BLU-160 networked digital signal processor.

"It made a real difference working in a properly treated room," said Tony. "It was a real joy and when we finally played some of our favourite tunes and took the opportunity to have a dance I knew this was one of the most powerful, cleanest systems I have ever experienced."

On the lighting side, the goal was to create an environment more akin to underground warehouse venues. Project Manager, George Alan worked alongside Adam Burroughs of Oxygen Lightworks on the lighting installation at Output. Nicolas and his partners opted for different lighting rental possibilities for the majority of intelligent lighting, changing with the needs of the particular night, and there is a foundation of just four Martin Professional MAC Aura moving heads in the venue. Additional lighting comes from four Chauvet SlimPAR Pro Tri lighting fixtures and 60 Chauvet COLORBand TRI lighting fixtures, while control comes from a ChamSys MagicQ MQ100 lighting desk; the rest, is architectural, as George explained: "Over 90% of the lighting in the space consists of architectural lighting that was reclaimed from eastern European chemical factories, then gutted and retrofitted with modern technology. The aim here was to provide fully controllable lighting from non-traditional looking sources. "Some of the featured architectural lighting includes a 65ft long backlit skylight which was painstakingly preserved from the original factory that Output is in. Also, the grid of 28 fixtures that populate the wall behind the DJ booth are similarly retrofitted communist era 'bulkhead' lights from a petrochemical plant in Prague circa 1950."

Fortunately, the existing structure of the building had been used for heavy manufacturing, allowing the use of many exposed i-beams and steel members for hanging purposes. "There are numerous configurations of lighting rigs that we bring in, on an as needed basis but by and large we were fortunate enough not to have too many glitches in our install process," said George.

When asked what made this project so interesting, for George, it was simple, watching the complete acoustical isolation of the main space and the elaborate customisation of the lighting system come together.   ▶