

SECTOR SPOTLIGHT: NIGHTCLUB INSTALLATION



Laurent Garnier plays through a Thunder Ridge system at The End

Disco drivers

Gone are the days when nightclub sound systems involved a couple of second-rate boxes hastily thrown in the corner, while the rest of the budget was spent on lighting; today's clubbers are a fairly demanding bunch. **Rob Hughes** hits the tiles and takes a look at the hefty stacks currently deafening bar staff everywhere...

The End, London

NOW into its 12th year as a bastion of London's underground dance scene, The End and its street-level sister club, AKA, consistently max-out their combined 1,000 capacity. The crowds are drawn in by stellar line-ups and a mammoth Thunder Ridge sound system.

The club has a dedicated 100 amp three-phase power supply for its system, which comprises two 1,200 Watt TR V-sub bass enclosures powered by a PSL VE 2400 amplifier, two 600 Watt TR Eclipse mid-high enclosures powered by PSL VE 2400 for mids and a PSL VE 1200 for highs. One 400 Watt TR 650 X enclosure at the back of the room is powered by a PSL VE 1200, and all speakers and amps are managed by two BSS Onnidrive compact 355s.

The installation at The End was a catalyst in the development of Thunder Ridge, which was



also established 12 years ago by Tim Harnden and Phil Lowther – sound engineer for the Shamen. The system was adapted from the design of a large touring system that Harnden and Lowther had created with help from a college mathematics team to develop the mid flare and high frequency horns.

Thunder Ridge ran well for many years, but became overstretched with too many orders and a lack of staff. The company ceased trading in 2005 but was resurrected in 2006 by Harnden and Tom Knifton. Since that time, the company has designed a new range of high power compact systems for use in smaller venues and AV production with the help of Jerry Denning, designer of the Martin Slingshot system. This range, along with the updated standard touring systems are attracting orders worldwide as a result of rave reviews from the London Plasa and BPM shows.

Thunder Ridge has vowed to stick to its original ethos of manufacturing units to last. All cabinets are hand built and finished to high specifications and drivers chosen for performance rather than price. To the company's knowledge, The End has never had to replace a single speaker in 12 years.

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Full Fat Audio's FFA 5000 amps sit in the rack at Barfly

Herbal, London

TUCKED away in the heart of Shoreditch, Herbal is a small and intimate venue that packs a deceptive punch. Its exclusive Watt Co sound system was designed, built and installed by Robbie Barrow, who became technician in residence at the dance venue shortly after it was first opened five years ago by Spencer Carroll and Chris Michaels.

The sound engineer is well known for supplying the system that ensures the BBC Radio 1Xtra truck deploys the heaviest bass at the Notting Hill carnival. The installed system at Herbal employs four of the port-assisted Watt Co XXL bassbins made famous by the truck, along with three Watt Co mid to high cabinets featuring B&C MH32 and B&C DE 750 drivers. These enclosures are powered by QSC Powerlight 1.8, Powerlight 236, EX4000, MX series and Crown Vz5000 amplifiers.

Barrow is quite particular about the DJ mixer used to complement his system, insisting that, as on his truck, the time-honoured Urei 1620LE is employed by visiting acts. He explains: "In a perfect world I would have the bottom end of my Watt Co's through the switchmode power supply of Crown Vz5000's, taking advantage of the warmth created by the transistors of the 1620LE."

Owner, Spencer Carroll added: "This venue has been built from the sound system out and it's really hit a chord with the DJs who perform here."

Gatecrasher One, Sheffield

GATECRASHER One, formerly known as The Republic in Sheffield, was the original home of the Gatecrasher night, which, from small beginnings as a one-off party at the Engine House in West Midlands in 1993, has developed into the UK's most influential dance club and youth culture brand.

The sound system at GC1 – including both speakers and amps – was designed, manufactured and installed by Cornwall-based Opus Audio Technologies. The AT2000 fully integrated microprocessor controlled sound system at GC1 was the largest of its kind in the UK and featured custom built, unfolded horn sub bass units specifically designed to create the highest possible sound pressure levels for the size of venue.

The 33-speaker system took over 180 hours to install and pushed out a genuine 45 kW of power. The company's proprietary FocusWave technology ensured that the high intensity sound was directed appropriately, rather than at the bar staff, while the OpusCool thermal management concept would keep the system running in ambient temperatures of up to 50 degrees Celsius.

Sadly, on Monday June 18th last year, a fire at the club ripped out the interior and later caused a section of the building to collapse, effectively necessitating its closure in what was the tenth year of Gatecrasher's occupancy. Happily, the club's managing director, Simon Raine, has insisted that this is not the end of Gatecrasher One and has pledged to rebuild it. While Opus could not elaborate on the details of the system planned for the new venue, it did confirm that it will once again be responsible for the installation and assured us that it will be as spectacular as the original.

Although possibly better known for its theatre sound applications, Opus has also installed similar systems at Gatecrasher's Leeds and Nottingham venues. Explaining his loyalty to the company, Simon Raine says: "We firmly believe Opus Systems are the sound of the future".

Privilege, Ibiza

PRIVILEGE is officially recognised by *The Guinness Book of Records* as being the largest club in the world.

Having started life in 1978 as Ku, a tiny disco for no more than 125 people, it is now more than three times the capacity of most big clubs, sporting an aircraft-hanger size main room, a 25-metre ceiling, 16 bars, an overall capacity of 10,000 and a substantial swimming pool. As the club expanded, the tiny hamlet of San Raphael didn't know what had hit it.

Sound reinforcement at the venue is currently provided by a colossal Funktion One system – designed, supplied and installed by the Blue Box Company, which has been involved in audio systems for over 20 years and has also kitted out heavyweight dance clubs such as Space Ibiza, BCM Mallorca and Heaven London.



Resolution 5 boxes make their presence felt at Privilege

The main system at Privilege comprises 20 Funktion One Resolution 5 boxes in four groups of five, each ground-stacked on top of three F218 double 18-inch bass enclosures – 12 in total. A further 12 self-powered F218A enclosures featuring XTA A6 amplifier modules provide added bass extension. The passive units are powered by a total of 12 Funktion One E25 OEM amps designed and manufactured by MC2. The entire system is managed by two XTA DP226s and a single XTA D2.

In the VIP room, three Funktion One AX88s complement another two F218 bass enclosures. These are amplified by three QSC PL236s and managed by a single Funktion One XO1 crossover. A pair of F118s again feature in the DJ booth, where 2 Res 2SH mid high enclosures complete the monitoring solution. Booth reinforcement is amplified by two E25s and one XTA DP224.

Blue Box builds the majority of its systems around Funktion One loudspeakers. The company believes that the clarity and dynamics of the units are unmatched in high-end pro audio. Recently it has been investigating new approaches to attaining optimum clean and open sound in its systems utilising bespoke technology.

Barfly, Birmingham

THAT Barfly has just established its tenth venue might be considered remarkable, but as the company elaborates: "In the early days, the stench of the less than salubrious toilets would have been enough to put off even the most hardened gig-goer, had it not been for the quality of music pounding out from the PA in the Falcon's dark, dingy back room."

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The Vaults' DJ booth flanked by brand new Void Acoustic stacks



system in each of its two rooms and a Void Acoustics installation was promptly undertaken by Dublin-based Decibel Audio.

Noise Control Audio leaves its mark at Barfly

Widely recognised as having inspired talent-spotting ability, Barfly maintains that soon-to-be-big bands have always been a key ingredient of its success, bringing with them an endless line of discerning music fans. While helping to launch the careers of Coldplay, Kaiser Chiefs and Franz Ferdinand, Barfly has built up a veritable empire.

When its seventh venue in Birmingham required a new sound system, managing director Jeremy Ledlin chose to enlist British manufacturer Noise Control Audio – a company that is making inroads into the club installation market, having established itself in the live sector – to fit out the venue entirely from conception to reality.

Sound reinforcement in the 500-capacity main room is delivered by four stacks of NCA's I-Fly series, each consisting of TMT600 mid-high, RGW112 bass and VSB218 sub bass enclosures. The stacks are powered by Full Fat Audio 5000 and Crown XS amplifiers, with NCA modified BSS FDS360 frequency dividers and BSS FCS966 equalisers.

The 200-capacity second room features a more compact system consisting of two ASYM3 full range and mid-high boxes and two VSB215 sub bass enclosures, all powered by Crown XS amplifiers and again managed by BSS FDS360 frequency dividers and BSS FCS966 equalisers.

Noise Control designs all its systems for precise and accurate reproduction of sound regardless of genre, making them ideal for multi-use venues or clubs like Barfly that need to host a variety of events back-to-back without any adjustments to the sound.

"To us the idea of a system that only works well for a given style of music seems very strange; we are in the business of amplifying as accurately as possible the signal that is fed from the mixer," comments Noise Control Audio's acoustic designer, Reay Grant. In installation situations the only adjustments made should be to compensate for the acoustic qualities of the room. Once set they are permanent and left well alone."

The Vaults, Dublin

A PRESTIGIOUS multi-purpose venue in Dublin, The Vaults' two-room club is built underneath a railway station that dates back to 1886. Earlier this year, the club required a new

"The club wanted a complete update of its sound systems, principally to satisfy the demands of top-calibre DJs," explains Decibel Audio's Derek Dunphy. "Void's Stasys system was a convincing winner against the five other top-name brands in the shootout. These are simply awesome products – the project at The Vaults follows our other recent Void installs, such as the Platinum nightclub in Dun Laoghaire and there are more in the pipeline."

The final design in each room employs four stacks of Stasys 3.2 mid-high boxes and Stasys X subs, floor-stacked in twos on either side of the DJ position. After amplification from two Void Infinite Series 8 amplifiers on bass and three infinite series 6 amplifiers on mids and highs, these stacks generate a sturdy 13kW in each space. Two Void Acoustics Live Drive processing units manage each system, while a pair of Impulse 4Ts have been installed in the DJ booth for monitoring.

Installation and live sound audio system designer Void Acoustics has reported massive success of its Stasys Series point-source loudspeaker system, following the introduction of the Stasys X wide-band horn-loaded sub at PLASA 2007. Principally conceived as a touring system, the Stasys Series is now being selected for an increasing number of club installations.

Nation, Liverpool

THE current nightclub landscape in both the UK and Ibiza might be unrecognisable if the original owners of Nation, Stuart Davenport and Lennie MacMillan, had gone ahead



Cream at Nation pulls in the masses with its thumping Phazon system



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with their plan to close the club in its first three weeks, due to poor attendance.

Thankfully, the club hung on and, after Cream began its weekly house music party there in 1992, the unprecedented success of the night solved Nation's problems by packing in an eager 3,000 punters week-on-week. Once established, Cream management bought the venue and enlisted engineer Andy Kayll to install an American designed and custom-built Phazon sound system.

In 2000, the front speaker stack in the main room was changed to a Phazon Full Bertha and Half Bertha with three JBL 3218s on top and to each side. The rear speaker stack became a Full Bertha with three JBL 3218s on top and at the rear, along with a pair of JBL 3218s hung either side as fills.

On Boxing Day 2006, Kayll and Dave Millard of Full Fat Audio swapped the Crown VZ5000 and VZ3600 amps for four FFA 8000s to drive the subs and the triple 18-inch drivers on the 3218's, and one FFA 6000 to drive the double 18-inch drivers on the fills.

"The difference was startling," Kayll remarks. "The bass was tighter and fuller and the amps were just ticking over. A couple of hours with Smaart [EAW's sound system measurement software] to rough it in and ears to perfect it and the place was absolutely rocking."

Getting a good sound from the Speaker System in the Courtyard – a large open space with brick walls and a high ceiling – provided Kayll with his biggest challenge. His response was to take six Bertha sub bass units, locate one at each corner and two in the middle of the floor area. A quad box containing four 15-inch JBL driver units was placed on top of the four corner units, followed by two EAW HH660 mid-high units and a JBL 2405H bi-radial tweeter. A pair of hanging arrays each consisting of two JBL 3218 full range boxes became centre fills, while a custom-built 360-degree highpack, was hung in each quarter.

Following the success of the amp change in the main room and a need for a bigger monitor system, the Crown VZ5000s driving the subs in the Courtyard were swapped for a pair of FFA 6000s on Sub's, an FFA 2000 to drive the tops and an FFA 4000 on side fill mids.

Kayll elaborates: "After using some very clever electronics to keep everything in line, the result is a clear and open sound from a system that can faithfully reproduce anything you care to throw at it and all at levels in excess of 125dB – if you really want it that loud."

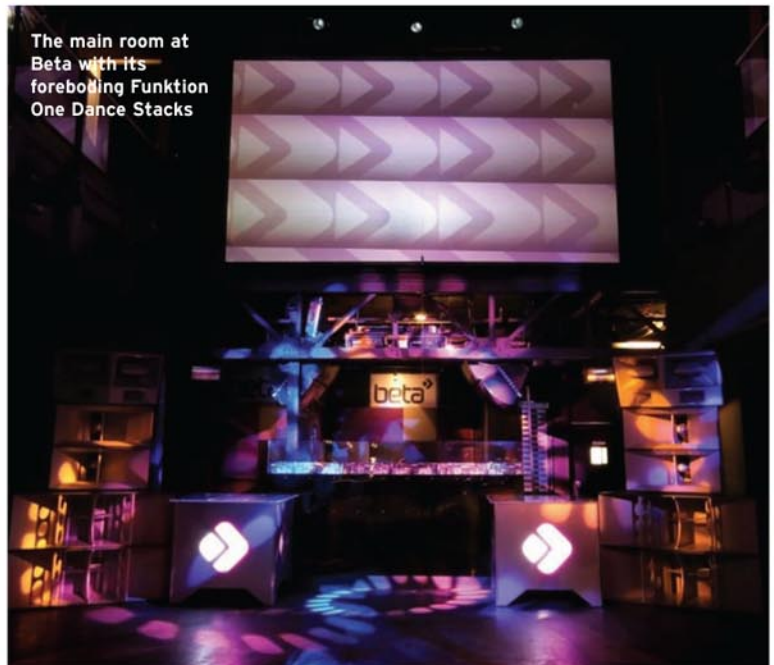
Beta, Colorado

THE brand new Beta club in Denver, Colorado is the first in the US to install Funktion One's four-speaker Dance Stack system, of which it has two – one in the main room and one in the Beatport lounge, named after the dance music download site that founded the club.

Beta's installation of eight dance stacks was undertaken by Speed of Sound Pro Audio's Michael McCray. Each stack comprises two F221 sub bass enclosures, two DS15 low-mid boxes and one DS210 mid-hi box. The club also employs a further two F221s, along with two AX88s and two F215s. In the racks sit at least 17 Funktion One E Series units – 12 E45s, three E25s and two E15s. Five XO1 processors manage the whole system.

The Dance Stack was conceptualised in 2001 in response to a request from Sound Investment AV's Dan Agne, for a no-holds-barred design approach. Funktion One then proceeded to develop a sonically and visually imposing stack of coordinated components to provide the dance world with the kind of bespoke solution that it was waiting for.

The Funktion One design approach offers significant levels of power and transparency, yet avoids the usual pitfalls of system EQ and associated phase problems. This leads to a considerably transient delivery, which, combined with the



The main room at Beta with its foreboding Funktion One Dance Stacks

system's lack of distortion, provides club-goers with an involving and pain-free experience.

The performance of the individual Dance Stack components can be altered with different configurations to facilitate control of bass content and mid-high dispersion. Super-low bass is delivered by the Infrabass 218. Tight and well-defined bass punch is provided by the F215, F218 or F221 enclosures. Upper-bass and low-mid speed comes from the DS15 horn loaded 15" device, while the DS210/DS310 supplies mid and high frequency power and definition to match low-end combinations.

To complement its futuristic system, Beta has paid considerable attention to the acoustics of its venue, which, if the clubs testimony is to be believed, has paid dividends: "We've gone to great lengths to find sonic purity by hiring an acoustical engineer to analyse our space, and we've installed more acoustic paneling than Webster Hall to ensure audio perfection. Translation: our shit bumps."

A towering rack of E-Series amps behind the scenes at Beta

