

NEWS

NEWSBRIEF

ARK SYSTEMS has introduced the MicroDrive 3-channel Integrated Power Amplifier to its range. The amp is primarily designed for use with the ARX MicroMax Series of loudspeakers and features electronic crossovers, ISC loudspeaker processing and sub mono-ing circuitry. The company has also announced that its Ambience 1 Ultra compact loudspeaker system is now available in white, making the AMB1-WH ideal for installation in locations requiring tasteful understatement such as churches and corporate venues.
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AVL SYSTEMS, which specialises in fitting out night-clubs, conference centres and late night bars in Ireland, has used Crest Audio amplification for a wide range of recent installations including Copperface Jaks, Dublin, Tramco, Dublin and Cuba in Galway. AVL buys its Crest products from Sound Dept in the UK.
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BEYERDYNAMIC has supplied Butlins Holiday Camps with 20 head-word TG-X30 microphones which will be used by Redcoats and other performers providing the stage entertainment at one of the company's camps this summer. The microphones were specified by beyerdynamic dealer Total Audio Systems as part of a complete re-equip contract with Butlins.
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BEYERDYNAMIC, the UK distributor for XTA, are reporting record sales for XTA products with the DP226 total loudspeaker management tool achieving the highest monthly unit sales to date. Recent customers have included Electrotrac Audio Lease, Concert Systems, Scan Warehouse, Technique Systems and the Music Company.
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C AUDIO SRX pro series amplifiers are being used to drive a JBL Array sound system at Lucky, a major new discotheque in Ryssen, Holland. The 3,000 capacity club which incorporates one large dance space was fitted out by Hengelo-based contractors TAC which ordered consignment of SRX 3801 and SRX 3601 power modules from Total Audio Holland, C Audio's Dutch distributor. As the club also features live entertainment, the speakers are positioned as a conventional stage system with four AS4894 Arrays and four SB1285 flown either side of the stage.
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CLUB ZOUK night-club in Tewksbury has taken delivery of four Cerwin Vega V-152 loudspeakers, specified and installed by Barry Brown's Disco Centres. The 300-capacity club is using Matrix amplification to power the speakers which are mounted in wooden enclosures, supported from roof trusses and angled from each corner onto the dancefloor. The entire system, which also includes Stanton cartridges mounted in the Technics SL1210 turntables, was supplied by distributors Lamba.
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EXCLUSIVE

Funktion One's Dome launch for Resolution Series

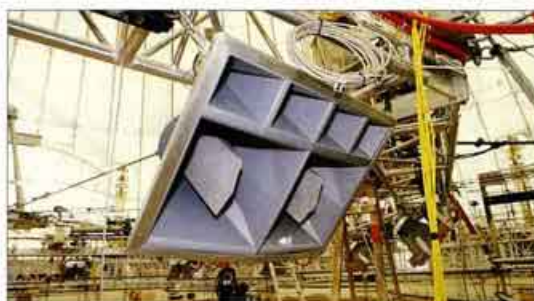
Funktion One Research, the Surrey, UK-based loudspeaker design company headed by Tony Andrews, John Newsham and Toby Hunt, has been awarded the contract to supply the London Millennium Dome's Central Show with its all-new Resolution Series of loudspeakers.

The Resolution Series employs a combination of high-tech materials, new magnets and new driver

designs for its long-throw, high power and ultra-light weight speakers that the company says produces sound quality 'on a par with studio monitors'.

Due for a public launch later this autumn, the system will be heard at the Dome at the opening night party on December 31 and throughout 2000.

• FOR OUR FULL STORY, TURN TO PAGE 58.



Harman remixes its UK companies

Shortly before we closed for press Harman Pro Group International President Philip Hart announced changes to the structure of the Harman companies in the UK, following Alison Brett's announcement of her departure to study law.

Soundcraft, Spirit, BSS, C Audio, Amek, DAR and Allen and Heath form a new group with a central management team headed by Philip Hart himself. David Karlin, MD of BSS and C Audio, also became Deputy MD of the Group.

Alison Brett, MD of Soundcraft for the last three years and group MD with responsibility for Soundcraft, Amek and Allen and Heath since June 1997, has decided to take on a new challenge. After twelve years in the pro audio industry, she is going back to university

to study law.

Commenting on the announcement, Philip Hart said: "The Harman companies in the new UK group present a broad portfolio of products for the contracting, tour sound, commercial recording and broadcast markets. We see great benefits in continuing our focused approach to brands while taking advantage of converging technologies and processes where they apply. Alison Brett has accomplished a great deal in the last three years, confirming Soundcraft and Spirit as market leaders in live sound and revitalizing the Amek brand name following the company's acquisition by Harman. She will be sorely missed."

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MIKE LETHBY

VASA announces progress review

VASA - the Voice Alarm Safety Approval advisory and compliance sector of PLASA - is undertaking a review of its progress to date, according to PLASA technical standards officer Tim Cox.

The body was created by the voice alarm industry to develop a consistent certification framework within various British Standards, aimed at building owners and landlords whose premises incorporate, or should incorporate, voice alarms within their fire detection systems. Cox told IE that VASA, after a year in existence, is reviewing its operations and will report to the PLASA Committee "fairly soon" about its conclusions.

"A lot of work has been done and VASA members are aware that we decided to stop and see where we are, before carrying on with the good work. A lot has been achieved to date; now is the right time to make a full assessment of it. There might be one or two things we will want to change or refine."

VASA chairman Chris Kenyon

wrote in the last issue of IE: "At present, although voice alarms are governed by various British Standards, there are differences in their interpretation and, apart from commissioning, there is no certification to demonstrate compliance with the Standards. Given the public safety implications of voice alarm failure this is absurd. From the building owners' point of view, grappling with the complexities of assessing the fire risks on his premises, the absence of a certificate to prove the compliance of his voice alarm system will leave him with a gap in his assessment. In the context of new or refurbished buildings, the amendments to Approved Document B of the Building Regulations will also strengthen the need for certification and accreditation schemes. VASA is working to fill the gap. By the end of this year, if not sooner, I hope we will have a framework in place which will provide third party certification of voice alarm systems."

MIKE LETHBY
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Tomcat flies high with Millennium Dome's 70 tonne bicycle wheel

US A - based

Tomcat was contracted to head the design and development of the Dome's crucial concentric series of circular trusses and accompanying radial catwalks, which besides supporting key elements of the Central Show's audio, lighting and rigging systems will also provide production, set and scenery crew access to the aerial hardware.

Tomcat's recently-acquired UK specialist staging fabrication company, Brilliant Stages, is manufacturing a number of the scenic elements for the central show along with the central stage and audio/lighting towers.

Tomcat's John James comments: "Our contribution is what is known as the 'bicycle wheel' - because that's what it looks like from above - which involves a series of four inter-connecting rings and radial walkways from Circle 0 to Circle 3." Circles 0-2 were by Tomcat USA while Circle 3 and the radial walkways were by Tomcat UK.

The installation by Tomcat required two radial walkways to connect to an existing steel gantry hanging under Circle 5. (The outermost ring, Circle 5, just inside the Dome's perimeter and built as part of the Dome's structure, also connects the radial walkways to Circle 4.) Most of Tomcat's trusses were custom fabrications.

Circle 0 was made of standard medium-duty 20.5in section truss, specially modified with extra diagonals for added stiffness. Circle 1 uses a heavy-duty 20x30in section truss, also custom modified with extra diagonals in each bay. One radial walkway goes from the so-called 'North Pole' to Circle 2, fabricated by Tomcat, and others from Circle 2 to Circle 5 will allow set and



scenery crew access to the rigging. Circle 2, the largest ring truss, carries the catwalk system, custom fabricated as 1.5m x 2.5m high catwalk sections, designed by Mark Fisher and engineered by UK-based Atelier One for NMEC.

Tomcat's Mitch Clark says: "We were selected because we are one of the few companies with sufficient manufacturing and design capacity world-wide and the relevant production expertise to undertake a project on this scale. Most of this rig was built in the USA but we also used components built in the UK." Lifting the 70-tonne Bicycle Wheel into position 43m above the floor was a story in itself; the trusses' lift motors were supplied via Tomcat's UK distributor Unusual Rigging. The new LogicLift hoist was specified with dual and silent braking systems, regarded as a crucial factor given the Central Show's theatrical nature.

A few statistics: the bicycle wheel was lifted as one move using 108 chain hoists (the lift was masterminded by Unusual Rigging's Nick Brown); the total weight of the lift was some 70 tonnes; the trim height of the bicycle wheel is 43m (141ft); Circle 0 is 12m in diameter; Circle 1 is 30m; Circle 2 is 80m; the radial gantry from Circle 2 to the 'North Pole' is 37m long and the radial gantry from Circle 5 to Circle 2 is 71m long. The total combined length of Tomcat-supplied gantries and truss adds up to 561 metres.

MIKE LETHBY

THE DOME PART 3

WORLD EXCLUSIVE

Millennium Dome's sonic centrepiece goes to Funktion One

The team behind some of the world's best selling professional loudspeakers is back with a radical new range of products. And as **Mike Lethby** exclusively reports, Funktion One's high-tech Resolution Series will take centre place in The Millennium Dome



IMAGE CREDITS
 2D Floor Plan: NMEC/Hayes Davidson
 3D Floor Plan (Numbered Key): NMEC/Hayes Davidson
 Body: NMEC/Hayes Davidson
 Faith: NMEC/Hayes Davidson
 Home Planet: NMEC/Hayes Davidson
 Journey: NMEC/Hayes Davidson
 Learning: NMEC/SHAM
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 Mind: NMEC/Hayes Davidson
 Money: NMEC/RS
 Our Town Stage: NMEC/Virtual Presence
 Play: NMEC/Anthony Pearson
 Rest: NMEC/Virtual Presence
 Self Portrait: NMEC/Hayes Davidson
 Shared Ground: NMEC/Virtual Presence
 Skyscape: NMEC/SHAM
 Talk: NMEC/Virtual Presence
 Work: NMEC/SHAM

The Funktion One Research design team, creators of the enormously successful TMS, Flashlight and original Floodlight series of loudspeakers, returns to the public eye this autumn with its latest generation 'Resolution' Series, set to debut on December 31 at the New Millennium Experience's Central Show in North Greenwich.

Surrey-based Funktion One Research is headed by Tony Andrews, John Newsham and Toby Hunt, who were responsible for founding Turbosound in the mid 1970s. Funktion One Research was established in the early 1990s following the sale of

the Edge Technology Group (Turbosound, BSS and Precision Devices) to AKG Acoustics.

The all-new Resolution Series was the preferred choice of sound designer Chris Hey for the prestigious Millennium Dome Central Show - with design by Mark Fisher and music by Peter Gabriel.

The sound design, by Hey, incorporates a central cluster, delay system and surround sound system. The central cluster consists of a ground supported ring of 16 stadium units. This is augmented by a ring of 12 delay positions consisting of two medium dispersion units on an



The skeletal version of Funktion one's Resolution Series mid/high cabinet rigged on the ring truss

80m diameter circle. An additional system of 12 inward facing clusters on a diameter of approximately 160 metres provides surround sound capability, each of which comprises six of the stadium units. The system is completed with a ring of 12 hi-mid stadium units in the apex of the Dome. With the exception of the central cluster the rest of the system had to be flown from the Dome structure making ultra light weight an essential factor of the product specification.

The speakers are set to be installed during the autumn and will have their first public hearing at the Dome's opening show, with the Queen as guest of honour, on the night of December 31. The system will be controlled by the Dome-wide BSS Soundweb-based digital audio and data network.

Funktion One's radical design embraces several ideas never before combined in a professional PA loudspeaker, to create a high power, long throw, ultra

The Central Show is a 20-minute show which will be staged several times a day; conceived by Mark Fisher and Peter Gabriel, designed by Fisher and with Gabriel's music. It's a story that examines man's relationship with time portrayed in a circus-style spectacular conceived on a majestic scale. It incorporates many of the latest ideas and techniques drawn from both theatrical and rock n'roll production concepts, with major scenic elements designed to match the scale of the performance space. Think Cirque du Soleil, think Pink Floyd, and then think again. The training of aerialists who will be members of the Millennium Show performing company has been underway for months in preparation for their roles aloft in the Dome - aerial action of all kinds will fill that enormous space. NMEC are keeping the precise contents under wraps in advance of the opening.

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THE DOME PART 3



The Tomcat truss, ready for the 'big lift' by Unusual Rigging
PHOTOS: MIKE LETHBY

lightweight four-way system with a level of sound quality and transparency that Funktion One promises is better than that of a studio monitor. Andrews and his partners were willing only to reveal the conceptual aspects of its design to IE as we closed for press.

The Resolution Series includes installation and touring versions, both of which employ rigid hi-tech materials in key areas to reduce weight and structural resonance. The waveguides and acoustical devices were established during Funktion One's painstaking six-year research programme and brought to production rapidly using the company's in-house solid modelling system, allowing direct output to the toolmakers' milling machines.

All drivers are new and unique to the Funktion One Resolution Series and represent significant progress in the 'Andrews' approach to driver technology. Help and collaboration given by Fane Acoustics' engineer Clive West in the development of these new drivers marks a move up-market for the new management of this Yorkshire-based speaker company. The new, hi-tech magnets further reduce the system's overall weight whilst improving efficiency. The system will also be self-powered using radical new amplifier technology with full remote control. The combination of these techniques, says Funktion One, gives an average weight reduction of 50%.

Chris Hey, sound designer for the Central Show, comments: "I feel that the new system represents a significant improvement over all previous PA systems. This, coupled with the weight and amplification technology, creates a system that enables the design to maximise sound quality and level whilst minimising extraneous spill." Spill is an issue for the designers. The Central Show's sound system will, explains Hey, be programmed using an Ambisonics system. "We're treating it, effectively, like a giant 5.1 cinema sound system on a sector-by-sector basis, with the music running of DAR hard disk recorders. We went for an Ambisonics controller to programme the sound because it's a very musical sounding system. We can superimpose an Ambisonics field over the 12 effects positions, each of which carries an L-C-R mix. It all sounds very complicated - and it is - but it works quite out straightforwardly with

Soundweb in practice. But if you had to do it with conventional control gear, you probably wouldn't even try." Some preliminary programming will be performed at Gabriel's Real World Studios this autumn but the majority will be carried out on site within the building: "It's essential given the nature of the space and the size of it; you wouldn't get the sense of timing in a studio, when in real life the speakers will be 160m apart."

Funktion One's Andrews added: "We are very proud to have been chosen to play an important role in the National focus for the British Millennium Celebrations and I feel it is a fitting landmark in my 30 year mission".

CONTINUED ON PAGE 60



Body Zone will be one of the first sights a visitor sees on arriving at the New Millennium Experience

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C AUDIO

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