

# AUD10 BY NUMB3R5

Audio By Numbers is a new Melbourne-based manufacturing and consultancy business specialising in acoustic treatment and design. Although still in its infancy, the business has attracted customers from film and music production studios, hi-fi and home-theatre installations and live venues with its Acoustic Horizon range of wall modules and bass traps.



Diffuser

By **STEPHEN BRUEL**

Business owner Keijo Sandvik developed the company to provide high performance, mass-produced affordable acoustic trap systems for the local market, with a view to export in the future. With previous installations including Austereo, ABC Radio, the Melbourne Cricket Ground radio broadcast booths, Audio Lifestyle and Acoustic Images demonstration rooms, and with plans in place for the yet to be completed Psi-Funk Studios, Audio By Numbers draws on the vast experience of its owner. The new Acoustic Horizon designs have been developed in collaboration with legendary Australian studio designer Dave Flett of Studio Systems.

Sandvik has over 30 years experience in the local pro audio industry including audio production for music and film and acoustic and studio design. He also has a strong wholesale and retail background having represented companies such as Digidesign, Major Music Wholesale and Sound and Music. As a representative for Sound and Music he designed the successful Wave Panels acoustic treatment product range.

Flett is an accomplished musician who has produced albums for the *Captain Matchbox Whoopie Band* and performed with *Redgum*. His studio design company Studio System's developed studios including the legendary TCS (*Skyhooks*, *Chain*, *Blackfeather*, *Max Merritt*), Richmond Recorders (*Men At Work*), Platinum Studios (*Little River Band*, *Split Enz*), Fast Forward/ Gotham Sound (*John Farnham*) and Atlantis Sound.

"By the mid 1970s TCS had become



Corner trap



Keijo Sandvik



Dave Flett

one of Australia's most popular studios boasting a client roster that reads like a who's who of Australian pop music history," Flett said. "This success led me to build numerous other music studios, broadcast and media facilities over the years. I've never had to advertise for business with each year bringing new faces and enquiries asking for designs and advice."

While formally studying and obtaining information on acoustics is much easier today, back in the early 1970s there wasn't that much to go by. Knowledge of studio acoustics was in its infancy, and systems had to virtually be invented

and developed as you went along. Flett essentially helped to write the book on studio construction and design, particularly in Australia. Additionally, Flett's passion for architecture helped him to design spaces that are comfortable and conducive to creativity. With such a long and successful career in studio design and building over the last four decades, Flett is an invaluable source to what really works, what doesn't and why, in a studio.

For Sandvik, the main point of difference between his company's acoustic treatment panels and others in the market place is the materials used, and the way they work together. Acoustic Horizon

traps typically use composites of materials including polyester fibres, fibreglass, particleboards and other timbers that are tuned to perform at certain frequencies. Polyurethane foam is mainly used just for structural and cosmetic purposes. According to Sandvik, by combining some of these materials with resonating membranes and strategically designed air cavities, the end results are very efficient.

"Unless it has been custom built, acoustic treatment products for studios that are manufactured in Australia seem to be largely limited to polyurethane foam," Sandvik said. "While foam has some useful applications in acoustics, it is not an efficient enough a material to singularly handle all situations. The real challenge for any trap is the bass region. To adequately deal with say 80hz at higher SPL in a typical mid-field rock 'n roll studio, a foam corner bass trap would have to be the size of an average family-sized fridge and use a density of about 42kg/m<sup>3</sup>, and at a cost of around \$2500. If the studio required four of them this obviously would result in a very expensive treatment."

The Acoustic Horizon production line currently consists of the SAM-12 universal sound absorption wall module

and the CBT-9a corner bass trap with plans to introduce a range of diffusers, ceiling traps and DAW desks in the not too distant future.

The SAM-12 is a 1200mm x 600mm x 130mm wall module that weighs 4kg, is easily mounted to most flat wall surfaces and sells for a couple of hundred dollars. The CBT-9 corner bass trap is designed to combat the lumps and holes of the bass region formed in most studio corners. The trap measures 900mm x 750mm x 570mm, has 16mm & 25 mm MDF frame options and fits into a typical 90 degree corner. It consists of thick layers of dense polyester fibres separated by thin membranes that act like a series of shock absorbers and sells for a hundred dollars more than the SAM-12.

"The priority is to meet the most stringent acoustical demands for professional audio, video and broadcast," said Sandvik. "But still be within a price range of smaller facilities and hi-fi and home theatre enthusiasts."

High-end hi-fi retailer Acoustic Images recently had a room designed and acoustic panels installed to attain maximum sonic performance for demonstrating their equipment to their customers at their Mt Waverley store.

Acoustic Images director Anthony De Nardis chose Audio By Numbers on reputation and was pleased with the results.

"Audio By Numbers had the reputation I was looking for," De Nardis said. "We are easily able to hear differences in different pieces of equipment or different sets of speakers. The room is acoustically neutral so we do not have any poor room acoustics affecting the sound. We will probably have another room designed by Audio By Numbers in the future."

In a time when we are inundated by the media with the doom and gloom of the global financial recession, with local manufacturers shutting down and/or laying off workers, and our ever-increasing demand for cheaper foreign goods, it's reassuring to see a new Australian pro audio business emerge. For Audio By Numbers, all manufacturing processes are Australian; all component manufacturing is outsourced to local specialist companies, final assembly, quality control, packaging and sales logistics are all handled in-house at their Doncaster facility and they use almost exclusively locally made products (minus a handful of imported components not available locally). 

## Pure Genius.

# NEW!



### Don't sacrifice your desktop or your music.

You care intensely about your music. It's more than a pastime – it's your passion. Brilliantly designed, the I-ONIX Desktop Recording Series fits where it makes the most sense, between your keyboard and monitor. The I-ONIX series furthers Lexicon's legacy of innovation. No compromise performance – ergonomic brilliance. Pure genius.

## I-ONIX SERIES

For more info:

**JANDS**

40 Kent Rd. Mascot NSW 2020  
Ph: (02) 9582 0909 • Fax: (02) 9582 0999  
www.jands.com.au

**lexicon**