

Engineered for Sonic Excellence

# High Performance Loudspeaker Systems

Our uncompromising approach to loudspeaker design was established by founder Tony Andrews, who has been a pioneering force in the professional audio industry since its formation in the late 1960s. Tony continues to lead the Funktion-One design team and its research and technological developments.

We design and engineer loudspeakers that naturally perform to the highest level. This approach avoids the use of corrective EQ and maximises audio resolution and realism. The result is involving listening experiences that connect with audiences on a deeper level.

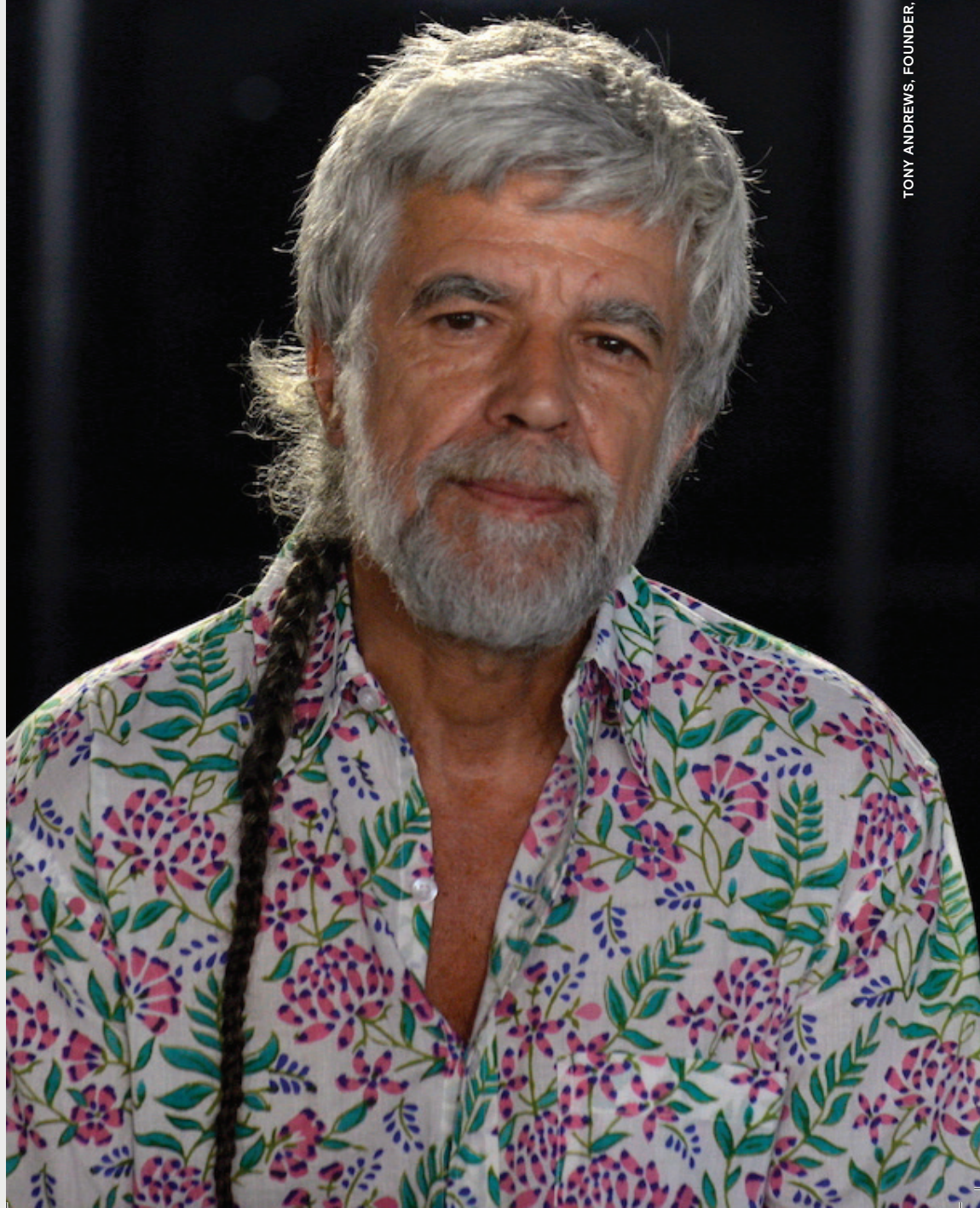


FLOWN VERO SYSTEM WITH F132 SUB STACK, ULTRA MIAMI

## FUNKTION-ONE

“Discovering stereo was a revelation. That’s when I decided I had to make myself some speakers and have my own stereo system. I was absolutely transfixed – the spaciousness, the sound stage, the dimension, the activation of all those things inside your head that you didn’t know were there. That’s at the root of it all.”

Tony Andrews, Founder, Funktion-One



TONY ANDREWS, FOUNDER, FUNKTION-ONE

# Founded by Audio Pioneers

Funktion-One founders Tony Andrews and John Newsham are highly regarded designers and manufacturers who have numerous patents to their name.

The duo, who were also responsible for founding Turbosound in 1978, are accredited with several generations of revolutionary loudspeaker designs, including the TMS-3, Flashlight, Floodlight, Resolution, Evolution and Vero systems. They are widely known for their pioneering work and ethos, which established many of the principles that subsequently became standard audio industry practice.

Today, the Funktion-One design team represents an unsurpassed pool of experience and expertise in the audio industry, having been consistent innovators in audio design, concert touring and sound installation for over 50 years. In addition to designing loudspeakers, Funktion-One's engineers have produced and contributed to a number of investigative papers.



TONY ANDREWS & JOHN NEWSHAM, JAPAN, 2002

# Designed for Maximum Audience Enjoyment

“That did become my mission. We needed that hi-fi sound for concerts. That way the people could have a commonality of space in which to expand their minds together.”

Tony Andrews, Founder, Funktion-One



TONY ANDREWS & CARL COX, WEMBLEY, 2022

The ethos that drives Funktion-One can be traced back to the late 1960s when Tony Andrews discovered stereo and the power of immersive listening experiences.

These experiences as a teenager at home in his bedroom gave Tony an understanding and passion for good audio and the transformative impact it can have. He soon discovered there was a huge gulf between what he was hearing through his hi-fi system and the poor-quality concert sound of the time. Determined to give audiences hi-fi quality sound on a big scale, he started to develop his own sound systems and set out on a lifetime pursuit of sonic excellence.

This mission of giving audiences the best audio possible has stood strong for more than 50 years and remains at the heart of Funktion-One.

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# Revolutionising Concert Tour Sound



By 1978, Tony had met touring sound engineer John Newsham and together they revolutionised concert tour sound and 'big audio' generally with their loudspeaker systems, which included the Festival System, TMS-3 and Flashlight.

### Festival System

Tony's involvement with the Glastonbury Festival led to the development of the Festival System, which had separate bass, mid, and HF cabinets. It already contained the second generation of the 'Turbo' phase device - the distinctive 'jet engine' mounted directly in front of the midrange cone driver and projecting almost the full length of the enclosing horn.

### TMS-3

The TMS-3 arrived in the early-1980s as the first modular full-range PA cabinet with real midrange. It was soon followed by the TMS-4, TMS-2, TMS-1 and TMS-5. All the products featured the same modular elements: 10-inch cone midrange drivers and the patented TurboMid device which, in combination with the three-way crossover arrangement, were capable of powerful and articulate vocal reproduction and a noticeable absence of unwanted harmonic distortion.

### Flashlight

The first outing for the modular Flashlight system was in 1990 for Roger Water's Berlin Wall concert, attended by over 350,000 people. Flashlight, which set a new standard for efficiency, directivity and audio quality, would take the world by storm during the 1990s. It was the sound system of choice for global superstars like Depeche Mode, Dire Straits, Simply Red, The Cure, Oasis, Robbie Williams, Peter Gabriel, and Pink Floyd.

# Product Innovation

## Ground Breaking Product Ranges

Vero

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Vero VX

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Evolution

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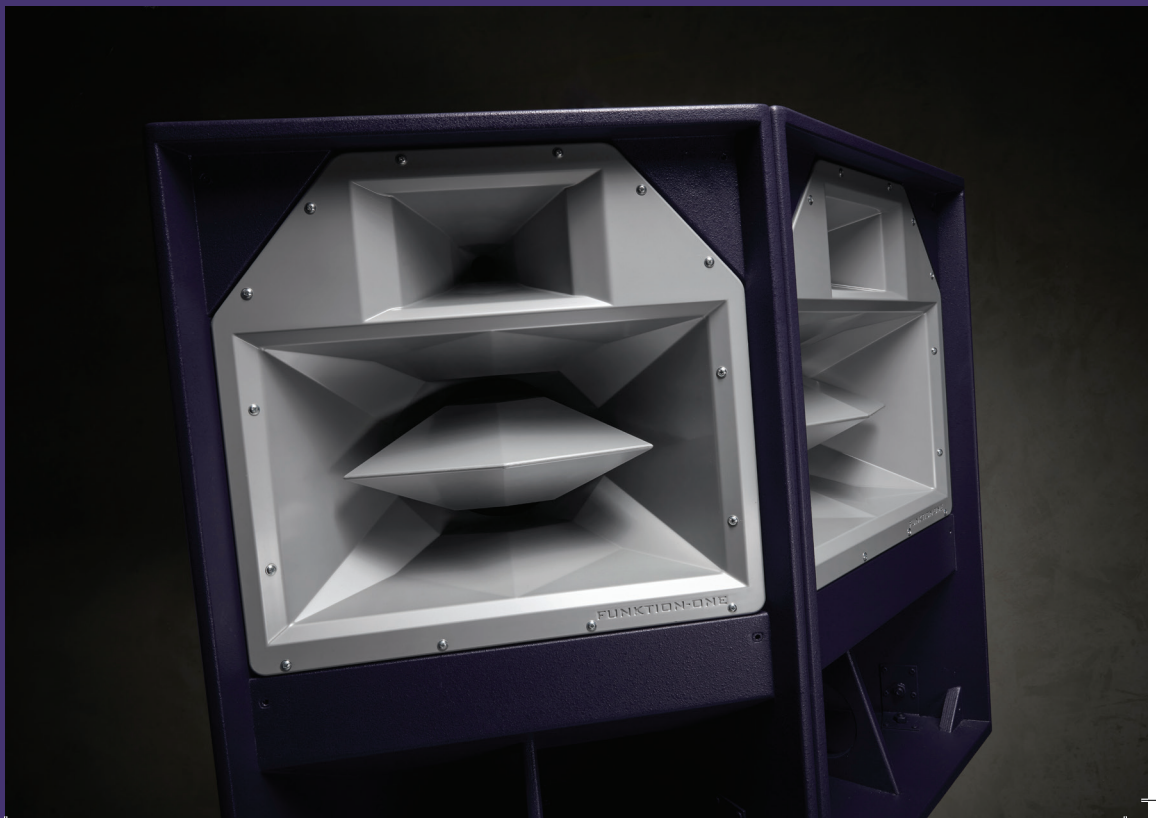
Compact

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Monitors

In 1992, Tony, John and the Turbosound R&D team departed to form a new company and continue their work as Funktion-One Research Ltd.

Though the name changed, their approach to loudspeaker design and manufacture developed on the same lineage, leading to a collection of ground-breaking product ranges.



FUNKTION-ONE



“Our care for the planet is centred on engineering loudspeakers that convert far more electrical energy used by amplifiers into audio output. This high efficiency also means that fewer speakers and amplifiers are needed, while simultaneously achieving more dynamic headroom. Our highly evolved horn loading techniques are fundamental to this efficiency and the exciting and involving audio produced by our systems.”

Tony Andrews, Founder, Funktion-One

# Engineering Sonic Excellence

Maximum Headroom

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High Efficiency

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Low Distortion

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Exceptional Clarity

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Outstanding Intelligibility

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High SPL

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Excellent Directivity

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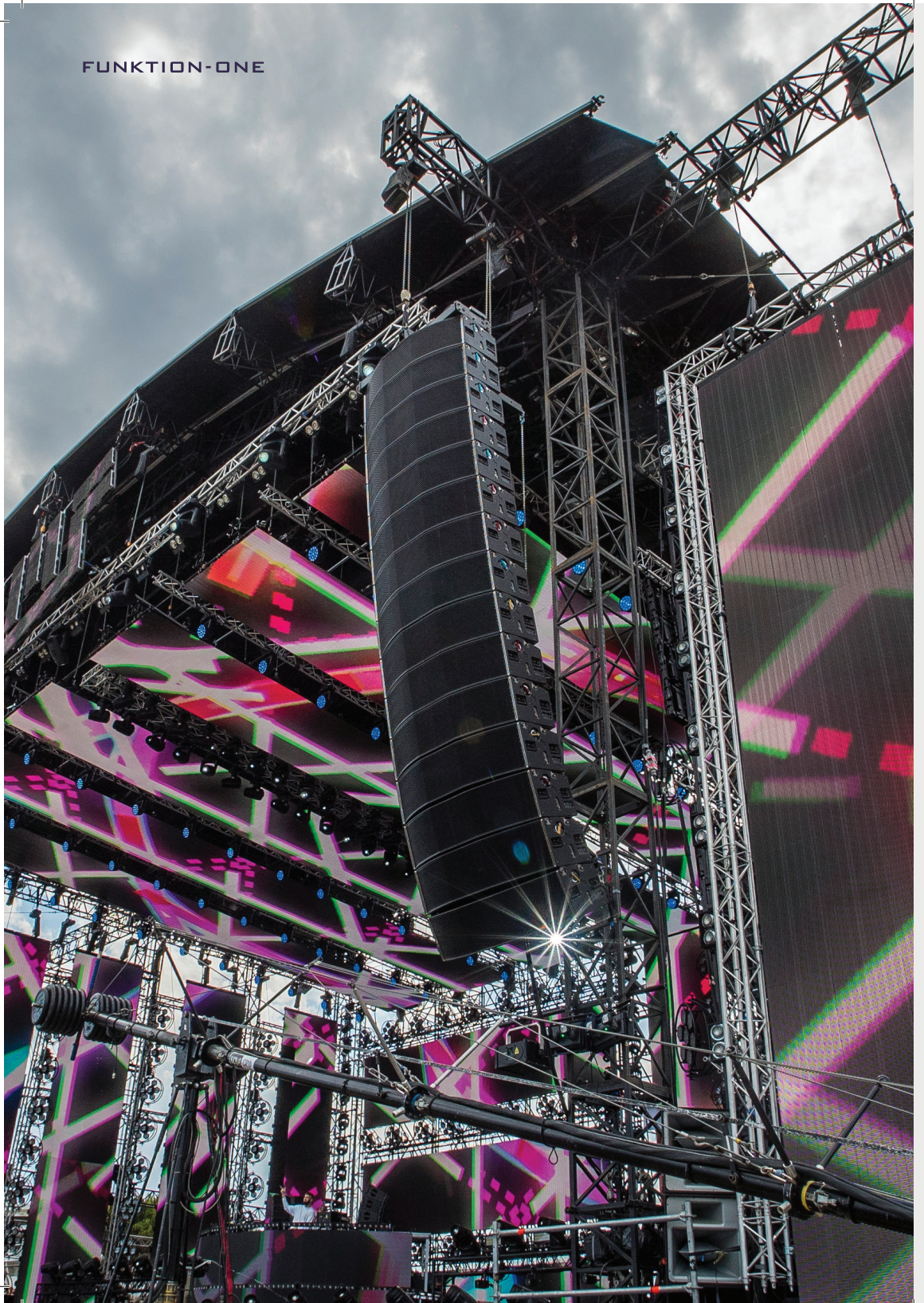
Even Frequency Response

The same design and engineering principles have been applied in the development of all Funktion-One loudspeakers - from the smallest to the largest. This means all of our loudspeakers have the same sonic characteristics.

Furthermore, we pay attention to the full audio signal chain to ensure all Funktion-One sound systems deliver the highest audio quality possible.



FUNKTION-ONE



# Product Innovation

## Vero

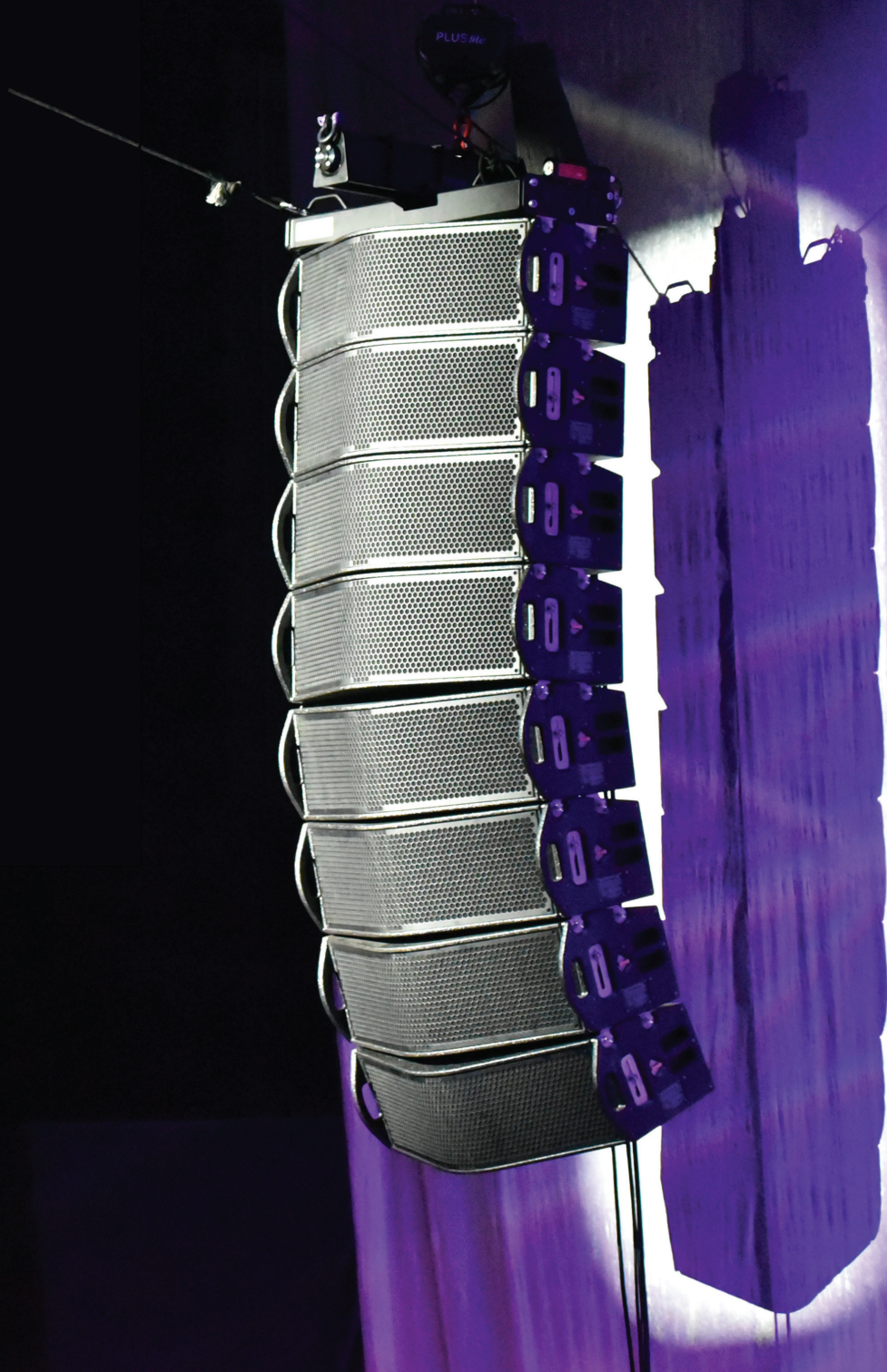
Vero is a large format, vertically arrayable, touring sound system that re-defines audio and operational performance expectations to deliver the next level of big audio.

Vero is a complete system – featuring loudspeakers, amplification, rigging and software – that combines outstanding sonic performance and ease of use. Its vertical array format means it is designed for the ergonomic expectations of modern touring environments, yet its point source audio quality and efficiency is unprecedented. Designed for the biggest shows, Vero has been enjoyed by appreciative audiences on a range of large-scale events, such as Ultra Miami, Electrobeach, Carl Cox at Wembley Arena, Extrema Noir XXL and Tipper at Red Rocks.



Scan the QR Code to View Vero Range

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# Product Innovation

## Vero VX

Demand for Vero's audio performance and intelligent rigging features gave rise to the medium format, vertically arrayable Vero VX.

At the heart of Vero VX's development was a significant technological breakthrough, resulting in an isophase diffraction HF waveguide being integrated into the centre of the mid-range Axhead to achieve 90 degrees horizontal dispersion. Vero VX gives rental companies the best of both worlds: quick and easy deployment and the highest level of audio performance in a size and format that is suited to a wide range of shows. From festivals like Glastonbury, Dekmantel and AVA, to installs such as W Superclub Atlas in Bali and Fontainebleau Las Vegas, which feature the install version: Vero VXi.



Scan the QR Code to View Vero VX Range

FUNKTION-ONE



# Product Innovation Evolution

Evolution is a series of versatile, high-intensity, point source loudspeakers featuring Funktion-One's latest driver and waveguide developments.

The Evolution Series arrived with the Evo 6 and Evo 7, offering the same componentry and sonic performance in two different horizontal dispersion formats. Evolution X, Evo 2 and tour-ready additions to the range, featuring integral flying gear and the option of weatherproof black polyurea coating, plus mid/high and mid/bass options, provide impressive versatility, flexibility and scalability. Evo's technological advancements bring a new level of efficiency and sonic performance that is enjoyed by audiences on every continent, particularly in live, festival, nightclub and stadia environments.



Scan the QR Code to View Evolution Series

FUNKTION-ONE



# Product Innovation Compact Range

The versatility of the Compact Range makes it suitable for a wide range of applications.

Regardless of size, Funktion-One's engineers apply the same principles and audio standards to the design and development of our loudspeakers, meaning the Compact Range has the same sonic performance characteristics as large format systems like Evo and Vero. The Compact Range, which is also available with IP55 rating, is suitable for a wide range of applications, from bars, restaurants, small events, club spaces and in-fill for larger systems to desktop and studio monitoring and home cinema.



Scan the QR Code to View Compact Range

FUNKTION-ONE



# Product Innovation Monitors

Funktion-One monitors provide a powerful, precise and stable stage sound.

At the centre of the range is the PSM15 - a next generation monitor built around constant directivity waveguide technology and a triaxial driver configuration - which delivers exceptional clarity, high SPL and impressive gain before feedback. This is monitoring performance that artists and engineers can trust in the most demanding environments. Designed for fast and accurate deployment, the PSM15 provides the handling and consistency required for modern touring while retaining the unmistakable musicality of Funktion-One loudspeaker systems.



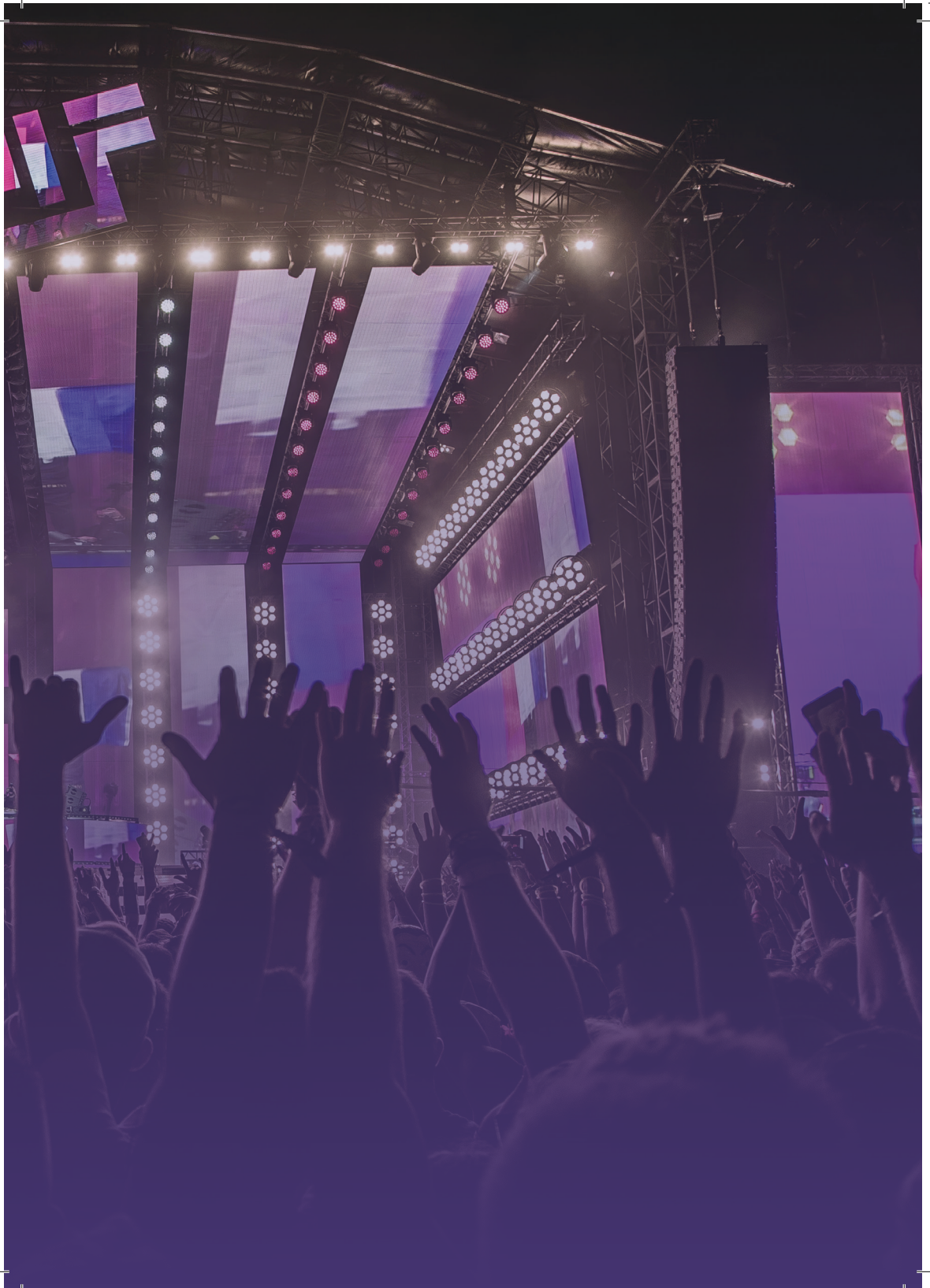
Scan the QR Code to View Monitors



FUNKTION-ONE

“Good audio is an art. It isn’t plant hire. The part it plays in people’s enjoyment of music is severely underestimated.”

Tony Andrews, Founder, Funktion-One



# Product Innovation

## Dedicated Bass Reinforcement

Horn Loaded Bass

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Bass Reflex

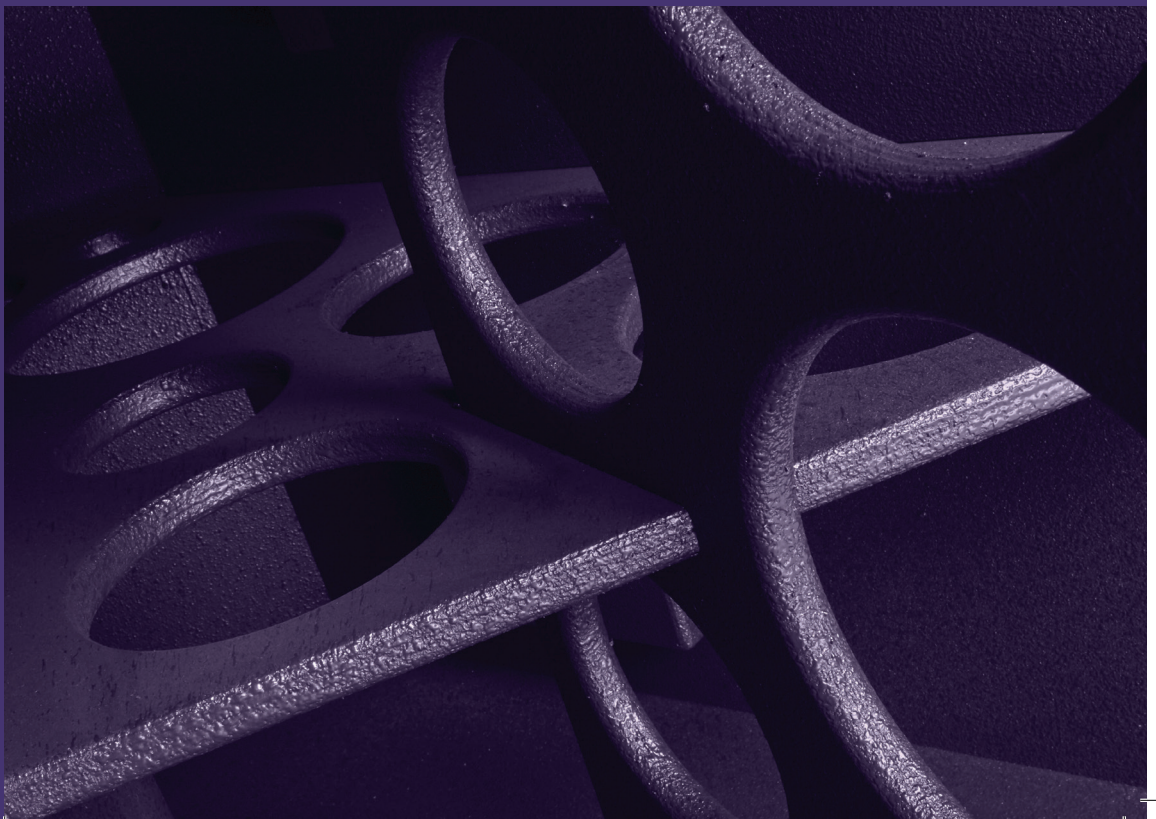
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Compact Bass

Funktion-One sound systems are renowned for their impactful and defined low frequencies.

Dedicated bass reinforcement ensures maximum headroom for the mid and high frequencies.

Funktion-One bass systems are designed using advanced acoustical principles and engineering techniques to ensure accurate reproduction of low frequencies without distortion or muddiness.



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# Product Innovation

## Horn Loaded Bass

Funktion-One founder Tony Andrews pioneered the development of the first 21" driver ever made, laying the foundation for further work in horn-loaded techniques, leading to an unrivalled range of bass speakers.

The most obvious exemplars of this progression are the F124 and F132, which set new bass performance standards, but it can be seen throughout the range, all the way to the F115. Funktion-One F-Series horn loaded bass speakers deliver deep, powerful and well-defined low frequencies. Not only has the technology advanced, the methods of deployment advocated by Funktion-One have also progressed. Carl Cox at Wembley Arena, The Glade Stage at Glastonbury, and Frazier/Ewan McVicar at Glasgow Hydro are three recent and important references.



Scan the QR Code to View Horn Loaded Bass

FUNKTION-ONE



# Product Innovation Bass Reflex

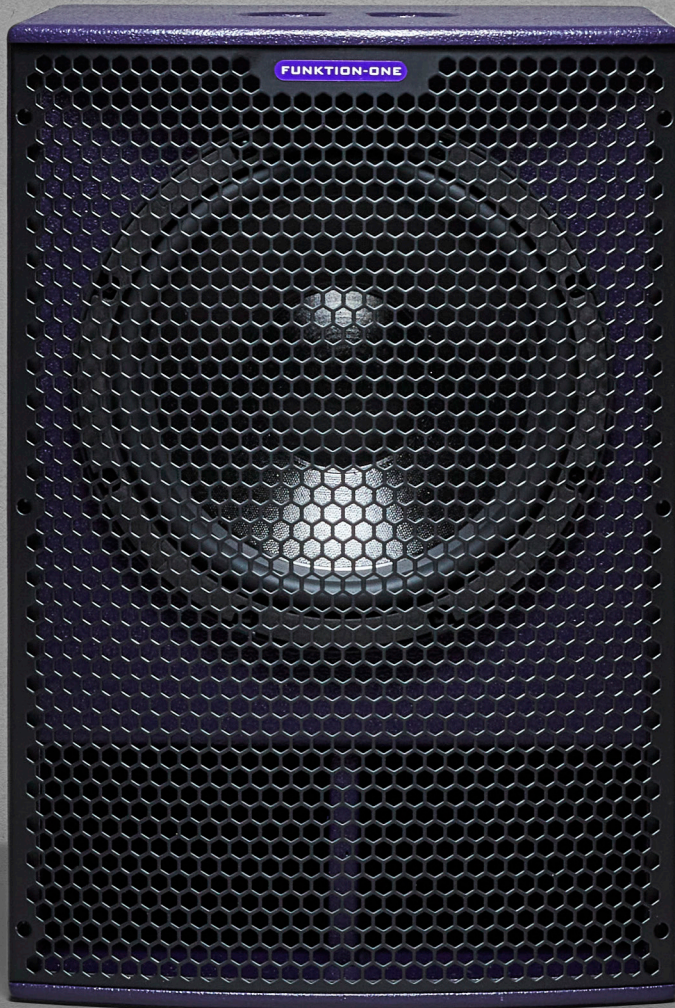
Addressing a growing need in a variety of applications for deep, strong bass at close range, Funktion-One developed the BR Range of bass reflex speakers.

The unique tuning of these designs results in relatively compact bass speakers with more definition than is typically achieved by this type of enclosure. This extra definition means Funktion-One Bass Reflex speakers can also be used for higher bass frequencies, which has led to their use in a wide variety of applications and configurations, extending Funktion-One systems by delivering plush elastic bass with plenty of low frequency extension.



Scan the QR Code to View Bass Reflex

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# Product Innovation

## Compact Bass

Funktion-One Compact Bass loudspeakers deliver powerful and convincing low frequency performance.

The Compact Bass speaker range achieves our unmistakable low frequency performance in discreet, space efficient formats. Designed with the same engineering principles found across the wider product range, the SB8, SB10, SB12 and SB212LP provide powerful, controlled and engaging bass, making them ideal for bars, restaurants, retail, galleries and distributed audio systems, as well as domestic and studio environments.



Scan the QR Code to View Compact Bass

# FUNKTION-ONE



# Product Innovation Electronics

Funktion-One electronics provide the control, reliability and sonic integrity required to realise the full potential of our loudspeaker systems.

At the forefront is the innovative Tour Rack, a fully shock mounted and compact package that brings together optimised amplification, processing and connectivity for rental and touring applications. Within it, the D-Series V2 amplifiers deliver significant performance enhancements, including improved DSP architecture, advanced limiters and improved energy efficiency. These refinements result in more headroom, tighter system control and greater consistency.



Scan the QR Code to View Electronics



# Product Innovation Software

Projection system design and prediction software enables engineers to model system behaviour and rigging requirements with speed and accuracy.

An unprecedented and industry leading feature is its ability to model low frequency behaviour correctly. This is achieved with a wave-based low-frequency calculation model – unique to Funktion-One – which accurately predicts bass array behaviour by taking into account the effect on directivity of the speaker enclosures' physical size and presence. Projection allows users to quickly build complex 2D venues, add listener positions and place arrays, loudspeakers and microphones with precision. Results can be viewed in 3D, enabling clear visualisation and optimisation of SPL coverage. With both a real-time point source model for frequencies above 160Hz and the new wave-based model for lower frequencies, Projection provides reliable insights for designing and refining Funktion-One systems in any performance environment.



Scan the QR Code to View Software

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# High Efficiency Loudspeakers and Our Environmental Responsibility



Our dedication to the key sustainability principles of efficiency and longevity have been at the heart of our approach to designing and manufacturing loudspeakers for more than 50 years. While other manufacturers have focused on the vicious circle of power handling, Funktion-One has been developing the virtuous circle of sensitivity.

Funktion-One loudspeakers are so efficient that our systems require fewer speakers and amplifiers. Furthermore, those loudspeakers deliver the required level using less electrical energy.

Professional loudspeakers are typically around 1%-3% efficient. The Acoustics team at the University of Salford measured our horn loaded midrange devices, which achieved an average efficiency of 10% and a peak efficiency of 30%. This represents an improvement of 10 times the energy efficiency over conventional loudspeakers.

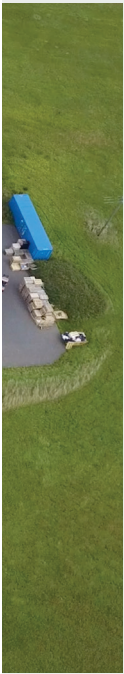
Due to the efficiency of our loudspeakers, far more drivers can be connected in parallel to each amplifier channel. This further reduces the total number of amplifiers in the system and the amount of electrical energy consumed. A further benefit of this approach is that Class D amplifiers are more efficient when driven close to their maximum output power.

Fewer amplifiers means less weight to transport, reduced CO<sub>2</sub> emissions and a significant reduction in the cost of ownership.

FUNKTION-ONE

# Maximum Efficiency, Minimal Impact on Resources





### **Built to Last**

Funktion-One loudspeakers are made to last. The materials, build and quality of the components ensure our loudspeakers will perform for decades under normal conditions. We prefer to upgrade existing products, rather than make them obsolete, putting the environment ahead of profit.

### **Manufactured in the UK**

Our loudspeakers are manufactured in the UK and most of our materials and components are supplied by our partners in Europe. This minimises the energy required for transportation.

### **Responsible Shipping**


Wherever viable, we ship orders by road, rail and sea, rather than air freight, and as much as possible we use packaging that is recycled and recyclable.

### **Minimal Waste**

In our daily operations, we recycle everything we can and use energy saving technologies and practices to reduce our environmental impact.

FUNKTION-ONE





We try to pay the amazing acuity of human hearing the respect it deserves by engineering loudspeakers that deliver as much resolution and realism as possible. Listening is the foundation and the heart of everything we do.



Scan the QR Code to Watch  
'How We Listen' and more  
Videos from Funktion-One

FUNKTION-ONE

# Dedicated Support Every Step of the Way

At Funktion-One, we are committed to delivering exceptional customer service, seven days a week.

Our expert team provides guidance on system specification, operation and project planning. We also offer advice on acoustic treatment, an often overlooked aspect of venue design that is essential for achieving the best audio performance. Whether you're upgrading, designing or seeking advice, we are here to support you at every stage.

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