

PRODUCT GUIDE

RELIABLE SOLUTIONS FOR NATURAL AUDIO



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QUALITY
MADE IN GERMANY
SINCE 2002

PAN ACOUSTICS

Committed to the finest listening experience.

Since 2002, we have been developing and manufacturing innovative sound systems and digital audio solutions for a wide range of applications and environments. We combine technology and design with economic efficiency to achieve the best results for our clients.

Natural sound and high-quality sound reproduction of every loudspeaker are a matter of course to us. From our headquarters in Wolfenbüttel, Germany, we equip locations around the world: from Dubai Mall to Paris Charles de Gaulle Airport to Milan Cathedral – our customers appreciate our reliable solutions and the crystal clear sound of our loudspeakers.

We offer genuine quality products "Made in Germany". All our solutions from hardware to software are developed in-house in Wolfenbüttel by our own development department. We attach great importance to extensive expertise, which is why none of our key development activities is outsourced.

To live up to this credo, the complete development and manufacturing of all our products takes place in Wolfenbüttel. It is here that ideas for new systems are born, prototypes are developed and eventually produced in series. We have found many of our suppliers in the region. This saves resources and also helps the environment.

With our state-of-the-art technology, sophisticated sound concepts and professional know-how, we develop optimum solutions for various applications in challenging acoustic environments. Our guiding principle is to always deliver pure and natural sound. Our years of experience and ambition to stay one step ahead of the latest technology make us a pioneer in the field of high technology audio.

A 10-year warranty – including on electronics – demonstrates our commitment to sustainability. That is why we consciously develop and manufacture our fully recyclable products with no obsolescence and for the longest possible life. Our products are designed with attention to detail so you can rely on them for years to come.



- » 10-year warranty
- » Made in Germany
- » Sustainable production and use of resources
- » Custom-made products, if required

Pan Acoustics loudspeakers are ideally suited for: **airports, train stations, churches, convention centres, auditoriums, seminar rooms, conference rooms, huddle rooms, universities, sports venues, meeting places, hotels, theatres, opera houses, concert halls, live PA, outdoor installation, immersive sound, clubs and discotheques.**

Pan Acoustics products are designed for natural and pure sound reproduction.



In addition to our day-to-day development work, we also place great emphasis on researching future technologies to ensure that we can offer relevant solutions for years to come. This is why we listen very carefully to our partners, customers and specifiers in order to filter out their specific needs and requirements.

All systems are manufactured and finished in-house to the highest quality standards. Every loudspeaker is tested prior to leaving the factory and the results are accurately recorded.

In our factory, we manufacture electronic systems for the public address and security sectors, both by hand and in series, according to the highest standards in the industry.

This enables Pan Acoustics to find an answer to any acoustic or security challenge.

We use only the highest quality materials. This is the basis for the exceptional longevity of our loudspeakers, whose reliability extends far beyond conventional public address and signalling applications.

We design our products to work in arctic sub-zero temperatures with IP65 weather protection, as well as at 50 degrees Celsius in the shade. Special applications and solutions are a challenge that we are happy to take on.



James Simon Gallery | Museum Island Berlin



PB 24

Pan Beam

offers natural sound and best speech intelligibility, especially in challenging acoustic environments.

Perfect sound and architecturally appealing design are just two of the features of the Pan Beam active line arrays. The design of the Pan Beam enclosures allows them to be integrated unobtrusively.

It is the combination of hardware and software that makes the difference

Sophisticated DSP algorithms combined with durable hardware components form the digital heart of the active line arrays. Used in conjunction with the included control software, beam steering technology allows the sound to be directed to the listening area, much like the beam of a torch.

Beam steering technology also allows the creation of up to four multibeams to precisely direct sound to

multiple listening areas without mechanically tilting the systems. This helps to minimise unwanted reflections from walls and ceilings.

Flexibility through transformation

With a choice of analogue and digital inputs (analogue, 100V, AES/EBU, Dante/AES67 and Pan 2-Line), the line arrays offer flexible solutions for all project requirements. The Pan Power Core technology provides PoE++ solutions for the Dante/AES67 models for innovative system cabling.

- » Architecturally appealing enclosure design
- » Active configuration with integrated DSP (96 kHz signal processing) and Class D amplifiers
- » Adaptive beam steering for optimum sound distribution
- » Fanless and maintenance-free system design
- » Available in IP65 for outdoor use
- » Easy to use – with ready-to-use factory presets (no pre-programming required)
- » Low weight
- » Robust powder coating, also in custom colours (no lacquer)
- » Presets recallable via media controller
- » Digital and analogue audio interfaces (analogue, 100 V, AES/EBU, Dante/AES67, Pan 2-Line)
- » Scalable variants from 50 cm to 5 m

Pan 2-Line

It has never been easier to turn old into new.

Pan 2-Line combines engineering ingenuity and electronic loudspeaker technology. The Pan 2-Line technology is designed to operate modern active PA solutions on existing cabling. It uses an existing 2-wire cable to transmit audio signals, control data and the necessary power supply.

Use of existing resources

The loudspeakers of the Pan 2-Line series are based on the Pan Beam series. They therefore share the same high-quality audio reproduction and operating philosophy.

However, unlike the Pan Beam range, they can also utilise existing cabling resources already installed in a building.

The Pan 2-Line technology can use traditional 100 V cabling or existing network cabling such as CAT5 or even existing power lines.

The hidden champion

Pan Beam loudspeakers with the Pan 2-Line option can be used to create modern, good-sounding PA systems in listed buildings without the need for invasive structural alterations. Star or daisy chain cabling can be used to drive multiple loudspeakers from a single connection on the Central Control Unit (CCU).

- » 2-wire solution for audio signals, control data (beams, delay and volumes) and power supply
- » Leverage of cabling already in place in existing buildings
- » Easiest cable routing
- » New sound from old cables
- » Low-cost installation as no new cabling is required
- » Loudspeakers can be easily integrated into the architecture



Magdeburg Cathedral of Saints Maurice and Catherine | Magdeburg



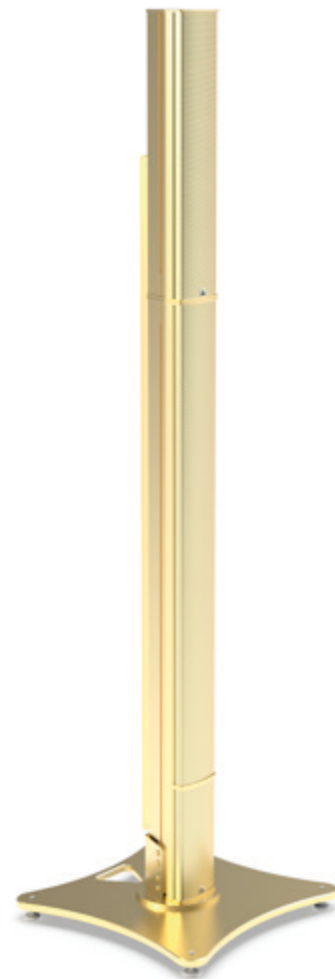
PB 08-P2L



Media stele | loudspeaker at display height

Pan Speaker

Authentic sound in a classy robe.



Stand for P/PB xx loudspeaker systems with PB 04

Pan Speaker stands for top quality passive loudspeakers at a good value for money. This series is characterised by the use of high quality components and an uncompromising, mechanically flexible design.

A solution for...

The loudspeakers from the Pan Speaker series are cost-effective all-rounders when it comes to passive sound solutions. In addition to traditional low-impedance operation, they can also be integrated into 100 V systems. IP65 versions allow solutions to be implemented in harsh outdoor conditions.

Which, incidentally, also applies to the Pan Beam series. Of course, perfect natural sound is also a priority for the Pan Speaker models ranging from 11 cm to 5 m in length.

Adaptability

To match the interior design or a display, the loudspeakers are available in special colours and lengths from a minimum quantity of 1. A wide range of accessories such as a VESA mount, DSP presets for various audio DSPs and DSP power amplifiers, a design stand and an RJ connector panel complete the series.

- » High-quality components for chassis and enclosure
- » Available in special colours and special lengths
- » Available with 100 V input transformer for distributed systems
- » Selected models with RJ connector for infrastructure cabling
- » Available in IP65 for outdoor use
- » DSP presets for audio DSPs and DSP power amplifiers from various manufacturers

Pan EVAC

For safe and intelligible evacuation.

Specialised systems are used for fast and safe evacuation. For this purpose, the Pan EVAC series offers real sound specialists.

The specialist among the EVAC loudspeakers

The loudspeakers from the Pan EVAC series have been specifically designed for use in critical infrastructure and voice alarm systems and are EN 54-24 (B) certified. These high SPL loudspeakers come standard with a ball-proof stainless steel grille and IP54 weather protection. Integrated passive beam steering technology tilts the sound forward by -4° on some models.

The result is a visually pleasing, straightforward loudspeaker installation and improved sound coverage

of the listening area compared to traditional 100 V loudspeakers.

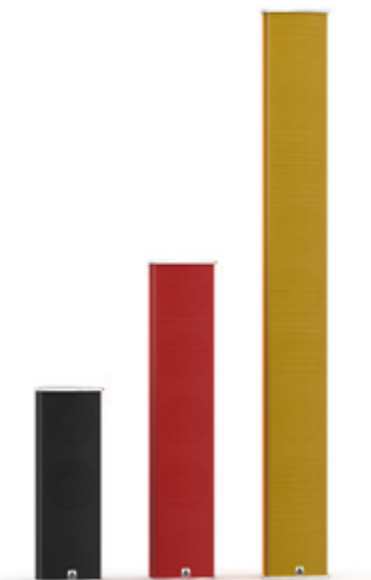
Certified safety

An EVAC loudspeaker is only as good as its components. For this reason, no compromises have been made in the Pan EVAC series. High-quality components, such as a 100 V toroidal transformer, ensure high-quality sound reproduction even at low frequencies, without the saturation effects that can cause an amplifier to shut down. This means that Pan EVAC loudspeakers can also be used for media and event sounding applications. The quality of the loudspeakers and their safety have been tested and certified by the German VdS Institute.

- » Certified according to EN 54-24 type B
- » VdS seal for tested product quality
- » Ball impact resistant and protection class IP54
- » High-quality, integrated 100 V transformer
- » Power tapping 100%, 50%, 25%, 12.5%
- » Passive beam steering with 4° beam down-tilt
- » Different variants



Elbbrücken Station | Hamburg



P 02-EN54, P 04-EN54, P 08-EN54



International Film Festival: Film without Borders | Bad Saarow

Pan AMT

The finest detail and exquisite resolution, even at highest frequencies.



P 261-AMT | Cine

Outstanding products for premium sound. The award-winning Pan AMT loudspeaker series delivers an exceptional sound experience. In addition to their attractive enclosure design, these loudspeakers stand out from the crowd by virtue of their powerful woofers and clear tweeters.

Why AMT?

AMT stands for "Air Motion Transformer". This technology allows small diaphragm movements to produce high levels of sound energy and a smooth, distortion-free frequency response up to over 24 kHz in the treble range.

A difference you can hear when compared to a classic high frequency horn.

Loudspeakers that make themselves heard

Sophisticated loudspeaker engineering has been used to match the woofer chassis and an AMT tweeter unit specially developed by the renowned German manufacturer Mundorf, so that when used with power amplifiers without DSP, the result is perfect sound for the most discerning listener. Pan Subwoofer series subwoofer systems complement Pan AMT loudspeakers to create full-range systems.

- » Air motion transformer from Mundorf (Made in Germany)
- » Various horizontal and vertical model variants
- » Selected models with RJ connector for infrastructure cabling
- » Frequency response up to 24,000 Hz
- » Distortion-free reproduction with directional high-mid range
- » A sound experience in a class of its own

Pan Subwoofer

When your stomach starts butterflying and your feet start vibrating, you're in the middle of the action.

The subwoofer systems from the Pan Subwoofer series are compact, versatile and powerful. They are available in sizes from 8" to 18", in a range of power classes and in both passive and active versions.

This makes live music events, presentations or theatre and cinema performances a real experience.

Precise and powerful lows

The Pan Subwoofer series subwoofer systems scale our other loudspeaker series to full-range systems down to frequencies down to 35 Hz.

The compact, sturdy wooden or aluminium enclosures deliver precise, powerful bass.

Focus on flexibility

Most woofer enclosures come in a subtle black or white. In order to blend in with the architectural design of modern rooms, our systems are available in all RAL colours.

The loudspeakers are flexible not only in terms of colour, but also in terms of connections. In addition to purely passive systems, there are active systems with analogue and digital interfaces (AES/EBU, Dante/AES67).

- » Dry and deep bass reproduction
- » Available in four different sizes from 8 to 18 inches
- » Active versions with DSP and power amplifier
- » Interfaces for analogue and digital audio (AES/EBU, Dante/AES67)
- » Available in special colours to match the project



Cirque Bouffon | Live Event



P SW-112
Cardioid subwoofer array



Opalen Kulturscen | Rimbo

Pan ACS System

Virtual room acoustics with natural sound.

When it comes to creating virtual room acoustics, ACS (Acoustic Control Systems) is our answer.

Can an orchestra play in a theatre?

Rooms such as theatre halls are primarily designed for speech performances rather than orchestral performances. The ideal reverberation time for good speech intelligibility is different from that for good orchestral music. So what would a solution for the multifunctional use of a hall look like? The answer is ACS!

Push the button

Based on wave-field synthesis technology, ACS allows a dry hall to be given a new sonic character, creating the ideal acoustics for different types of performance. Perfectly natural-sounding acoustic comfort at the touch of a button.

Flexibility through modularity

The ACS concept offers different modules to create the perfect room acoustics for the stage and audience areas.

In the audience area, the >>Early Reflections<< and >>Reverberation<< modules are used for perfect speech and music performances.

On stage, e.g. for the orchestra or actors, the >>Orchestra Shell<< and >>Foldback<< modules are used. Depending on the requirements, the modules can be combined which each other to create the best possible system.

For spoken theatre, opera or special effects, natural-sounding variable reverberation times of 0.6 s to 8 s (or more) are possible, depending on the application.

Pan Immerse 4D Audio

Creating great soundscapes in space and time.

The Pan Immerse 4D Audio system solution is a powerful tool for creating immersive worlds (of sound). The fusion of lighting, video, FX and audio creates immersive experiences for all the senses.

In order to create these worlds of audio experience, a 19" audio processing powerhouse is at the heart of the Pan Immerse 4D Audio solution: The Audio Core can simultaneously process up to 256 audio signals in high audio quality. The 256 audio signals are freely assigned to the required inputs and outputs within the system's specifications.

2D4D

A conventional sound system is based on a loudspeaker setup of L/R or L/C/R + sub. A 3D audio system allows audio objects (live signals or pre-produced signals) to be placed in space on a so-called loudspeaker ring.

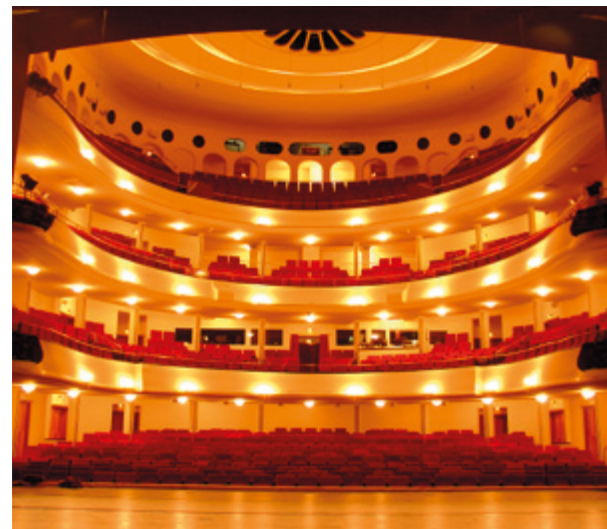
But what about the Z-axis, i.e. the height? And what about interactions over time via timecode or OSC/tracking control? Our Pan Immerse 4D audio system has all the features you need.

Horizontal or hemispheric sound

The audio processor of the Pan Immerse 4D Audio system allows you to create a hemispheric soundscape. The system supports a variety of loudspeaker arrangements: multiple loudspeakers positioned horizontally and vertically above each other as well as loudspeakers positioned above the audience (known as height loudspeakers). Control of the system is via a responsive user interface that can be viewed on a range of devices, from PCs to tablets.

The system is available in various software and hardware configurations and can be easily combined with an ACS system.





THEATRES AND MOVIE CINEMAS
State Theatre Braunschweig



OUTDOOR SOUND SYSTEM
Burj Khalifa, Dubai



SOPHISTICATED ARCHITECTURE
James Simon Gallery, Museum Island Berlin

WORLDWIDE REFERENCES



THEATRES AND MOVIE CINEMAS
Radio France, Paris



MONUMENT PROTECTION
Altenburger Land district administration, Thuringia



CHURCHES AND MOSQUES
St. Stephen's Basilica, Budapest



SOPHISTICATED ARCHITECTURE
Charles de Gaulle Airport, Paris



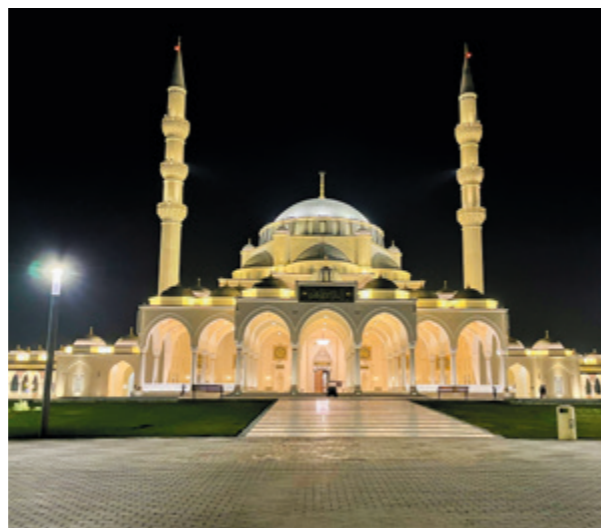
OUTDOOR SOUND SYSTEM
Harzdrenalin steel bridge

- » Charles de Gaulle Airport, Paris
- » Parliament of Angola
- » Gare du Nord station, Paris
- » Leicester Cathedral, UK
- » Fraunhofer Institute for Telecommunications, Berlin
- » Goldman Sachs Bank, London
- » Paris City Hall
- » Al Wakrah Stadium, Qatar
- » Parliament of Jordan
- » Banque de France, Paris
- » Académie Française, Paris
- » Stadshuset Stockholm (Announcement of Nobel Prize winners)
- » Abu Dhabi National Oil Company, UAE
- » Elbe bridges, Hamburg
- » St. Stephen's Basilica, Budapest, Hungary
- » Nestlé headquarters, France
- » BER Airport, Berlin
- » Qatar National Museum
- » Milan Cathedral

- » Royal Bank of Scotland, Glasgow, UK
- » Metro L3 Bilbao, Spain
- » Exeter College Oxford, UK
- » Touba Mosque, Senegal
- » Cabaret Lido Moulin Rouge, Paris
- » Carlton Hotel St. Moritz, Switzerland
- » Hanover City Hall
- » Venice Biennale
- » IHK headquarters, Berlin
- » Argon Audio Montpellier, France
- » Main lecture hall, TU Berlin
- » University of St. Gallen, Switzerland
- » University of Groningen, Netherlands
- » Church, Martinique, Caribbean
- » VW Golf VI and Audi A8 roadshow
- » Leipzig Central Station
- » Roissy Airport, Paris
- » Bern Cathedral, Switzerland
- » Opencast coal mine, Vattenfall
- » Warner Bros. Movie World, Bottrop



SOPHISTICATED ARCHITECTURE
Qatar National Museum



CHURCHES AND MOSQUES
Sharjah Mosque, United Arab Emirates



SOPHISTICATED ARCHITECTURE
Académie Française, Paris



MONUMENT PROTECTION
St. Thomas Church, Berlin



MONUMENT PROTECTION
Exeter College, University of Oxford



SOPHISTICATED ARCHITECTURE
The Sqaire, Frankfurt

WORLDWIDE REFERENCES

- » HDI Insurance, Hanover
- » DiTiB Merkez Mosque, Duisburg
- » Council of States Hall, Bern
- » State Music Academy, Wolfenbüttel
- » TUI cruise ship (Mein Schiff 2)
- » Industrial auditorium, Dietikon, Switzerland
- » Lille Airport, France
- » Eden Roc Hotel, Switzerland
- » VW Brand Pavilion, Wolfsburg
- » Radio France, Paris
- » Main lecture hall, HTW Berlin
- » King Salman Hall, Saudi Arabia
- » Al Hijra Mosque, Leiden, Netherlands
- » Herrenhäuser Gardens, Hanover
- » Schiphol Airport, Netherlands
- » Portsmouth Cathedral, UK
- » Limburg Cathedral
- » St. George's Church, Singapore
- » Supreme Court, Muscat, Oman
- » Great Al Rahji Mosque Riyadh, Saudi Arabia

- » Helmholtz Centre, Potsdam
- » Cruise terminal, Bilbao, Spain
- » University of Jena
- » National Military Museum, Soesterberg, Netherlands
- » Magdeburg State Parliament
- » Sharjah Mosque, United Arab Emirates
- » Dubai Mall Metro, Burj Khalifa
- » Provost Church Basilica St. Clemens, Hanover
- » St. Jean Baptiste Cathedral, Perpignan, France
- » Jahrhunderthalle Bochum
- » TGV station, Besançon, France
- » The Sqaire, Frankfurt am Main
- » Carlton Hotel St. Moritz, Switzerland
- » Rostock Central Station
- » Jägermeister showroom, Wolfenbüttel
- » James Simon Gallery, Museum Island Berlin
- » Cruise terminal, Rostock Port
- » Baseball Stadium, Taipei, Taiwan



OUTDOOR SOUND SYSTEM
Baseball Stadium, Taipei



EMERGENCY COMMUNICATION
Cruise terminal, Rostock Port

Durability

Our products are designed to last. We achieve this by:

- » using high-quality materials such as aluminium and steel for loudspeaker enclosures
- » production "Made in Germany", directly at our site in Wolfenbüttel
- » use of high-quality components
- » a 10-year warranty

Consciously designed, produced and shipped

We have sustainability in mind right from the development stage of our products:

- » Conscious use of resources
- » Products assembled to the millimetre
- » Low energy consumption
- » Reduction of noise emissions
- » Short, regional transport routes
- » Recyclable packaging
- » Almost no plastics used

Saying no to the throwaway society

"Repair or recycle, don't throw away" is Pan Acoustics' maxim.

- » In the event of a defect or wear and tear, we are happy to repair our loudspeakers. We guarantee the supply of spare parts and hold them in stock for at least 10 years after a product has been discontinued.
- » If a loudspeaker is beyond repair, the components can be cleanly separated and reused or recycled.

"Repair or recycle, don't throw away" is Pan Acoustics' maxim.

Sustainable approach to people and the environment

As a family-owned company managed by its founder, we are responsible for a sustainable approach to people and the environment. For us, sustainability encompasses the entire production process, from the design and manufacture of our products to their delivery, as well as our dealings with our employees, suppliers and contracted service providers.

We are guided by the 17 United Nations (UN) Sustainable Development Goals. We are committed to sustainable production, the careful/considerate use of finite resources and the generation of renewable energies.

Resource-friendly production

Since 2020, we have been based at our new site in Schweigerstraße in Wolfenbüttel, a barrier-free, energy-efficient new building with its own photovoltaic system and a charging station for our own fleet of electric vehicles.

We continue to expand our use of renewable energy sources to make our headquarters and manufacturing operations even more sustainable.

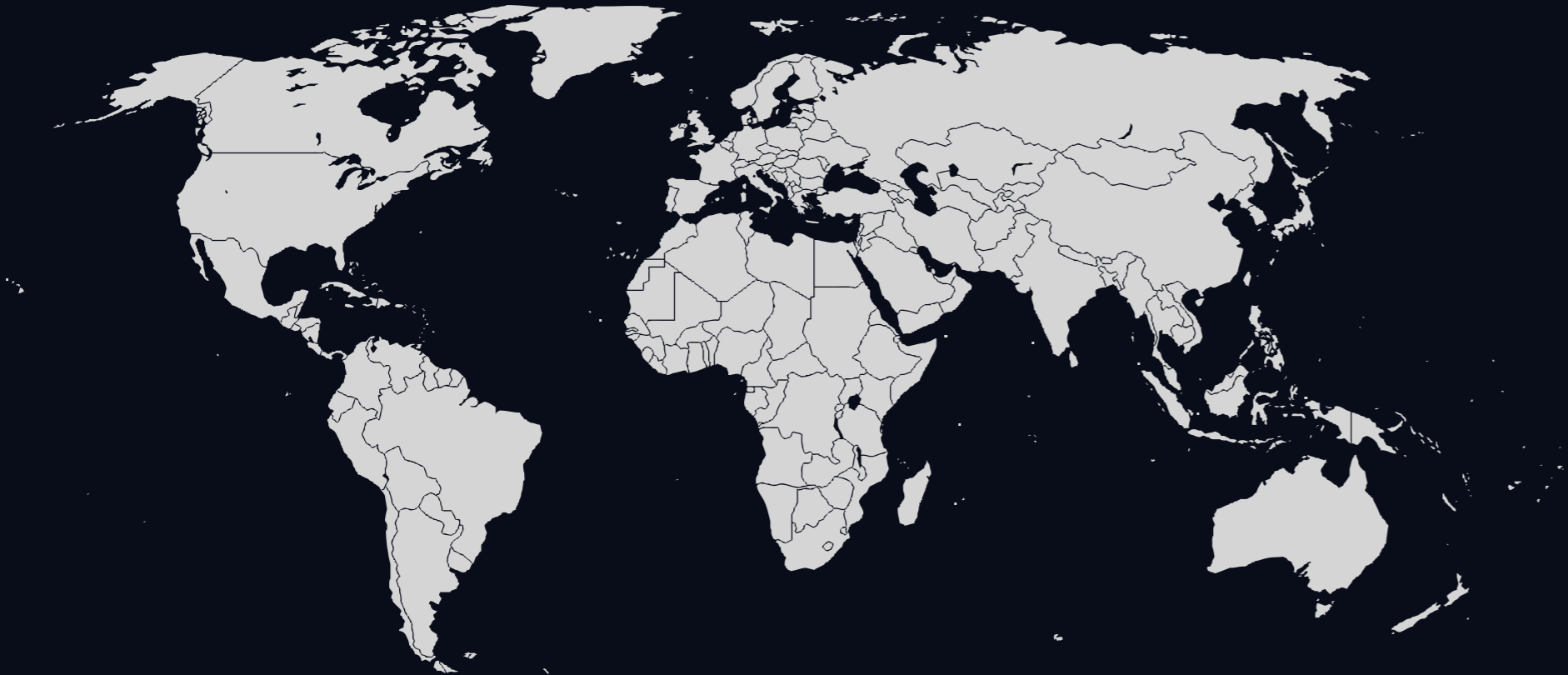
We save on materials by making products that fit exactly, and we ensure that our loudspeakers will perform perfectly for a long time by using the highest quality materials.

Social responsibility

We make a voluntary commitment to responsible corporate governance and operate according to ethical and moral principles. Fair supply chains, moderate growth and the continued development of digital structures are important to us.

Our employees are members of our Pan family, regardless of gender, age, religion, origin, sexual identity and orientation. We help them achieve a good work-life balance through flexible working and mobile working. In the region, we also bear responsibility for successful social coexistence.





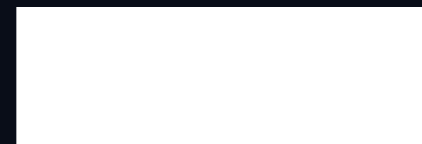
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Your contact:



We are here to help you.

We will be happy to be of assistance in your search for the right Pan Acoustics solution for your project. The best way to contact us is directly via the contact details on the left.

Planning support

If required, we can also advise and assist you as early as the planning stage of your sound project. Often standard solutions don't fit the bill and special solutions have to be found, for example for system mounting or line monitoring of active loudspeakers.

This is why we use our expertise and acoustic simulations to help customers, integrators, consultants and architects to find the optimum Pan Acoustics solution for their application, even in the preliminary stages.

Commissioning and setup

During the commissioning and final acceptance of a sound system, we are at your side with our expertise and measurement systems. Perfect level and clean sound are a matter of course for us.

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