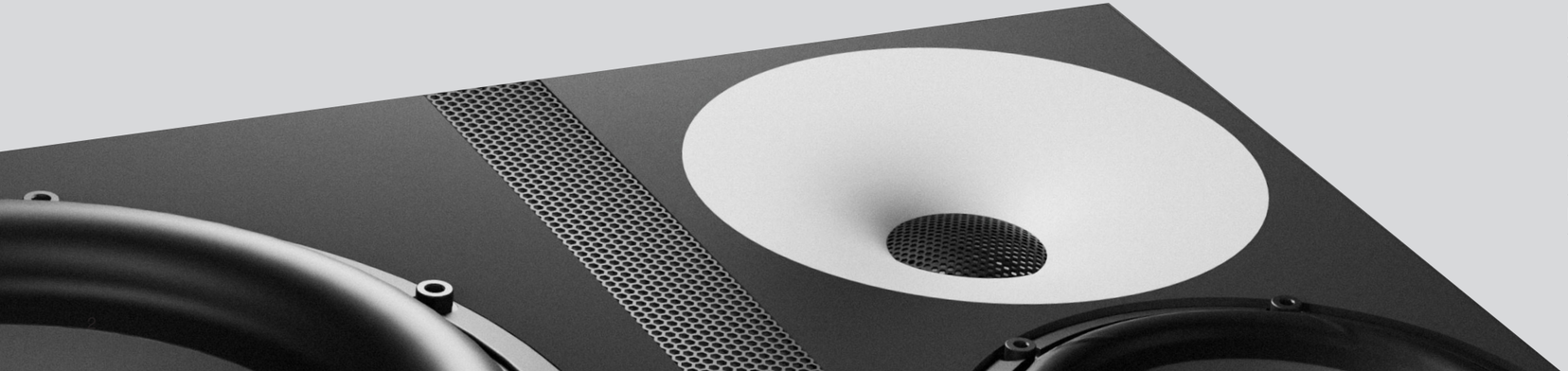
amphion® create

One25A

Reference manual
10/2023

beautifully honest



Contents

Introduction

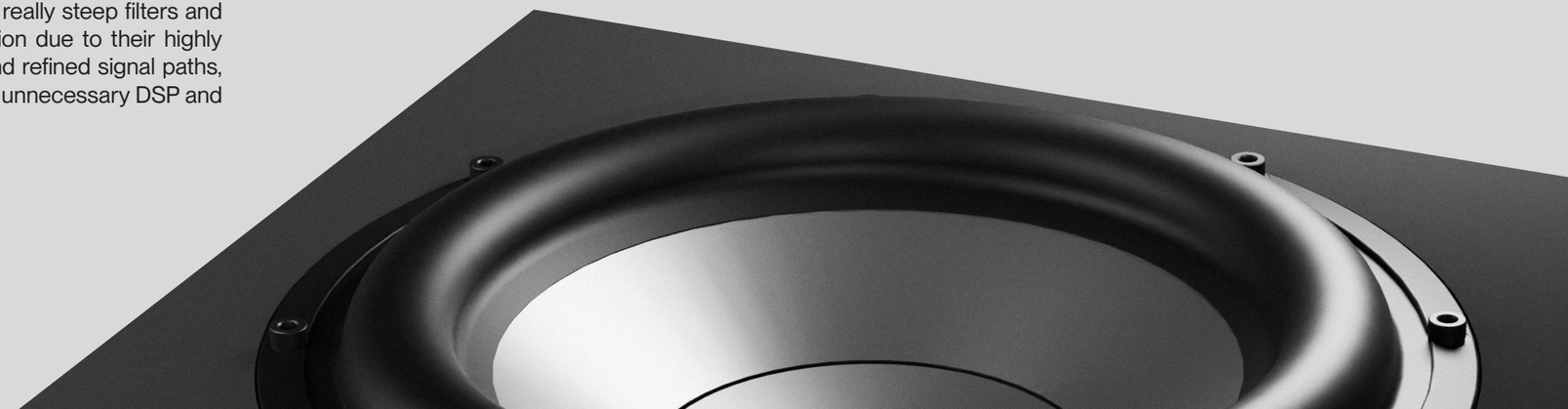
Welcome

Over a decade has passed since the introduction of Amphion's studio monitor line. Pushing the acoustic design and keeping the products electrically simple created an intuitive and effective tool, which has been embraced by the world's top sound engineers. Going against the norm with the passive design was naturally bold and risky, but we managed to get our ideas through. Amphion's design focus is always result - not technology - oriented. We have never opposed the basic principle of active speakers. We simply felt we could achieve better resolution and naturalness by applying passive design at the time.

Active approach has certain benefits ie. matching the amps to drivers, overload/overdrive protection and limiters, and the option of making really steep filters and cut-off points. However, many active designs lose resolution due to their highly complex signal paths. As we strongly believe in elegant and refined signal paths, we are not against the use of DSP. But we feel strongly that unnecessary DSP and AD/DA stages should always live outside of the speaker.

Presenting Amphion One25A ... a monitor true to Amphion's core strengths of advanced acoustic design, refined signal path, and high level resolution - enhanced with the benefits of active design without any of the downsides.

Anssi Hyvönen
Founder & Managing Director, Amphion Loudspeakers Ltd.



Safety

Safety warnings

1. Please read and follow these instructions before using the product.
2. Do not use this apparatus near water.
3. Clean only with a dry cloth.
4. Do not block any ventilation openings.
5. Install in accordance with the manufacturer's instructions.

6. Do not install near any heat sources such as sunlight, radiators, heat registers, or other apparatus (including amplifiers) that produce heat.
7. The unit generates heat especially during prolonged operation at intensive levels. Please do not cover or place objects on top.
8. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
9. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Use only with the stand, bracket, or table which is sturdy and stable enough to support the units substantial weight. Ensure the monitors do not tip/fall and cause injury or damage.
11. Any terminals marked with the preceding symbol are HAZARDOUS LIVE and any wiring connected to these terminals must be installed by an INSTRUCTED PERSON or with ready-made leads or cords.

12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. These monitors can produce high sound pressure levels (SPL). Exposure to high volume has the potential to cause hearing damage. Adjust the system's volume level to remain within safe limits.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE. DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, ARE PLACED ON THE EQUIPMENT. TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE. THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.

Warranty and support

Warranty

Amphion Create products come with a two-year warranty against defects in materials and our workmanship. For warranty or out-of-warranty service, in the first instance please contact your original dealer and provide a copy of the original sales receipt. If you require additional assistance, please contact your local sales representative or distributor. If you have difficulty making contact with either of the above, please contact our headquarters. Please do not return or ship any product to Amphion Loudspeakers Ltd. nor its resellers without prior authorisation.

Handmade in Finland

Amphion Loudspeakers Ltd. is awarded the right to use the Association for Finnish Work's Key Flag Symbol mark of origin. This mark is granted to Finland-based organizations that manufacture their products in Finland, having a minimum domestic content of 50 percent.

Company profile

Amphion Loudspeakers Ltd. was established in 1998. We design and build loudspeakers that are characterised by honest and accurate sound reproduction. All products are handmade in Finland (and the Amphion amplifiers are assembled in Finland) to ensure enduring listening quality.

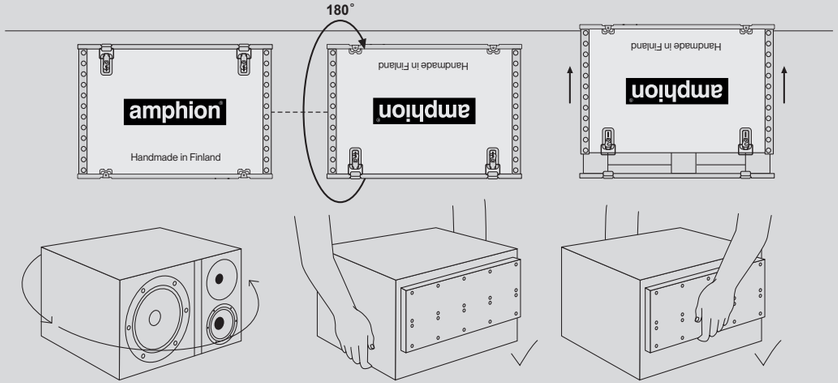
Hear more

www.amphion.fi

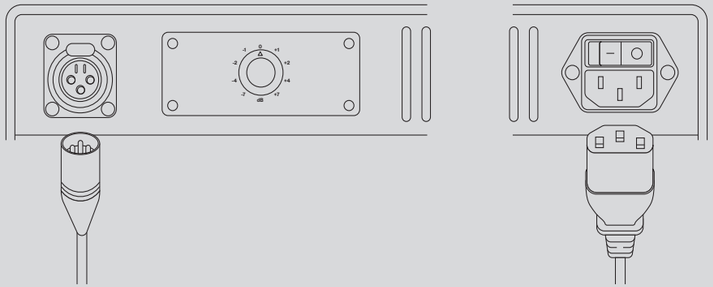
Social media
www.facebook.com/AmphionLoudspeakers
twitter.com/amphion_fi
www.youtube.com/user/AmphionLoudspeakers
www.instagram.com/amphion_loudspeakers

Instructions

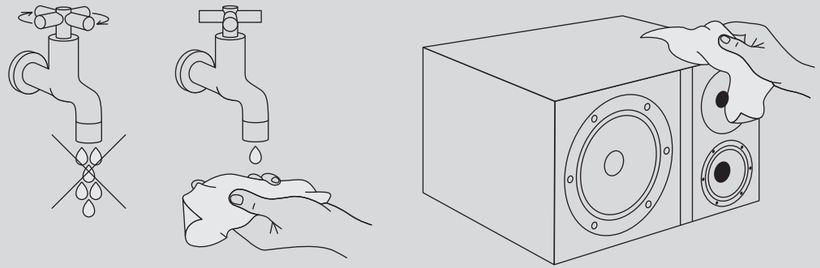
Unpacking



Connecting



Care



Maintenance

Please contact your local Amphion dealer or sales representative for additional guidance on cabinet, driver, or electronic maintenance. For more information, you can also contact Amphion headquarters or our regional offices in Asia (Japan) and North America (USA).

Philosophy

Hear it all

Your ears are the most important tool in your studio. Providing them with detailed, reliable information is the only way for making right, stress-free decisions. Pushing the acoustic design allows our products to have a simple signal path, as well as ensure transparency, resolution, and exceptional time and phase coherence. All products use time-adjusted drivers and low crossovers. This leads into point-source-like behavior and seamless driver integration. Rock solid “phantom” center, life-like 3D imaging and a wide and deep sweet-spot are characteristic of all Amphion products.

Truthful sound

Amphion’s Uniformly Directive Dispersion (U/D/D) allows the speakers to work in a predictable and acoustically-stable manner in all rooms. Amphion’s fifth generation waveguide ensures driver integration, eliminates cabinet diffractions, and produces a uniform and even response throughout a broad frequency band. The result is a wide, even listening area, which provides predictable results in your current room as well as your next. Use of sealed cabinet instead of a vent not only makes for a more natural energy transfer and improved bass definition, but also enhances the midrange clarity.

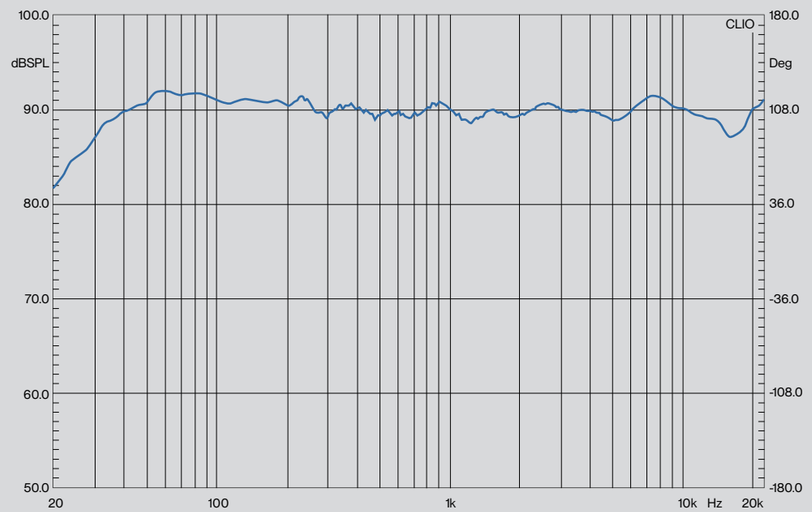
Work smarter

Achieving more in less time with minimum revisions, while keeping your clients happy, is a must in today’s world. To achieve this, your monitoring must translate well and guide you to focus on the essential information. Being able to totally trust your monitors leads into substantial time savings and peace of mind - even when working towards the tightest deadlines. World class translation and ability to make fast intuitive decisions help achieve consistent results equally well for stereo and all immersive formats.

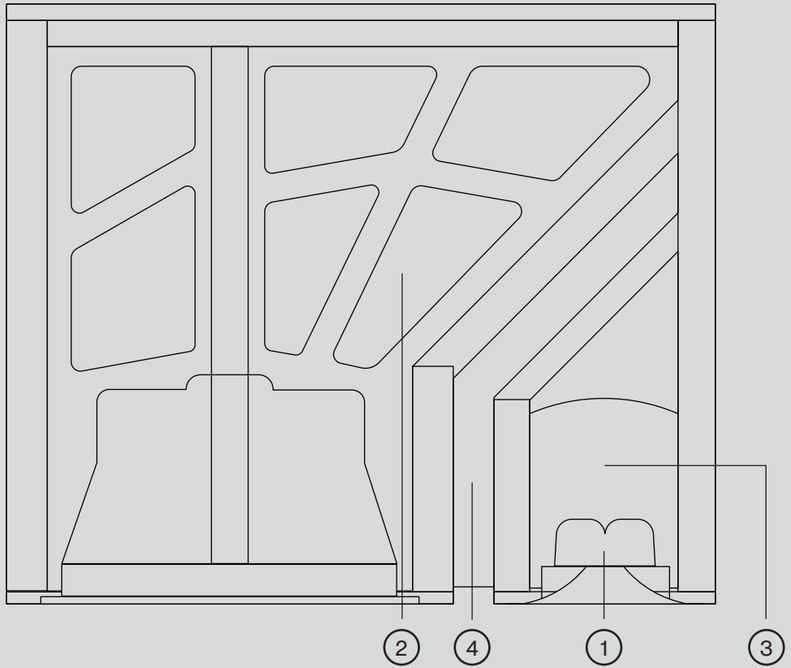
Technical specifications

Operating principle	Active, 3-way, sealed cabinet
Tweeter	25 mm / 1” titanium
Mid	15 cm / 5¼” aluminium
Bass	25 cm / 10” aluminium
Crossover point	100 Hz / 2000 Hz
Amplifier power	Bass 700 W Tweeter & Midrange 2 x 205W THD + N 0,002%
Power consumption (idle)	35W
Power consumption (max)	350W
Max SPL	105 dB
Frequency response	22 - 55 000Hz (-3dB)
Connections	Balanced XLR Input 1x Female XLR, pin 2-hot
Mains	230 V / 50 Hz or 115 V / 60 Hz (Factory preset)
Measurements (H x W x D)	316 x 510 x 487 mm
Weight	41 kg / 91 lb

Frequency response



Internal view



1 Waveguide

Amphion's Uniformly Directive Dispersion (U/D/D) allows the speakers to work in a predictable and acoustically stable manner in all rooms. Amphion's signature fifth generation waveguide ensures driver integration, eliminates cabinet diffractions and produces a uniform and even response through a broad frequency band. The result is a wide, even listening area, which allows you to trust your monitors in your current room as well as your next.

2 Sealed dual cabinet

The internal bracing is designed both as a stiffening support structure and as a physical-energy dispersion filter. It utilizes the mass of the sub-driver, and how it is connected to the bracing structure, to control the resonance of the whole enclosure in a desirable way. The glue-joints of the enclosure are specifically designed to control various structural stiffnesses as well as enclosure edge vibration dispersion.

3 Isolated chambers

New midrange driver and tweeter are in an isolated sealed chamber which minimizes the bass woofer's negative effects like pressure changes, leading to high midrange and treble resolution ensuring crystal clear transparency.

4 Acoustic symmetry

The channel between the two compartments ensures acoustic symmetry for the midrange drivers, and acts as a transfer-insulator/filter by separating the two chambers. The efficient surface damping qualities of the material between the compartments acts as a vibrational and acoustical dampening filter for the whole enclosure.

Technologies and features

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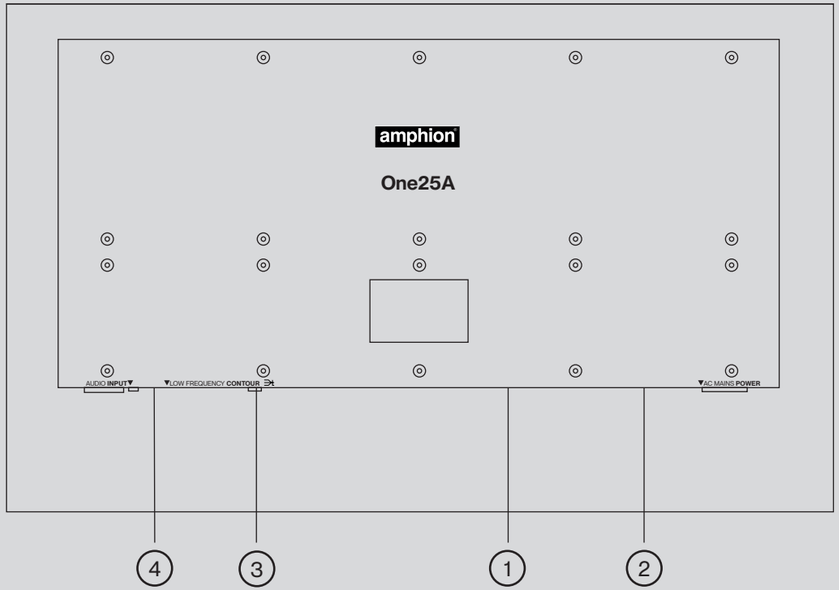

1. **Simple, refined signal path**

   Active speakers are typically complex with many sequential active stages - each with countless electronic components. As a result, the sonic integrity tends to get compromised. In DSP-based solutions, the situation is even worse: transparency, depth, and detail is lost because of both conversion and processing. The beauty of passive speaker crossovers lies in their simplicity, which helps to maintain a high level of audio resolution. The One25A follows this design philosophy, but as an active speaker, it is radically different. It could be described as a line-level passive crossover, which is buffered with ultra-clean FET buffers. This gives us the best of both worlds.

2. **Removable Amp Pack**

   Instead of placing the amplifiers and power supply inside the monitor, where they are negatively affected by physical vibration and magnetic forces of drivers, all the electronics are housed outside the cabinet. The rigid, well-isolated steel enclosure can also be removed for soffit mounting. Placing components in a well-cooled enclosure ensures maximum ventilation and lowest possible operating temperature.

3. **Boundary control**

   Amphion's 8-step low frequency adjustment boundary control (+/-7dB). Please refer to page 28 for more information.

4. **Protection circuit**

   Amphion's overload protection circuitry. Please refer to page 22 for more information.

Controls and connections

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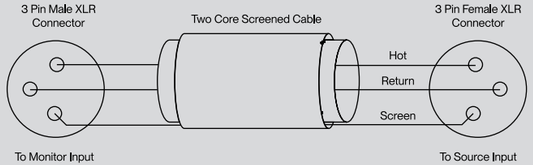
1 Input

This is the XLR output for your mains. If you are using an unbalanced destination, it is recommended to leave XLR pin 3 unconnected.



2 Boundary Control

Amphion's 8-step low frequency adjustment boundary control (+/-7dB). Please refer to page 32 for more information.

3 Power input

IEC power connector. Selected between the 100-240V range by users region. Please contact Amphion support if questions occur.

4 Power switch

This is the power switch I = ON, O = OFF

! PLEASE NOTE!

Always turn power off before inserting or removing cables.

Lights

Blue	Standby / On mute Wait for white light
White	Power on Normal operation
Red	Overload protection Power amplifiers overload protection is active (audio level and spectrum is limited for monitor protection).

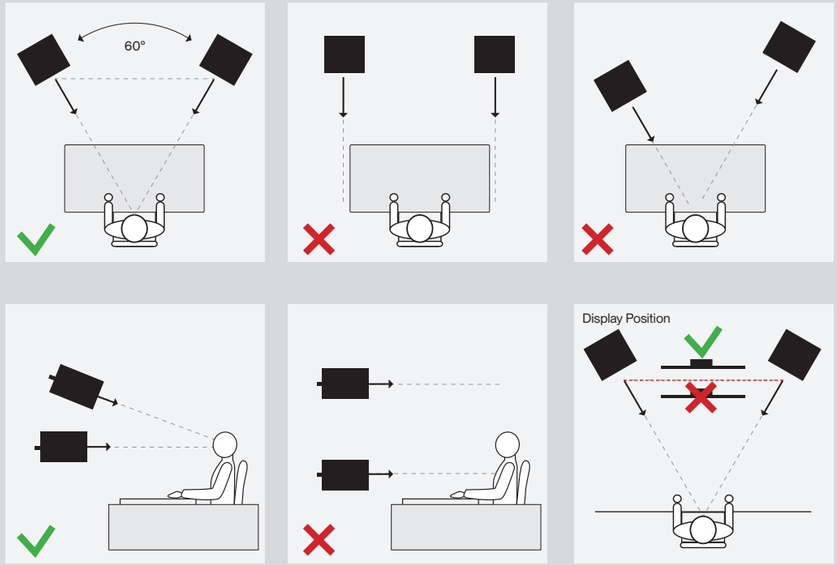
Protection circuitry

In order to keep the signal path as short and resolving as possible, the protection circuitry is kept separate from the audio signal path and it remains inactive until limiting is needed.

Instead of muting, cutting the signal, or skewing the frequency balance, the limiting circuitry is designed to keep the workflow undisturbed and the music playing. Technically, it can be considered to be a soft, padded wall instead of a typical brutal brick-wall approach. This gentle approach will help prevent damage to the speaker drivers, but understands real-life situations where playback levels can get overly-loud occasionally. To prevent damage to speaker drivers and human ears, it is always advisable to turn the volume down when the red light is activated.

Setup guide

Studio-monitor placement

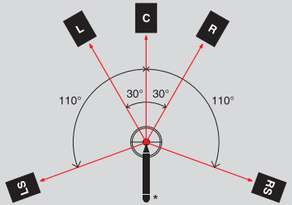


For both stereo and immersive installations, it is important to maintain symmetry.

Studio-monitor stencil

Instructions:

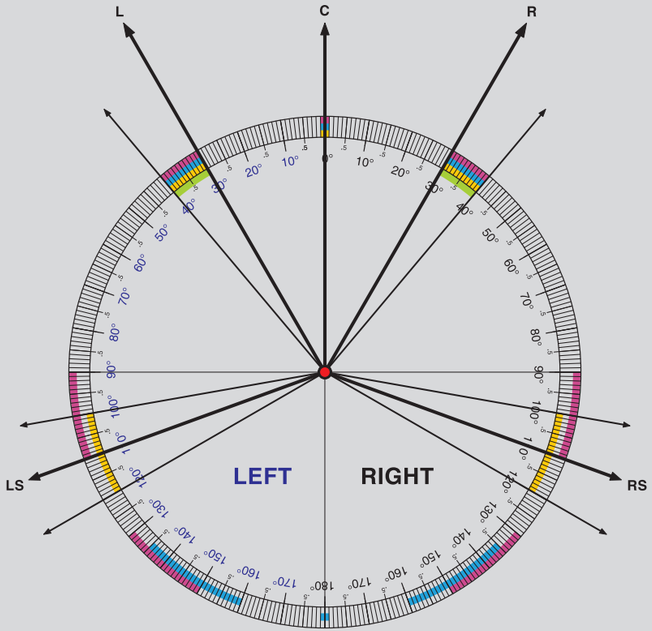
Centre of Template: Head/Listening Position
Set Primary Angles: Monitor(**L**) → Head → Monitor(**R**) "60° Rule"
Correct Imaging #1: Monitors → Head + Monitor → Monitor Distance
Correct Imaging #2: Use Tilt + Toe-in for Monitor → Ear Directionality



*Use laser-pen for accurate alignment. Alignment/Angle = Tweeter → Ear

Positions:

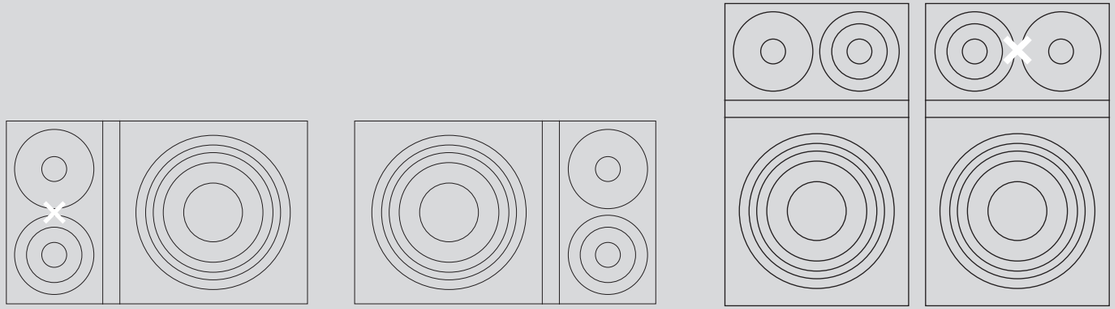
- Listening Position Location-point
- Front Stereo 30~40° From Centre [**L**|**R**]
- 5.1 Surround Sound 100~120° [**LS**|**RS**]
- 6.1 Surround Sound 135~160° [**LS**|**RS**] | 180° [**B**]
- 7.1 Surround Sound 90~110° [**LS**|**RS**] | 130~150° [**BLS**|**BRS**]



Acoustic centre point

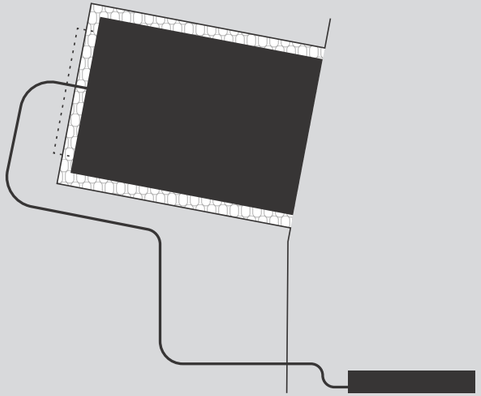
Between the drivers

The acoustic center point of Amphion One25A is located between the drivers (under the waveguide, on top of the woofer), which allows them to be used both vertically and horizontally. Line the acoustic centre point to your ear-level for optimal performance. Depending on your listening distance and room size, the tweeter can be placed both inward and outward. With shorter distances you can increase the size of the soundstage by placing it outward, while with longer distances it can be placed inward.



Soffit mounting

Removable amp



Due to our sealed design the One25A is well suited for soffit mounting. The amplifier pack can be detached and separated from the speaker and a rack mountable Amp Pack version is available. Please contact your local Amphion partner or headquarters for additional guidance.

Boundary control

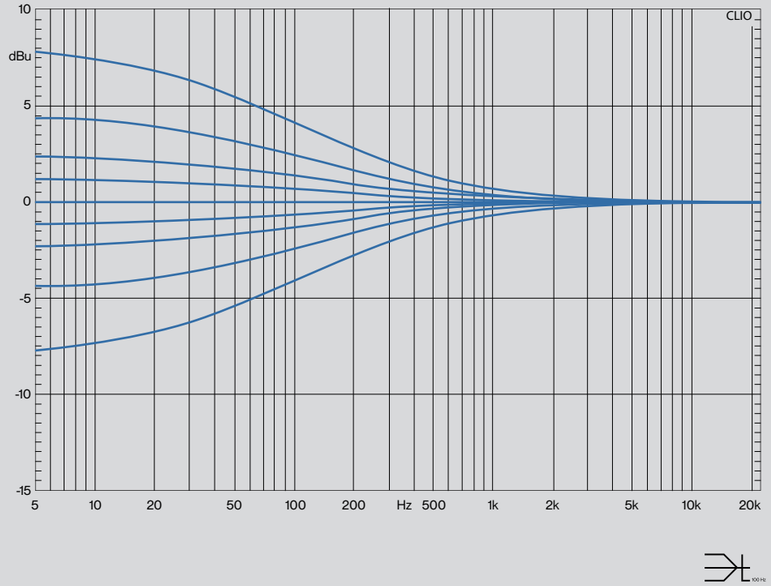
8-steps

One25A's boundary control system allows fine tuning the bass response in eight steps i.e. +/- 1dB, 2dB, 4dB, and 7dB (measured at 20Hz).

Placing speakers close to boundaries such as walls tends to cause bass build-up, which can be compensated easily with a turn of a dial, which is located next to the XLR input. Please note that boundary control allows both decreasing and increasing the bass level to fine tune the response to different rooms, wall density, placement and personal preference. Note that the floor is also considered a boundary, which means that the mounting height of the speaker will affect the response at the lowest frequencies.

The adjustment is a smooth shelf-type curve mostly operating at frequencies below 150 Hz. Even if results sound sonically fine, use caution when applying correction as large amounts of boost will use more amplifier power and result in longer driver excursion. Note that the speaker is designed to work in most rooms of various size without any need for adjustment.

Boundary control



Immersive

Seamless and uniform

Immersive environments set new demands for monitoring. Precise imaging, defined depth information, and immaculate phase behaviour are a must when placing objects on the 3D-grid. As the number of channels grow, even the smallest shortcomings in monitoring lead to a lack of cohesion. Amphion's unique acoustic design ensures an exquisite, three-dimensional, reference quality soundscape that's needed to achieve industry leading results.

Our professional studio monitors can be mixed and matched completely seamlessly, as their acoustic design, tonal characteristics, and dispersion are precise and uniform. All Amphions utilize proprietary waveguides, sealed enclosures, tweeters with similar crossovers, and drivers with tight production tolerance - which lead to a seamless sound-field and contribute to sonic conformity and consistency in all settings. Our advanced acoustic design minimizes electrical clutter and allows harnessing the full power of the latest signal processing devices, as well as room correction or other types of advanced software. Due to their phase coherence and pinpoint imaging, Amphion monitors translate particularly well to any playback devices, as they allow you to correctly reproduce information in all planes - including width, height, and depth.

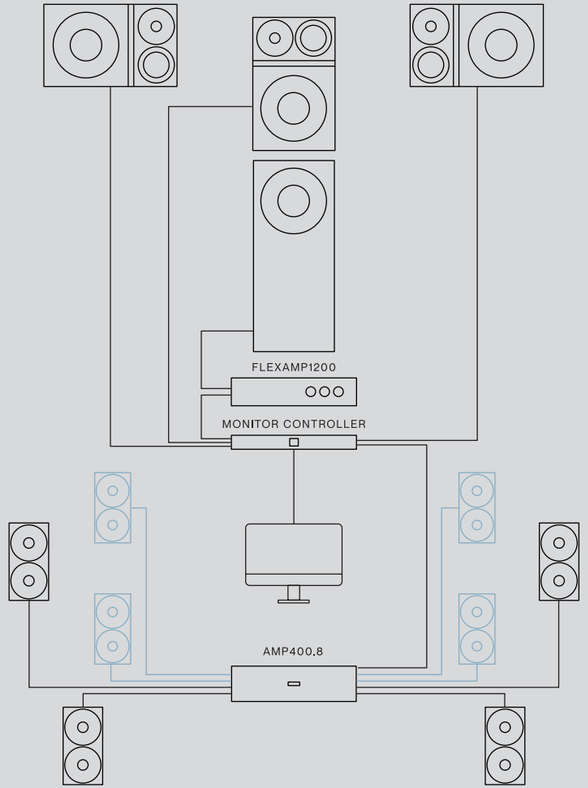
For surround or immersive formats, we recommend that all speakers are aimed directly at the listening position, to ensure consistent balance and focus across the whole sound field. Please refer to page 28.

LCR
(ONE25A)

LFE
(FLEXBASE25)

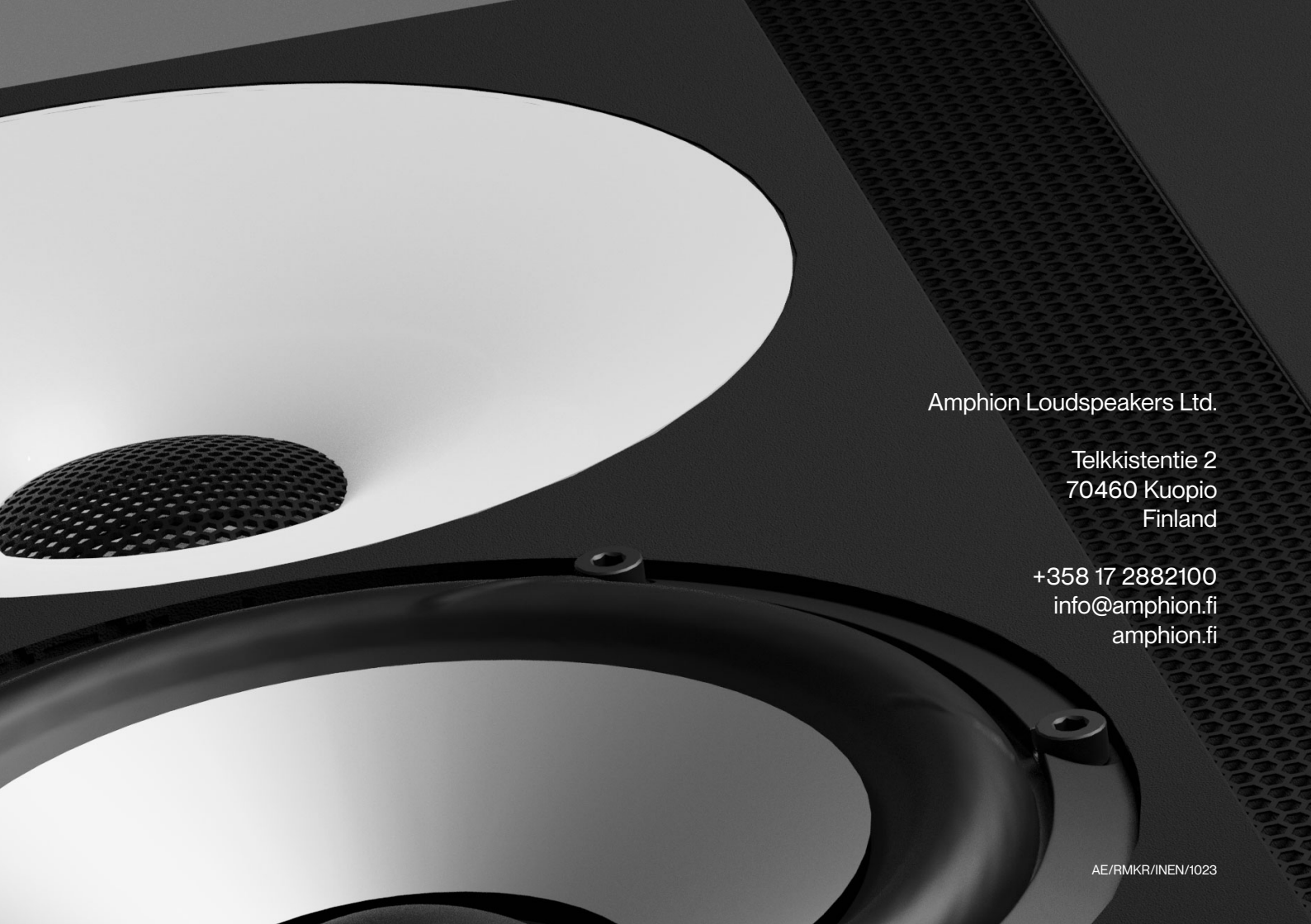
OVERHEAD
(ONE12, ONE15, ONE18)

SURROUND
(ALL MODELS)



This is an example, many different configurations can be created.

Bass Extension shown in sideview.



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