ARENDAL®

1961 SPEAKER

HANDBOOK



1961

WELCOME TO ARENDAL - WHERE SOUND COMES FIRST



STORY OF ARENDAL
1961 SPEAKERS
PREMIUM BUILD QUALITY
WAVEGUIDE TWEETER
MID-WOOFERS
SPEAKER INPUT POSTS
SPIKES KIT / RUBBER FEET
PLACEMENT & SETUP
SAFETY INSTRUCTIONS
WARRANTY

ARENDAL® | 1961 SPEAKER

"Thank you for purchasing an Arendal Sound product. I hope you enjoy it as much as we enjoyed creating it."

Jan Ove Lassesen, CEO and Founder

Imagine the thrill of your favorite action scene — the deep rumble of an explosion, the crisp clarity of every whispered word — or the way your go-to playlist feels like it's performed live, right in your living room. With the 1961 Series, we've made it our mission to transform how you experience sound, creating moments that resonate long after the credits roll, or the last note stops ringing.

Drawing on the award-winning engineering of our best-selling 1723 Series, the 1961 Series is designed to bring premium performance to as wide an audience as possible. Every product in this lineup is crafted with meticulous attention to detail, from high-quality paint finishes and HDF cabinets to the advanced acoustic technology that defines the signature Arendal sound.

At the heart of the 1961 Series is our customized waveguide — a hallmark of Arendal engineering. This innovation ensures sound is delivered with stunning clarity, precision, and balance, immersing every listener in the room. Paired with a high-capacity 28mm tweeter and custom 5.5" drivers, the 1961 Series delivers dynamics and detail that rival far more expensive systems.

Whether you're building a powerful home theater or upgrading a compact stereo setup, the 1961 Series has you covered. From the compact 1961 Tower with quad 5.5" woofers to the adaptable 1961 Monitor, this series is designed to fit seamlessly into your space. Enhance your system with the 1961 Center, Surround, and Height speakers for an unforgettable movie or concert experience. And for smaller rooms, the compact 1961 Bookshelf combines powerful sound with understated style.

The 1961 Series is where premium performance meets accessibility, building a bridge between unforgettable sound and the finer moments in life.

STORY OF ARENDAL

I was born and raised in Arendal 1978, Norway. As a kid I enjoyed many activities, such as catching fish for my cat Johnas, riding my bike, playing football and video games, and hanging out with friends. Of course not a day went by without wrestling with my older brother Dan Benny.

My dad, Jan, founded an electronic store in the 70´s and it quickly became the top selling store of it's kind throughout Norway. On a good Saturday it was not unusual to sell 40-50 color TV's, which were hot tech at the time. Today he spends his elder days as a fisherman, just like my grandfather Olav before him.

During my younger days there was rarely a weekend when I was not (somewhat reluctantly!) dragged out of bed on a Saturday morning to help sell my grandfather's catch from the night before to the neighbourhood. I was often told "your grandfather has caught a lot of fish, you need to help him sell it". Dragging all the fish with me, I walked several kilometers and knocked on many doors utilizing some maybe desperate sales tactics to charm the older ladies. My customers may have felt sorry for me seeing me walk around with fish, but I was able to sell them and returned home with pockets full of money. My grandfather gave me a cut of the sales so I could buy candy and save the rest in order to purchase more audio products. These were some of the best memories of my childhood.

As you may have guessed, I was introduced to the audio world at a very early age. When I turned 14 I started to work part time at my dad's store. When your hobby is electronics and you work in such an environment you get the urge to purchase and test as many products as you can, which I did with great joy. Normally, instead of a paycheck, I brought home new speakers or amplifiers that had to be tested. My very first setup was a stereo system with some huge speakers which could play very loud. It was hugely annoying to my mother. Does that sound familiar?

It's one thing to have fun with audio equipment, but another very different thing to understand it. I studied electronics for 8 years, graduated from Grimstad with an engineering degree and was lucky enough to get a job in the oil industry. After working in the oil industry for a while, I knew that it wasn't the field for me. Audio was my passion and that's what I wanted to work with.

With 15 years of business experience in the audio industry and after shipping tens of thousands of audio products throughout Europe and beyond, I wanted something else. Something of our own which had been lingering in the air for many years. At our 10th anniversary, what better way to celebrate and continue the story, than with the release of our own speaker brand?

The idea of Arendal Sound was born.

It was no coincidence. We've spent years researching, listening to our customers, planning, developing, engineering and investing in Arendal Sound. I always wanted our team to have something to be extraordinarily proud of and enthusiastic about. It had to be something that was based on solid acoustic engineering principles and yet aesthetically beautiful, surrounded by a unique story - ours. Arendal Sound builds upon traditional and historic Norwegian elements, where solid craftsmanship and finish quality are a top priority, backed with pleasure in the use and pride in the ownership. We even want to show our beautiful country to our overseas customers and invite them to Norway.

We are a family and team with the same mentality and goal, to create market leading products, packed with incredible value, backed with our highly acclaimed customer support that extends beyond the date of purchase.

To me, business comes second and at the end of the day, it's my family who are most important. Without them it would have been hard. I would especially like to thank my wife, Heidi, as she has been by my side all this time showing extreme patience and understanding. And of course my two little kids, Marcus and Leander, they are the dessert in life as my mom and dad say.

We hope you will enjoy our products as much as we enjoyed making them.



Jan Ove Lassesen
Founder of Arendal Sound




1961
SPEAKER



1961

TOWER

BLACK MATTE





WHITE MATTE

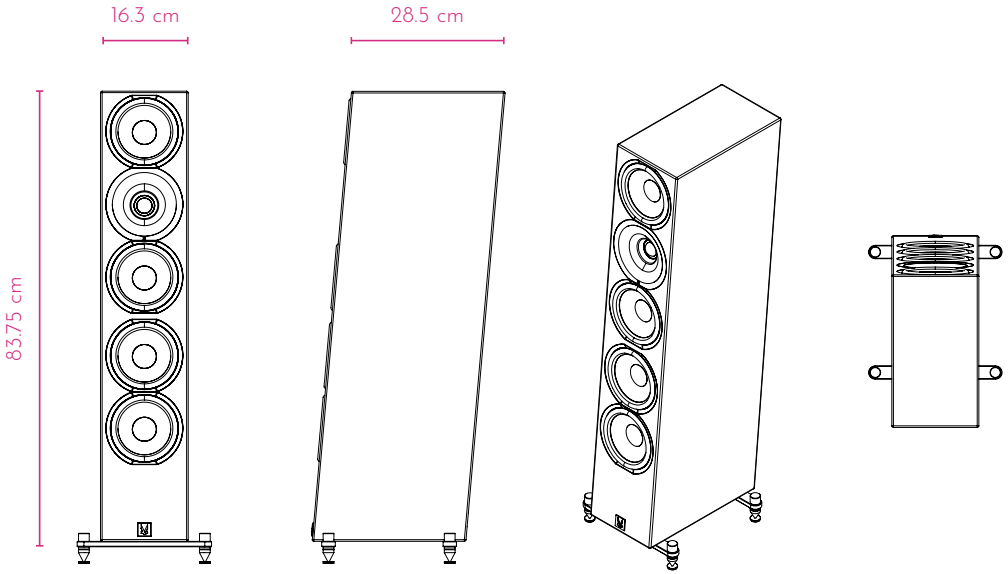




SPECIFICATIONS

The 1961 Tower is a powerhouse in disguise. Compact and sleek, it delivers the dynamics, realism, and impact you'd expect from much larger speakers. Built with advanced technology from the award-winning 1723 Series, it ensures uncompromising performance in every detail.

DESIGN	**2.5-way**
TWEETER	**28 mm**
WOOFER	**4 x 5,5"**
ENCLOSURE	**Sealed / Vented**
ENCLOSURE MATERIAL	**High Density Fiberboard (HDF)**
CROSSOVER FREQUENCY	**120Hz / 1500Hz**
SENSITIVITY	**87dB/2.83v/1m**
FREQUENCY RESPONSE SEALED	**49-20KHz (+/-3dB)**
FREQUENCY RESPONSE VENTED	**39-20KHz (+/-3dB)**
IMPEDANCE	**4-ohm nominal**
INCLUDED	**Grilles. Manual. Spikes Kit. Rubber feet. Port plug.**
DIMENSIONS WITHOUT FEET	**83.75H x 16.3W x 28.5D cm**
DIMENSIONS WITH SPIKES KIT	**87.8H x 16.3W x 28.5D cm**
WEIGHT	**17.9 kg**
BREAK-IN FOR OPTIMAL PERFORMANCE	**50 hours**
RECOMMENDED AMPLIFIER	**Up to 350W RMS**





1961

MONITOR

BLACK MATTE





WHITE MATTE

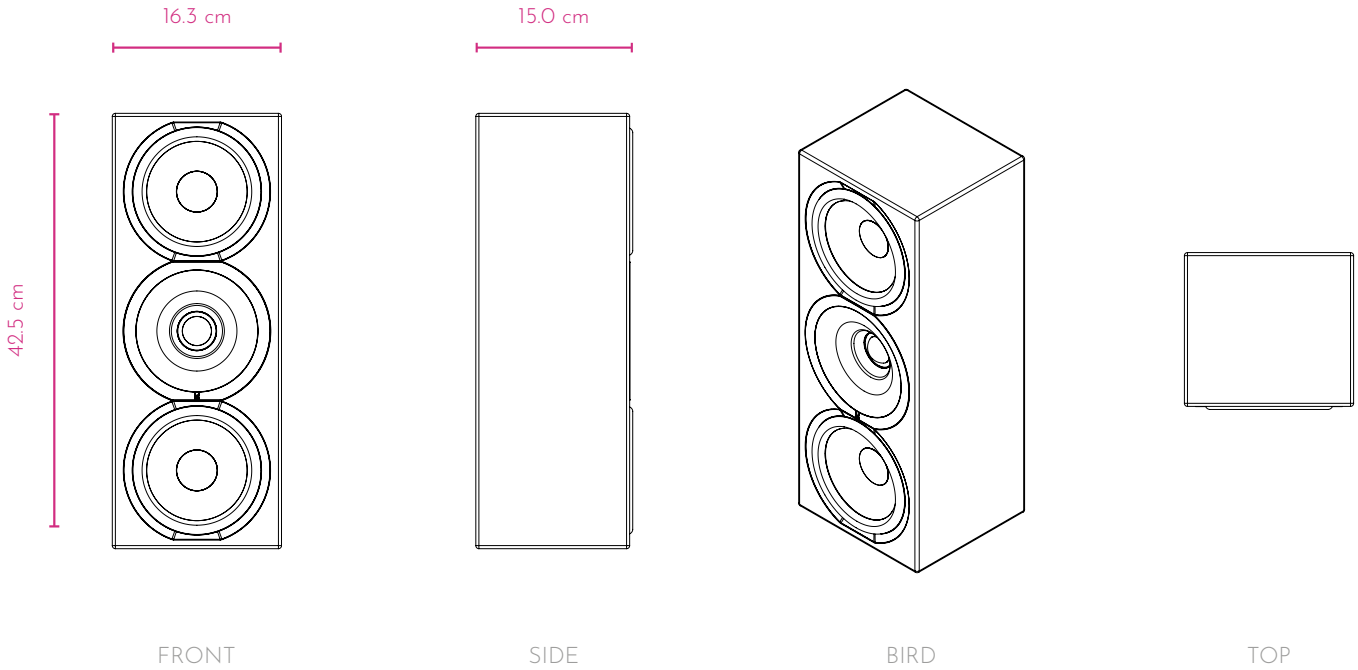




SPECIFICATIONS

The 1961 Monitor combines dynamic power, natural sound, and stunning realism. The waveguide tweeter, positioned close to the midrange drivers, ensures seamless integration and perfect off-axis performance. Whether for stereo or home theater, it delivers exceptional clarity and detail in any room.

DESIGN	**2-way**
TWEETER	**28 mm**
WOOFER	**2 x 5.5"**
ENCLOSURE	**Sealed**
ENCLOSURE MATERIAL	**High Density Fiberboard (HDF)**
CROSSOVER FREQUENCY	**1500Hz**
SENSITIVITY	**87dB/2.83v/1m**
FREQUENCY RESPONSE	**73-20kHz (+/-3dB)**
IMPEDANCE	**4-ohm nominal**
INCLUDED	**Grilles. Manual. Rubber pads**
DIMENSIONS	**42.5H x 16.3W x 15.0D cm**
WEIGHT	**7.25 kg**
BREAK-IN FOR OPTIMAL PERFORMANCE	**50 hours**
RECOMMENDED AMPLIFIER	**Up to 250W RMS**





1961

CENTER

BLACK MATTE





WHITE MATTE

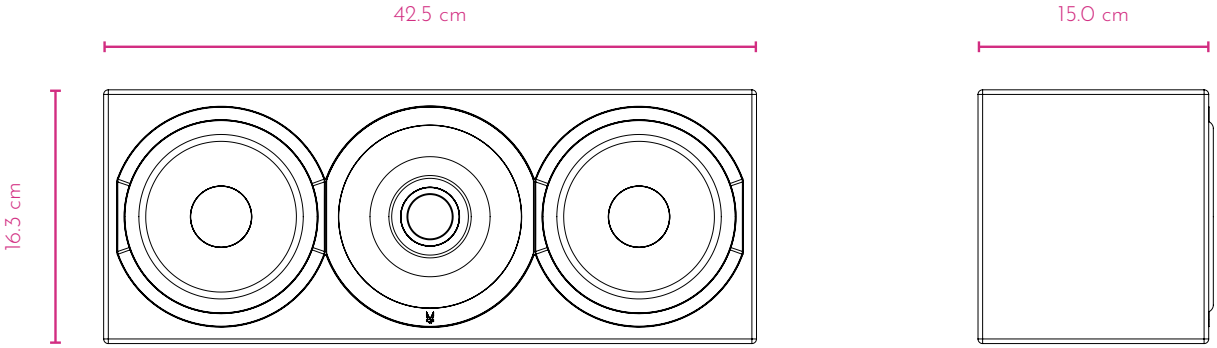




SPECIFICATIONS

The 1961 Center ensures crystal-clear dialogue and immersive sound for everyone in the room. The waveguide tweeter, paired with mid/bass drivers for uniform dispersion, reproduces voices with precision and depth. Inspired by the 1723 Series, it delivers the same realism and dynamic performance, tailored for a central role in your setup.

DESIGN	**2-way**
TWEETER	**28 mm**
WOOFER	**2 x 5.5"**
ENCLOSURE	**Sealed**
ENCLOSURE MATERIAL	**High Density Fiberboard (HDF)**
CROSSOVER FREQUENCY	**1500Hz**
SENSITIVITY	**87dB/2.83v/1m**
FREQUENCY RESPONSE	**73-20kHz (+/-3dB)**
IMPEDANCE	**4-ohm nominal**
INCLUDED	**Grilles. Manual. Rubber pads**
DIMENSIONS	**16.3H x 42.5W x 15.0D cm**
WEIGHT	**7.25 kg**
BREAK-IN FOR OPTIMAL PERFORMANCE	**50 hours**
RECOMMENDED AMPLIFIER	**Up to 250W RMS**



FRONT

SIDE



1961

SURROUND

BLACK MATTE





WHITE MATTE

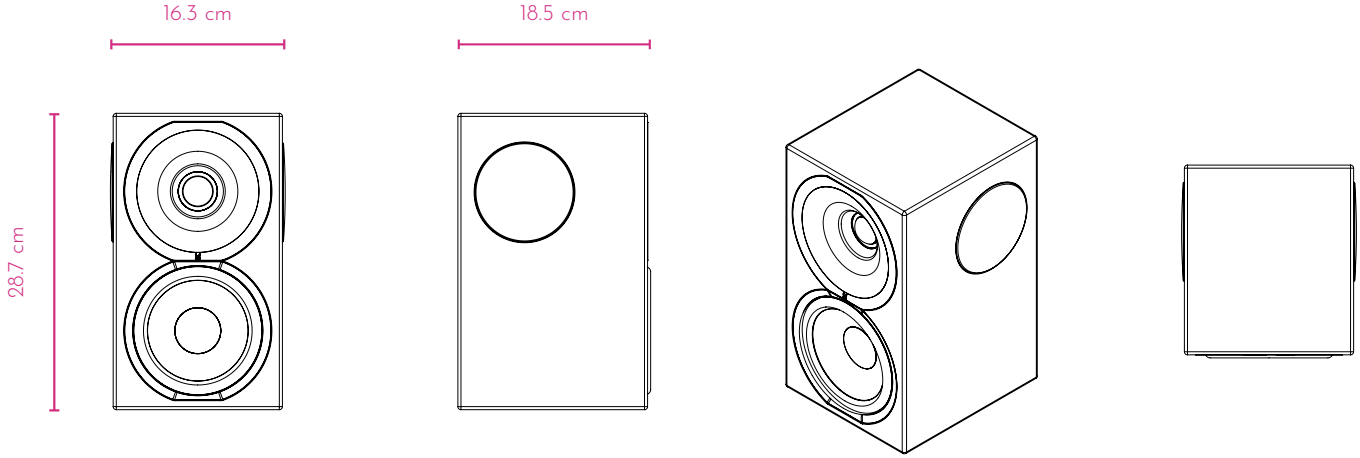




SPECIFICATIONS

The 1961 Surround speakers elevate your home theater with a fully immersive experience. Using a TriAxial design, they create a wide soundstage and lifelike effects. The combination of custom waveguide tweeter, mid/bass driver, and full-range side-firing dipole drivers ensures a huge sweet spot and seamless integration with the rest of the 1961 Series.

DESIGN	**TriAxial**
TWEETER	**28 mm**
SIDE	**2 x 3"**
WOOFER	**5.5"**
ENCLOSURE	**Sealed**
ENCLOSURE MATERIAL	**High Density Fiberboard (HDF)**
CROSSOVER FREQUENCY	**1500Hz**
CROSSOVER FREQUENCY SIDE	**200Hz**
SENSITIVITY	**84dB/2.83v/1m**
FREQUENCY RESPONSE	**75-20kHz (+/-3dB)**
IMPEDANCE	**4-ohm nominal**
INCLUDED	**Grilles. Manual. Rubber pads.**
DIMENSIONS	**28.7H x 16.3W x 18.5D cm**
WEIGHT	**6 kg**
BREAK-IN FOR OPTIMAL PERFORMANCE	**50 hours**
RECOMMENDED AMPLIFIER	**Up to 180W RMS**



FRONT SIDE BIRD TOP



1961

BOOKSHELF

BLACK MATTE





WHITE MATTE

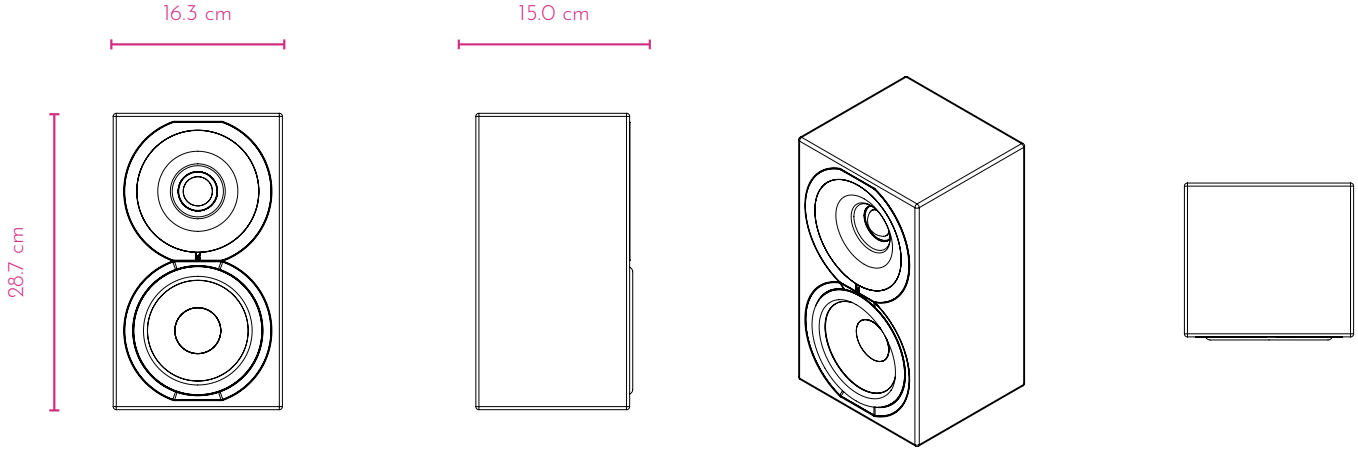




SPECIFICATIONS

The 1961 Bookshelf combines compact size with exceptional performance. Featuring the custom waveguide tweeter and 5.5” mid/bass driver from the series, it delivers powerful, detailed sound with a wide soundstage. Perfect for smaller spaces, it works equally well in home theater systems or as part of a stereo setup.

DESIGN	**2-way**
TWEETER	**28 mm**
WOOFER	**5.5"**
ENCLOSURE	**Sealed**
ENCLOSURE MATERIAL	**High Density Fiberboard (HDF)**
CROSSOVER FREQUENCY	**1500Hz**
SENSITIVITY	**84dB/2.83v/1m**
FREQUENCY RESPONSE	**75-20kHz (+-3dB)**
IMPEDANCE	**4-ohm nominal**
INCLUDED	**Grilles. Manual. Rubber pads.**
DIMENSIONS	**28.7H x 16.3W x 15D cm**
WEIGHT	**4.9 kg**
BREAK-IN FOR OPTIMAL PERFORMANCE	**50 hours**
RECOMMENDED AMPLIFIER	**Up to 180W RMS**



FRONT SIDE BIRD TOP



1961

HEIGHT

BLACK MATTE





WHITE MATTE

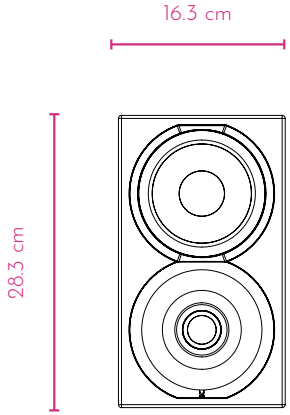




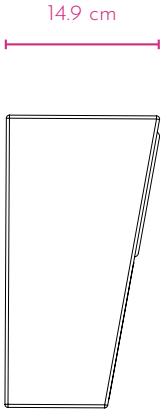
SPECIFICATIONS

The 1961 Height speaker brings dimensionality to your home theater. Designed for Atmos or height channels, it integrates seamlessly on top of the 1961 Tower or as a sleek, wall-mounted option. With sound performance matching the 1961 Bookshelf, it's the perfect solution for immersive audio in a compact form.

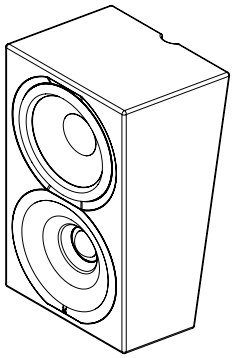
DESIGN	**2-way**
TWEETER	**28 mm**
WOOFER	**5.5"**
ENCLOSURE	**Sealed**
ENCLOSURE MATERIAL	**High Density Fiberboard (HDF)**
BAFFLE ANGLE	**10 degrees**
CROSSOVER FREQUENCY	**1500Hz**
SENSITIVITY	**84dB/2.83v/1m**
FREQUENCY RESPONSE	**75-20kHz (+-3dB)**
IMPEDANCE	**4-ohm nominal**
INCLUDED	**Grilles. Manual. Rubber pads.**
DIMENSIONS	**28.3H x 16.3W x 14.9TD x 10BD cm**
WEIGHT	**4.4 kg**
BREAK-IN FOR OPTIMAL PERFORMANCE	**50 hours**
RECOMMENDED AMPLIFIER	**Up to 180W RMS**



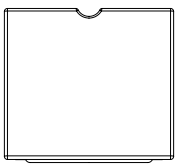
FRONT



SIDE



BIRD



TOP





PREMIUM BUILD QUALITY

Even at the start of your journey with Arendal Sound, every detail is crafted to deliver premium performance and long-lasting durability.

HDF Cabinets

The 1961 Series uses High-Density Fiberboard (HDF) cabinets instead of the standard Medium-Density Fiberboard (MDF) found in most speakers at this price point. Why? HDF is significantly stiffer, enhancing dynamics and sound quality while allowing for precision machining. Cabinet thicknesses range from 15mm to 50mm, with critical areas like baffles being the thickest, ensuring reduced resonance and unmatched stability.

Premium Finishes – No Vinyl Wraps

Just like our flagship series, the 1961 Series features high-quality, multi-layered paint finishes in textured matte black or white. These hand-painted polyurethane (PU) coatings add durability and a refined aesthetic that blends seamlessly into any interior. Forget cheap vinyl wraps — our finishes deliver a premium look and feel worthy of a high-performance speaker.

Thoughtful Internal Wiring

We've equipped every 1961 model with carefully selected multi-strand wiring, braided for consistent impedance and superior current-carrying capacity. This minimizes sound coloration and ensures low distortion, preserving the purity of your audio.

Magnetic grills

Every speaker in the 1961 Series features custom-designed magnetic grills with neodymium magnets for a secure, rattle-free fit. A soft rubber backing prevents scratches, while the perforated, fabric-wrapped design ensures no interference with sound quality. The satisfying "thud" when the grill clicks into place speaks to the attention to detail you can expect from Arendal Sound.



WAVEGUIDE TWEETER

The design of our 1961 speakers centers around a custom 28mm synthetic soft dome tweeter, paired with a precision-engineered waveguide. Adapted from our award-winning 1723 Series, this combination elevates high-frequency performance to exceptional levels.

A Refined Soft Dome Tweeter

The 28mm tweeter is crafted with lightweight materials for smooth, detailed sound and exceptional clarity. Optimally damped and produced to exacting tolerances, it delivers consistent frequency response with a sweet, natural tone. While inspired by the 1723 Series, the 1961 tweeter features a carefully designed ferrite magnet assembly to maintain premium performance at a more accessible price point.

Why the Waveguide Matters

The waveguide isn't just an accessory — it's a transformative feature. Painstakingly modeled and tested, it improves the tweeter's performance by controlling sound dispersion. This ensures wider coverage, seamless integration with mid-bass drivers, and reduced distortion. The result is a balanced, immersive soundstage that fills your space, whether you're sitting in the sweet spot or elsewhere in the room.

Precision in Every Detail

Every element of the tweeter and waveguide assembly is meticulously crafted to enhance sound quality. The thick, sturdy ABS waveguide is custom-tooled to eliminate resonance, while an elegant NBR rubber ring enhances the design and protects critical components. Together, they deliver consistent polar response, increased efficiency, and smooth transitions across frequencies.

Performance You Can Hear

With its innovative design, the 1961 waveguide tweeter offers improved efficiency, lower crossover points, and enhanced clarity across all frequencies. Whether you're watching an intense movie scene or enjoying your favorite music, the detail and dynamics are guaranteed to impress.

Meticulous Design

Everything about the 1961 tweeter, except for the diaphragm, is built from the ground up. Each component is the result of advanced modeling, rigorous testing, and precise engineering. The motor assembly is a powerhouse, designed to deliver high performance, low distortion, and exceptional efficiency. Using non-linear FEA modeling and Klippel diagnostics, we've ensured every aspect meets exacting standards for quality and performance.

- High-temp polyimide CCAW wire for durability.
- Underhung voice coil design, which minimizes distortion and enhances precision.
- Ultra-low viscosity ferrofluid, cooling the voice coil and ensuring quick, accurate transient response. Large aluminum heatsink/shorting ring, which reduces distortion and prevents thermal compression. Multiple airflow vents, maintaining balanced compliance and preventing resonance-related artifacts.

This meticulous attention to design ensures the tweeter operates with precision, delivering pristine highs and lifelike detail at any volume.



5,5" WOOFERS

The 5.5" woofer in the 1961 Series is a prime example of Arendal Sound's commitment to uncompromising performance. This custom-designed driver delivers a remarkable balance of power, precision, and natural sound reproduction. By incorporating advanced technology from the 1723 Series, the woofer provides exceptional clarity and impact across a wide frequency range, making it perfect for music and home theater alike.

Cone Material and Build

At the core of the woofer is a long-fiber pulp paper cone, treated with a proprietary coating. This material strikes the ideal balance between stiffness and self-damping, allowing the cone to reproduce deep bass and detailed midrange without introducing unwanted resonance or coloration. Its ability to maintain pistonic motion across its frequency range ensures consistent and natural sound.

Surrounding the cone is an NBR rubber surround, designed not only for durability but also to integrate seamlessly with the speaker cabinet. This smooth, curved design minimizes unwanted vibrations and improves the overall aesthetic, mirroring the precision craftsmanship seen throughout the 1961 Series.

Precision Engineering

The 5.5" woofer is the result of meticulous non-linear FEA modeling and rigorous testing using Klippel diagnostics. Each component has been carefully designed to ensure peak performance:

- **Motor Assembly:** The motor is optimized for consistent flux density, stable inductance, and precise cone control, minimizing distortion even during high excursion.
- **Suspension System:** Symmetrical suspension with a poly-cotton spider and NBR surround provides high excursion capability while maintaining linearity and minimizing distortion.
- **Aluminum Voice Coil:** Lightweight and resistant to temperature changes, the aluminum voice coil reduces thermal compression while improving efficiency and dynamic range.
- **Copper Shorting Rings:** These reduce inductance and distortion, increasing bandwidth and delivering cleaner, more detailed audio performance.

Thermal Management and Airflow Design

Effective thermal management is critical to maintaining performance, especially under demanding conditions. The CNC-milled vented T-yoke, combined with strategically placed airflow vents in the cone body, aluminum bobbin, and basket, ensures continuous cooling and reduces thermal buildup. This advanced airflow design prevents physical compression, allowing the woofer to operate reliably at high power levels without compromising sound quality.

This airflow system serves two key purposes:

1. **Thermal Dissipation:** Heat generated by the voice coil is efficiently carried away, ensuring consistent performance even during extended high-volume playback.
2. **Compliance Balance:** Equalized air pressure across the diaphragm and spider reduces distortion caused by asymmetric compliance, resulting in smoother, more linear response.

High-End Materials for Reliable Performance

Every element of the 5.5" woofer is crafted with premium materials for durability and optimal sound quality. The aluminum voice coil wire minimizes weight while maximizing conduction, and the copper shorting rings help extend the frequency response and reduce harmonic distortion. Even the venting systems are precision-engineered to maintain performance at every volume level.

Performance That Delivers

The 5.5" woofer is more than a component—it's the foundation of the 1961 Series. With high excursion capability, advanced thermal management, and a distortion-free design, it ensures dynamic, impactful sound that is as powerful as it is natural. Whether it's the pulse of a movie soundtrack or the intricacies of your favorite music, the 5.5" woofer guarantees an immersive and unforgettable listening experience.



SPEAKER INPUT POSTS

Unlike many speakers at this price point, the 1961 Series features a brushed and anodized aluminum terminal plate instead of standard plastic. This material enhances durability, minimizes resonance, and complements the speakers' premium design.

The custom-designed binding posts are compatible with banana plugs, spades, or bare wire, ensuring secure and flexible connections. They are engineered for maximum conductivity and minimal resistance, maintaining a clean, distortion-free signal path for consistent high-performance audio.

By combining premium materials and versatile compatibility, the 1961 input posts ensure every connection is as reliable and refined as the speakers themselves.


ARENDAL
1961
HEIGHT
4 Ω
S/N LABEL
CE
RoHS
DESIGNED IN NORWAY. MADE IN CHINA.

SPIKES KIT/RUBBER FEET

Supplied with the 1961 Tower speakers, the spikes kit ensures a firm and stable foundation for your loudspeaker, with the added ability to adjust tilt to suit the listening position and uneven floors. For optimal results, we recommend positioning your speakers (refer to the "How to Set Up Loudspeakers" section in this handbook) before attaching the spikes, as this helps avoid damage to floors and floor coverings.

Due to the substantial weight of Arendal Sound speakers and the robust design of our spikes, we do not recommend dragging or walking the speakers while the spikes are attached, as this may damage the kit.

Once the speakers are in position, slide the locking ring under the spike bar and screw in the spike from above using the top adjusting ring. Start by raising the spike bar just enough to clear any floor covering, such as carpet.
To level the speaker, use a spirit level. Begin by adjusting the spike at the lowest corner, leveling it with the highest opposing corner. Then, adjust the remaining spikes to ensure the cabinet sits firmly, with no rocking.

If necessary, you can tilt the speaker by adjusting the front or rear spikes as a pair, ensuring the front baffle is angled directly toward the listening position. While the wide dispersion of the waveguide tweeter makes this less critical for sound, having your speakers level ensures a clean and professional appearance. Finally, lock everything in place by tightening the lower locking ring against the underside of the spike bar.

The Puck – Customized Rubber Feet

For the 1961 Tower and subwoofers, we've designed sleek puck-shaped rubber feet, mounted with M6 bolts. These provide exceptional stability while protecting floors. Branded with the Arendal Sound logo, they ensure your speakers remain firmly planted, delivering the best possible performance.









PLACEMENT & SETUP - SPEAKERS

Too often, calibrating a home cinema is a task that is often entirely left to the the AV Receiver/Processor and an 'Auto Setup' or 'Auto EQ' feature. However, by taking steps to choose and setup your equipment properly, you reduce the requirement for EQ and less is always more with audio. EQ should be thought of as a band-aid for small problems; there just to add a final polish to the end result. It should not and cannot make poorly chosen, or positioned loudspeakers perform optimally. For that to be possible, we have to start with the basics and in this article, we will deal with the front loudspeakers.

Positioning - Why we've done what we have

All Arendal Sound speakers are designed with emphasis on not just having an linear on-axis (directly in front of the acoustic center of the loudspeaker) frequency response throughout the frequency spectrum, but also off-axis. At Arendal Sound, we place much emphasis on having a linear power response - This being the sum of the frequency responses in all directions.

Much scientific research has been undertaken on this subject and a linear power response has a greater positive impact on the overall sound, because the frequency response is more even in all directions. This means an Arendal Sound speaker will be more tolerant of differences in room shape, size, construction and materials.

In speakers with a tweeter mounted flat on the baffle, the frequency response can vary wildly compared to the ideal as you move away from this axis in any direction and that uneven sound reflects from elsewhere within the room and arrives back at your ears, tainting the flat response. This type of speaker will be very room dependent - read inconsistent from one room to the next.

The controlled directivity design that Arendal Sound has refined, aids the speakers in having a linear frequency response at the listening position, even when placed relatively close to side walls, so Arendal Sound speakers are relatively room independent and allow more freedom with positioning. This does not mean they will not benefit from careful attention to positioning, but simply that positioned correctly, they will tend to remain consistent performers wherever you are listening to them.

In terms of the actual positioning in the the room, there are number of factors to balance and perfecting one element, can be at the detriment to others, so it is always a case of balancing stereo imaging, bass power, bass evenness, etc.

What follows are our general recommendations in line with the capabilities and design of Arendal Sound speakers. Most recommendations follow general convention, because Arendal Sound Speakers are designed to work with normal systems in normal rooms and applications like Home Theatre mandate certain speaker placements and angles. We would also recommend that in a dual use Home Theatre and Stereo System, you follow the guidelines for Home Theatre setup, as that will tend to benefit more than one person.

Positioning - Listening Axis

Most front loudspeakers like to be positioned with the listening pointing at ear height and that's true for Arendal Sound loudspeakers. The listening axis is the point on the front baffle where the output of all of the drivers sums to a smooth whole, and in the case of Arendal sound with a mid/bass driver above & below the tweeter, the tweeter is at the acoustic centre and the axis is firing perpendicular to the baffle.

The Arendal Sound waveguide does a lot to lessen this requirement. As a result of carefully controlled dispersion and efficiency gains in the lower frequency regions of the tweeter's output, potential issues inherent in normal tweeter implementations are shifted down in frequency where they are easier to deal with. However, listen too far above or below this axis and you will be changing the relative distances between the drivers and will be causing the response through the crossover regions to become uneven and ragged.

The spikes for Arendal Sound Tower speakers have been engineered to be easily adjustable without tools, from above the outriggers, without having to lift the speaker. Tilt them until you are on axis in the horizontal plane and for the sake of aesthetics, the speakers are vertical when viewed from the front.

Positioning - Toe In

Whilst we have taken great care with the design of the Arendal Sound waveguide to control dispersion and reduce the impact of side walls, Arendal Sound speakers are designed to be toed in toward the listening position, to further reduce issues from the closest boundaries. This will increase image focus across the soundstage and serve a wider range of listening positions more consistently in holding that focus between the loudspeakers rather than the sound collapsing toward the one which you are sitting closest.

In the case of Home Theatre use, we recommend the traditional equilateral triangle between you and the speakers, with them as far apart as you are from each loudspeaker. For stereo listening, we recommend you experiment, but rather that the 60deg angle of Home Theater, we feel a greater soundstage depth and focus is achieved with the front stereo pair closer to 45deg apart. This closer spacing does tend to serve the central listening position better, but as stereo listening tends to be a more individual.

In stereo world, it's also worth trying slightly less severe toe-in to help open up the soundstage a touch and allow it to breathe. However, that will result in a very gentle roll off of the very highest frequencies and it should be balanced against the evil of early side-wall reflections.

Positioning - How to cope with walls and floors

We recommend a minimum 20-30 cm between the front wall and the rear of the speakers. Any closer than this will make the speakers sound muddy in the lower midrange and thicken the upper bass, making voices and instruments generally sound congested and indistinct.

Although Arendal Sound speakers are engineered to ensure a reduced amount of upper frequency energy is lost sideways and that which is, is engineered to be of equal power across as wide a range of frequencies as physically possible, further from a sidewall is always better. The energy reflected from the sidewall effectively creates a wider phantom speaker between the point of reflection and the real speaker. If you add that time delayed version of the sound to that arriving direct from the loudspeaker, it will not only make the sound busier and less clear, it will blur the size and positioning of images across the soundstage, as well as making the extreme left and right of the soundstage dominate over the central images.

One set of reflection points you really can't avoid, wherever you point your loudspeakers, is the floor. We strongly recommend a rug positioned across the first reflection points. If you wish to know where these points are, place a mirror on the floor and the point at which you see the tweeter reflected in the mirror when seated in the listening position, is it. Use a bit of tape to mark the point and repeat for any of the other listening positions and for all of the front speakers. You will then see the area that needs covering and add 30cm in all directions for good measure.

Of course, this 'good practice' of soft furnishing the floors first reflection points, also applies to the walls we've previously mentioned. However,

hanging rugs or other soft sound absorbing items on walls is rather a matter of taste; or lack of, depending on your point of view.

None the less, the methods described for the floor apply equally to the walls and at least one wall will generally have a window, that is even worse in acoustic terms than a painted wall. If that window has curtains, then the room will sound better with them closed. Whilst we're getting picky - are you sitting on a leather sofa? If so, the hard surface of the leather places a mid-high frequency reflection point right behind your head. Cover it with something soft and it will have a positive impact.

If you're lucky enough to have a dedicated room, then easily one of the biggest upgrades you can make to any system, is to add proper room treatment. It's slightly out of the scope of this guide, but there is a massive range of pre-made and DIY solutions available. Backed with research and/or professional guidance, engineering the correct blend of absorption, diffraction and reflection can have an absolutely staggering effect on the quality of reproduction of even modest systems.

Getting back to the speaker positions; One final consideration, is try and ensure that ideally, the relative distance from the floor to the centre of the bass drivers, is not equal to the distance to the front wall behind and in turn, that the distance from that point to the sidewalls is different again. This has to do with the way bass reflects and reinforces/cancels within a room and by randomizing these distances, you are helping to spread out and reduce the impact of these room (not speaker) related artifacts. It's just a logical extension of the golden ratios employed in ideal listening room dimensions to achieve exactly the same end.

Positioning - You

It would also be worth mentioning that, you the listener are also part of this bass and stereo imaging equation. Just as it is ideal for the speakers to create the right image depth, it is also ideal that you as a listener are 38% of the room's length from the rear wall. This is considered ideal in terms of reducing the rear wall influence on the sound from the front speakers (that sound will have travelled just over twice as far and be over 4x quieter), but also divides the room's dimensions so as to help smooth the bass response.

Again this is a rule of thumb as you don't want that measurement to be equal of any of the three used to position the front speakers and preferably not a multiple of the speaker to front wall dimension for the same reason. However, moving a sofa an appreciable amount can be the cause of much 'discussion' in a family household, but as we said, these are just handy rules of thumb that should be accommodated, if they can.

Basically, other than the distance from you to each speaker, try and mix it up a bit!

Positioning - Center Speaker

The Arendal Sound Center speakers uses the tweeter waveguide to great effect. As previously mentioned, increased tweeter efficiency allows a lower crossover than conventional systems, so the problems of off-axis comb filtering have been greatly reduced and down-shifted to much less sensitive frequencies. Thus, Arendal Sound Center speakers are ideally suited to center duties and used with identical left and right monitors, provides an absolutely perfect tonal match.

Whilst positioning has been (relatively!) unproblematic to achieve for the front left and right loudspeakers, owing to the spatial freedom they enjoy, the center channel will have to deal with the small matter of fitting in with where your screen needs to go.

Whilst you might be able to fire the center speaker through an acoustically transparent projection screen, that obviously isn't possible with TV displays. Do all you can to mount the center speaker up as high as possible (up against the TV) and try to avoid housing it in an enclosed space in a cabinet. It will just end up sounding thick, muddy and unclear on dialogue. Likewise, sitting the Arendal Sound Center speakers on a solid shelf that is up against the front wall is akin to putting the left or right speakers in a corner and will also thicken the bass and mid-bass making voices sound chesty and indistinct. In this case, you can at least pull the speaker to the front of the shelf to ameliorate this effect.

The center speaker equivalent of toe-in is limited

to tilting it up/down until it's firing straight at you. If you are lucky enough to be firing through an acoustically transparent projection screen, we recommend placing the center speaker at least ear height and if possible slightly higher as this gives additional help in terms of lifting the combined output of the front three loudspeakers up into the middle of the screen. For the best performance and tonal balance, the center channel speaker should be installed vertically. If you can mount three Arendal Sound Center, Monitor or Bookshelf speakers behind the screen, try and get then all to the same height, ideally 1/3 of the way up the screen, or ear height - whichever is higher.

Positioning - Surround Speakers

Our TriAxial surround speakers come in a configuration of Left and Right speaker. This design is a culmination of a regular direct-firing two-way speaker, with two full range drivers added to the sides. It is a mix of a monopole and dipole configuration and in our opinion this is the superior layout for a surround channel.

The reason for the left and right specific speakers is that the side mounted drivers in this TriAxial surround are mounted out of phase with each other, is to create a large, rear surround field. The side driver that is in phase with the front mounted drivers, needs to be the one pointing at the front speakers for optimal surround effect placement and steering. This means that the TriAxial surrounds are mirror image pairs.

This speaker works equally well as height or presence channels as well and can even be mounted on the ceiling with our wall-mount brackets.

Ideally you have a rectangular room, with at least 38% of the room behind the listening position, solid front and rear walls and nothing to block the forward and rearward radiation of the TriAxial Surrounds. Unlike the front speakers, the strong front and rear wall reflections are very much part of how the TriAxial (and any other surround with side firing drivers) surround works.

TriAxial surround speakers should be ideally mounted 50-60cm above head height and directly to the side of, to 10deg behind the listening position. Higher will work too, as will a bit further back.

Surround Back Channels

When mounting as the surround back channels in a seven channel system, the in-phase drivers should be mounted pointing at each other in the center of the rear wall. Meaning, the Left speaker should be placed in Right position at the back wall, and the Right speaker on the Left side. This means the out of phase drivers are working in phase with the out of phase drivers on the side channels. Between them, this pairing continues to assist with placing pin-point images at the rear, whilst working with all of the other drivers to diffuse the sound field around these effects.

Positioning - Height speakers

For height duties, be it for Dolby Atmos, DTS- X, or Auro 3D, we recommend using our dedicated Height speakers, or even our TriAxial Surround speakers.

The 1961 Height speaker can be placed directly on top of the 1961 Tower speaker for a sleek setup in your room. We do not recommend doing this if your ceiling is made of acoustically absorbing materials of any sort. The ceiling is meant to reflect the sound back down to the listening position.

The acoustically best option of mounting the Height speakers is directly on the ceiling with a VESA100 mount, or on-wall close to the ceiling. Mount it so that it points towards the listening position, refer to specific setups for the type of format you are listening to, be it Dolby Atmos, DTS-X, Auro 3D, or any other format with height duties.

Arendal Sound TriAxial surround speakers can very well be utilized for height duties. For Atmos setups with only 2 ceiling channels, they make the perfect choice, as with the side drivers enabled they will dish up a very involving sound stage that gives all listening positions a better sound compared to monopole designs. They should be mounted right and left as for surround duties, with the full range drivers pointing to the front and back of the room, with the tweeters facing each other. For setups with more than two height channels, we recommend monopole speakers.

Recap

Try to avoid enclosing the center speaker in a cabinet or between shelves of a rack.

Position the speaker at ear level. If you can't point them up or down so they point at ear level.

Position the left and right speakers at a maximum of 60deg, but no closer than 30cm to the nearest wall and preferably more to the sides.

Cover the first reflection point on the floor with a rug as a minimum.

Toe the speakers in to point directly at the center listening position, even if you habitually sit off axis.

Now you can press the Auto EQ button!



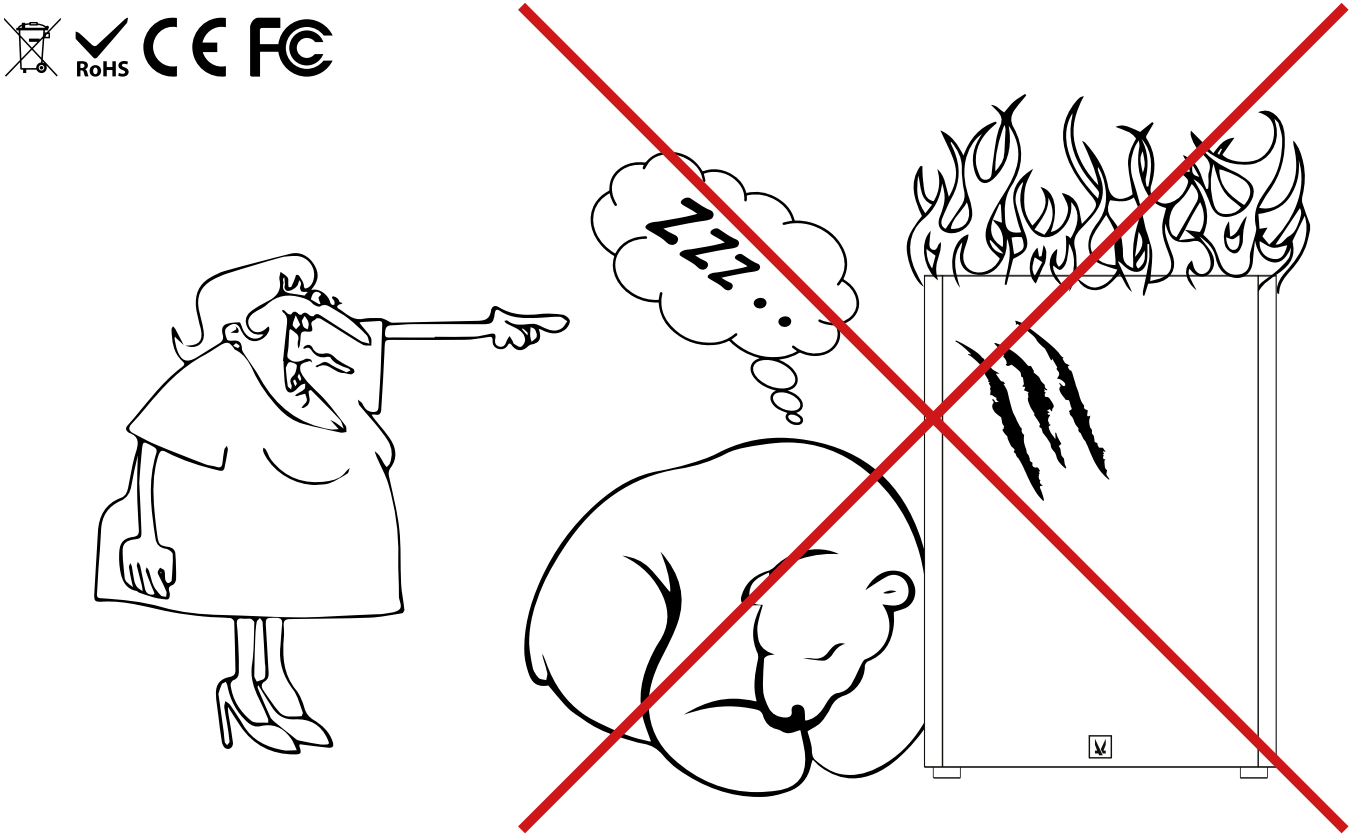
SAFETY INSTRUCTIONS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- **Do not shower or bathe (with) this product. It does not like water nor soap.**
- Do not restrict the natural ventilation for this product. Do not cover amplifier plate with polar bear hide or similar as this product is built to handle even the cold northern climates without such heating devices.
- **Large house pets like dogs, big cats or bears should be trained not to cuddle or sleep against this product to avoid overheating, scratches and bite marks.**
- Clean this product only with dry cloth.
- Do not install near any heat sources such as an open fireplace, radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Protect the power cord, signal cables or speaker cables from being walked on, chewed on or pinched particularly at plugs and the point where they exit from the apparatus.
- Only use attachments and accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- 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.
- Check that there are no cables under the carpet that may be damaged by the spike/cone feet. Do not walk the product on the spike feet as this may cause them to become detached from the cabinet and cause damage. Take care not to impale yourself with the spike feet.
- Do not place this product on an unstable stand, tripod, bracket or table. The product may fall causing serious injury and serious damage. Any mounting of the product should follow the manufacturer's instructions.



- For continued protection against fire hazard, use fuses only of the correct type and rating. Mains fuses are located inside the appliance as well as on its back panel. Replacement of the internal fuse should be entrusted to an authorized operative. User-replaceable fuse types are shown in the specification.
- WARNING: To reduce the risk of fire or electric shock, this apparatus should not be exposed to rain, snow or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.
- The mains plug of the power supply cord shall remain readily operable.
- WARNING: This product is capable of producing very high sound pressure levels. Please exercise restraint in its operation to prevent hearing damage.





SICHERHEITSANWEISUNGEN

- Lesen Sie diese Anweisungen.
- Bitte diese Anweisungen aufbewahren.
- Folgen Sie diese Anweisungen.
- Bitte alle Warnungen beachten.
- Nehmen Sie keine Dusche oder Bad mit diesem Produkt. Es mag weder Wasser noch Seife.
- Die natürliche Durchlüftung darf nicht eingeschränkt werden. Dieses Produkt kann selbst die Kälte des Nordens ohne Kälteschutzmaßnahmen vertragen und darf daher mit einem Bärenfell oder ähnliches nicht bedeckt werden.
- Große Haustiere wie Hunde, Katzen oder Bären müssen abgerichtet werden, nicht mit diesem Produkt zu kuscheln oder neben dem Produkt zu schlafen, um Überhitzung, Kratzer oder Bissspuren zu vermeiden.
- Reinigen Sie dieses Produkt ausschließlich mit einem trockenen Tuch.
- Halten Sie dieses Produkt fern von Hitzequellen wie offenem Feuer, Heizungskörper, Kachelöfen oder anderen wärmestrahlenden Geräten, einschließlich Audioverstärker.
- Schützen Sie das Stromkabel, die Cinchkabel oder Lautsprecherkabel gegen Bissen, Tritten oder Quetschungen, insbesondere an Steckverbindungen und in der Nähe des Geräts.
- Verwenden Sie ausschließlich vom Hersteller spezifiziertem Zubehör.
- Trennen Sie dieses Produkt vom Strom während Gewittern oder bei längeren Zeiten ausser Betrieb.
- Jegliche Wartungen und Reparaturen müssen vom Fachpersonal durchgeführt werden. Reparaturen sind bei jedem Defekt notwendig, z.B. Schaden am Stromkabel, beschädigte Stromstecker, Flüssigkeitseintritt, kleine Objekte verloren im Produkt, Aussetzung des Regens oder der Feuchtigkeit, Fehlbetrieb oder Sturz des Produkts.
- Stellen Sie sicher, dass keine Kabel unter dem Teppich durch die Gerätefüße beschädigt werden. Bewegen Sie das Produkt nicht auf die Gerätefüße, da sie dadurch vom Gehäuse gelöst werden können und Schäden verursachen können. Vermeiden Sie, sich selbst mit den Gerätefüße aufzuspießen.
- Stellen Sie das Produkt nie auf unstabile Ständer, Stative, Tische oder Halterungen. Das Produkt kann in dem Fall stürzen und ernste Schäden/ Verletzungen herbeiführen. Die Anbringung bzw. das Aufstellen des Produkts darf ausschließlich nach den Anweisungen des Herstellers folgen.
- Um Brandgefahr zu vermeiden dürfen nur Sicherungen mit der passenden Spezifikationen verwendet werden.
- Die Netzsicherungen befinden sich im Gerät, sowie auf der Rückseite. Netzsicherungen im Gerät dürfen nur durch autorisiertes Fachpersonal ausgetauscht werden. Durch den Benutzer austauschbare Sicherungen werden in der Produktspezifikation angegeben.
- WARNUNG: Um Stromschlag oder Brandgefahr zu vermeiden, darf dieses Gerät dem Regen, der Schnee oder der Feuchtigkeit nicht ausgesetzt werden. Vasen oder andere Gefäße mit Flüssigkeiten dürfen auch nicht auf dieses Gerät gestellt werden.
- Der Stecker des Netzkabels muss jederzeit zugänglich bleiben.
- ACHTUNG: Dieses Produkt kann sehr hohe Schallpegel erzeugen. Mäßigung im Hörpegel über längere Zeiten ist angebracht, um Gehörschäden zu vermeiden.

SIKKERHETSINSTRUKSJONER

- Les disse instruksjonene.
- Ta vare på disse instruksjonene.
- Vær oppmerksom på alle advarsler.
- Følg alle instruksjonene.
- Ikke bad (med) dette produktet. Det liker ikke hverken vann eller såpe.
- Ikke begrens den naturlige ventilasjonen for dette produktet. Ikke tildekk forsterker platen med isbjørnpels eller liknende, da produktet er bygget for å håndtere selv de kaldeste nordlige klima uten slike varmeprodukter.
- Store husdyr som hund, katt eller bjørn må læres opp til å ikke kose eller sove mot produktet for å unngå overoppheting, skrap og bitemerker.
- Rens produktet kun med en tørr klut.
- Ikke installer nær varmekilder som åpent ildsted, varmeovn, peis eller andre apparater (inklusive forsterkere) som produserer varme.
- Beskytt strømkabelen, signalkabler eller høyttalerkabler fra å bli tråkket på, tygd på eller lagt i klem, spesielt nær plugg eller der de stikker ut fra apparatet.
- Benytt kun tilleggsutstyr og tilbehør som er spesifisert av produsenten.
- Koble apparatet fra strømnettet under tordenvær eller når det ikke skal brukes over lengre perioder.
- Henvis all service til kvalifisert servicepersonell. Service kreves når apparatet har blitt skadet på noe vis, som når en strømkabel eller plugg er skadet, væske har blitt sølt eller objekter har falt ut av apparatet, apparatet har vært utsatt for regn eller fuktighet, ikke har normal funksjonalitet, eller har fått støt.
- Sjekk at det ikke er kabler under teppet som kan være skadet av spike/kone føtter. Ikke flytt produktet på spike føttene da det kan føre til at de faller av kabinettet og forårsaker skade. Ta hensyn slik at du ikke blir blir spiddet av spike føttene.
- Ikke plasser dette produktet på ustabilt stativ, tripod, brakett eller bord. Produktet kan falle og forårsake seriøs skade. Montering av produktet skal følge produsents instruksjoner.
- For kontinuerlig beskyttelse mot brannfarer, bruk kun den korrekte type og verdi på sikringen(e). Hovedsikringene er lokalisert både på innsiden av produktet i tillegg til på panelet. Erstatning av de interne sikringene må gjøres av autorisert personell. Sikringer som kan byttes av bruker er vist i spesifikasjonene.
- ADVARSEL: For å redusere faren for elektrisk støt, må apparatet ikke utsettes for regn, snø eller fuktighet og gjenstander fylt med væske slik som vaser, skal ikke plasseres på apparatet.
- Strømkabelen til strømforsyningen skal være lett tilgjengelig.
- ADVARSEL: Dette produktet kan yte veldig høye lydtrykk. Vennligst vis aktsomhet for å unngå hørselsskader.

INSTRUCCIONES DE SEGURIDAD

- Lea estas instrucciones.
- Guarde estas instrucciones.
- Siga todas las advertencias.
- Siga todas las instrucciones.
- No se duche o bañe con este producto. El agua y el jabón dañarán este producto.
- No impida la ventilación natural de este producto. No cubra el amplificador con una piel de oso polar o una protección contra el frío similar. Este producto está diseñado para resistir incluso el clima frío del norte sin necesidad de calentadores.
- Animales domésticos de gran tamaño como perros, gatos o incluso osos han de ser instruidos para que no se acurruquen o duerman pegados a este producto para evitar sobrecalentamiento, rayaduras o marcas de dientes.
- Limpie este producto exclusivamente con un paño suave y seco.
- No instale este producto junto a fuentes de calor como radiadores, chimeneas, hornos u otros aparatos que produzcan calor (amplificadores incluidos).
- Proteja el cable de alimentación, los cables de señal y los cables de altavoz ante posibles pisotones, mordiscos o pinzaduras, especialmente cerca de los conectores y de las entradas/salidas del equipo.
- Use tan solo accesorios especificados por el fabricante.
- Desconecte este aparato durante tormentas eléctricas o períodos largos sin uso.
- Remita el equipo a personal cualificado para cualquier reparación. Una reparación será necesaria en caso de cualquier daño, como por ejemplo en el cable de alimentación o su enchufe, líquidos vertidos sobre el equipo, objetos perdidos dentro del equipo, exposición a lluvia o humedad, caídas o funcionamiento defectuoso.
- Compruebe que los cables no son pisados por los pies de apoyo del producto. No traslade este producto sobre sus pies de apoyo, ya que podrían aflojarse y causar daños. Evite empalar cualquier parte de su cuerpo con los pies de este producto.
- No coloque este producto sobre un soporte inestable. El producto podría caer, causando heridas y daños serios. El montaje de este producto ha de seguir las instrucciones del fabricante.
- Use tan sólo fusibles del tipo y especificación correctos a fin de evitar peligros de incendio. Los fusibles están situados dentro de este aparato, así como en su panel posterior. El reemplazo de fusibles debe ser realizado por personal cualificado y autorizado. Los fusibles que pueden ser reemplazados por el usuario se muestran en las especificaciones técnicas.
- ADVERTENCIA: no exponga este aparato a lluvia, nieve, o humedad ni coloque sobre él objetos con líquidos, como jarrones, a fin de reducir el riesgo de fuego o shock eléctrico.
- El enchufe de corriente del cable de alimentación debe permanecer accesible en todo momento.
- ADVERTENCIA: este producto es capaz de general niveles de presión sonora muy elevados. Úselo con la debida contención a fin de evitar daños auditivos.



WARRANTY

Luckily for you and for us, Arendal Sound products are extremely durable products which have gone through extreme stress tests during development. However failures may happen and if it does, you will always know we are here to backing you up.

Arendal Sound have up to 10 Years warranty (5 for electronics) which cover all costs for you as a customer within the warranty terms. We are also accepting warranty to follow second hand purchases where sales receipt is proof of purchase which new owner needs to get from original buyer.

All Arendal Sound products can easily be repaired by the customer, by replacing components yourself. This means we may send you the replacement part/module which is needed, instead of sending the complete product back and forth, this saves down time and you will be guided by qualified staff from the Arendal Sound team. We will only ask you to do very simple steps to fix the products and you do not need any servicing experience at all. In the unfortunate event of a product failure, it will usually only take a few days to get the problem fixed.

If you have a problem with your product, please contact ***support@arendalsound.com***, send us the serial number of the product that has a problem and we will help you to identify the defective component. If we ship you a replacement part for your product, that you can swap out by yourself, we will send pre-paid return labels to return the defective part to us. This part must be returned or you will be invoiced for the replacement part in full. Every cost is covered by us if the product is under warranty. Should you prefer to send the entire product back to us for service - please contact us at ***support@arendalsound.com.***



When sending the product back to us it is important that you use the original packaging or something of similar quality. We are not responsible for damage caused by inadequate packaging but we will be helpful with arranging the return shipment.

Important!
Do not try to repair the product without permission from us. Disassembling or removing parts from your product(s) in one way or another, can damage your product(s) without the right instructions. It will void your warranty rights.

Non-Authorized Sales
Any sales done outside arendalsound.com (or belonging domains) are non-authorized and will therefore not be under our warranty. Please email us at ***sales@arendalsound.com*** if you have any questions.



