

USER MANUAL

Charisma loudspeaker



PENAUDIO[®]
auditional wellbeing™

PENAUDIO Ltd. manufactures loudspeakers in Jyväskylä Finland from the best materials available. PENAUDIO loudspeakers are made without compromising the quality of sound. The loudspeakers are designed based on listening impressions in the actual milieu. Measurements are used only to support the listening impressions and if a fault is detected that cannot be originated in any other way.

During the development period the listening panel consists of professional as well as amateur musicians. The listening panel's comments are valuable in accomplishing the different instruments to sound as genuine as possible.

CHARISMA

Charisma is a handmade two-way stand-mounted loudspeaker, manufactured of the best materials available. Charisma's cross-over filter and even the internal wiring have been selected and tweaked after long listening tests in the actual listening conditions.

Please read the instructions carefully to be able to enjoy the full potential of your new loudspeakers. We wish You many relaxing listening sessions with Charisma and Your favourite music.

Consider the following instructions in positioning the Charisma loudspeakers.

PLACING

The loudspeakers should be placed so that the elements are at the height of the ears (≈ 10 cm). The loudspeakers should not be placed too near the corners of a room or too close to the back wall. The more space there is around the loudspeakers, the better. In an optimum situation all the distances are different, measured from the element to the floor, side wall and back wall. For example the height for Charisma with a proper stand is 100 cm and the distance from the loudspeaker's phase plug to the side wall 45 cm and to the back wall about 80 cm. The loudspeakers should face the listener with the optimum situation being such that the perpendiculars of the loudspeakers cross just before the listener. It is useful to experiment with the positions until you find the perfect 'stereo image'. There are always some reflecting surfaces in the room that have an impact on the sound, so the best placement solution for the loudspeakers may not be symmetrical. The optimum situation with perfect symmetry and exact 'stereo image' is possible only in studio ambience.

The optimum listening distance of the PENAUDIO's Charisma is from 2 to 3,5 meters, the distance between the loudspeakers being 1,6 – 3,4 meters. The 'stereo image' is best achieved when there becomes a form of an equilateral triangle between the loudspeakers and the listener. This is worth trying to achieve the best result. Usually it turns out that a wide 'listening triangle' creates a wide, but inaccurate 'stereo image'. On the other hand narrowing the 'listening triangle' makes the 'stereo image' more accurate but also more limited.

It is worth to take the time to find the best positioning for the PENAUDIO Charisma loudspeakers. Correctly placed Charisma produces a real feeling of space, originating in the record. This creates a wonderful impression of the presence of the orchestra.

ROOM ACOUSTICS

All loudspeakers are affected by the reflections in rooms. At worst, the reflections can make the sound shrilling and inaccurate. This can be easily minimized with the help of furniture. For example you could place a bookshelf full of books or thick curtains behind the loudspeakers. The walls surrounding the loudspeakers could be decorated with a bookshelf or paintings. The space behind the listener could also include some of the articles mentioned. It is worth placing a rug on the floor between the listener and the loudspeaker. The acoustics of the rug can still be enhanced by e.g. placing a thin layer of foam plastic under it. The rug prevents most of the reflection coming from the loudspeakers and the interface. It may also be worthwhile to move aside the coffee table.

CABLES AND CONNECTING THE LOUDSPEAKERS

Use proper cables with your loudspeakers, because poor cables have a lot of resistance and inductance that worsen the clear sound. Thickness is usually a sign of good quality in cables. Also keep the cables as short as possible and connect them tight. The loudspeaker cables should be connected so that cables' (+) -pole goes into the loudspeakers (+) -binding post and cables' (-) -pole to the loudspeakers (-) -binding post.

AMPLIFIER PENAUDIO's Charisma has a nominal impedance of 8 ohms (minimum 7,9 ohms) that is easy load for the amplifier. The sensitivity of the loudspeakers is quite low, so more power is needed especially in wooden structured, spacious rooms. The power recommendation of the amplifier is 30 – 200 W.

How does a loudspeaker get broken?

When amplifiers with low power seem too inadequate for the listener, the usual mistake is to turn up the bass and treble. This magnifies the amplification ten times higher concluding in the over strained amplifier to feed distorted signal into the loudspeakers, and ultimately burning the loudspeakers. Another mistake is to adjust the power too up when the source of the program is a cd player. The cd player usually reaches its' peak at the half way of the power density of the amplifier. If the power is still raised the elements of the loudspeakers will be damaged.

HOME THEATRE

With five PENAUDIO loudspeakers create a high quality home theatre sound world in your home. Your newly purchased loudspeakers can act both as main and surround speakers.

Five loudspeakers create new challenges in the positioning so again it is reasonable to spend some time on finding the correct locations.

The surround loudspeakers are often compelled to be placed near the wall which usually affects the sound. Low frequencies tend to emphasize and the midrange and treble may be distorted. The same problem is created by placing the center loudspeaker on top of a large television.

The problems are preventable. Low frequency level can be turned down by adjusting a tight plastic foam plug into the loudspeakers' reflex port. Midrange and treble are easily adjusted by placing and heading the loudspeakers in a different way. Even a small change in the position can create a great difference in the sound.

GUARANTEE

PENAUDIO - loudspeakers come with a two year worldwide guarantee including work and material. The guarantee does not include breaking due to mistreatment.

BURN-IN

PENAUDIO Charisma acquires approximately 20 hours of burn-in time to fill in the specifications. The time is taken by the element hanging to reach the motion deviation measured in the reference loudspeaker. Also the caps and wiring need the time to reach the operation level they are meant to have. The breaking in can be done during normal listening of music. Critical listening tests should be carried out after the 20 hours.

TECHNICAL INFORMATION Charisma

Type: two-way, stand-mounted, reflex-loaded, magnetically shielded
Drive units: 20 mm ferrofluid textiledome tweeter, 120 mm special treated midrange/bass unit, 26 mm voice coil, heavy copper rings above and below pole piece, solid copper phase plug
Cross-over: 5500 Hz
Cross-over slopes: acoustical 3. order
Frequency range: anechoic response ± 3 dB 80 – 25000 Hz, in room 50 - 20000 Hz
Phase shift: ± 10 –degrees at 200 – 20000 Hz
Sensitivity: 85 dB/1m/2.83 V
Nominal impedance: 8 ohms (7,9 - 24 ohms)
Recommended amplifier: 30+ W
Dimensions: (wxhxd) in mm: 140x240x285
Weight: 7 kg

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