



Phonix In-Wall Architect Notes

CDA Document Number: CDA-AR-001

References: Krix Phonix In-Wall Product Specification; Dolby Atmos™ Home Entertainment Studio Technical Guidelines; ITU-R BS.775; CDA Engineering Guidelines.

Revision History

Rev	Date	Prepared By	Approved By	Description
A	17/07/2026	RJD		Release



Architect Notes

The Phonix In-Wall has been designed for integration into a framed wall construction and should be selected during the early stages of project design.

Establishing loudspeaker locations before designing the wall framing allows coordination with structural members, electrical services, plumbing, HVAC ducting and other concealed building services, reducing the need for on-site modifications.

The enclosure requires a minimum wall cavity depth of 150mm and should be installed into a rigid wall structure capable of supporting the loudspeaker without excessive vibration. Where enhanced acoustic isolation between adjacent rooms is required, wall construction should be developed in consultation with the project's acoustic consultant.

The loudspeaker cavity should be constructed with an additional clearance of 12mm to 20mm on the top, bottom, sides and rear to accommodate high-density acoustic foam. The foam assists in mechanically decoupling the loudspeaker enclosure from the wall structure, while helping to minimise unwanted cavity resonances and vibration.

Speaker locations should be determined from the required listening geometry rather than architectural symmetry. Early coordination between the architect, home cinema engineer, builder and other project consultants will generally produce the most efficient installation and the best long-term acoustic performance.

Early Design Considerations

In-wall loudspeaker systems should be selected during the earliest stages of building design rather than after the architectural layout has been finalised. Establishing in-wall loudspeaker locations before construction documentation is completed allows coordination between the architect, home cinema engineer, structural engineer, mechanical engineer, electrical engineer, builder and other project consultants. Early design coordination reduces service clashes, minimises on-site modifications and results in a more efficient installation with improved architectural and acoustic outcomes.



In-Wall Construction

Wall construction should provide a minimum cavity depth of 150mm, structural rigidity and unobstructed space for the loudspeaker enclosure.

Cabinet: 885mm (H) × 390mm (W) × 150mm (D)

Faceplate: 965mm (H) × 470mm (W) × 1.6mm (T)

Wall Cut-out: 890mm (H) × 395mm (W)

Speaker locations should be coordinated with framing, plumbing, electrical services and HVAC systems before construction commences. This will help avoid service clashes and minimise modifications during installation.

Loudspeaker Appearance

An optional black acoustically transparent cloth grille, mounted on a timber frame, is available for the Phonix In-Wall. Alternative cloth colours and custom logo printing are available on request to coordinate with the project's interior design or corporate branding. The grille cloth is acoustically transparent, providing minimal influence on the loudspeaker's acoustic performance while concealing the drive units from view.



Home Cinema Considerations

Designing a dedicated home cinema differs significantly from designing a conventional media room or a 2-channel or stereo listening space.

Loudspeaker locations, room proportions and building construction all influence the final listening experience.

Dolby Atmos™ Loudspeaker Geometry

Dolby Atmos™ systems rely on precise loudspeaker placement to reproduce three-dimensional sound accurately. Ceiling and surround loudspeaker locations should be determined from the primary listening position in accordance with Dolby design guidelines rather than architectural symmetry.

ITU-R BS.775 Surround Geometry

The ITU-R BS.775 recommendation establishes internationally recognised surround loudspeaker angles for accurate sound reproduction. Following these guidelines during the design stage provides a solid foundation for both conventional surround sound and immersive audio formats.

Listening Positions and Loudspeaker Aiming

The primary listening position should be established before determining loudspeaker locations. Screen size, seating layout, viewing distance and ear height all influence the final loudspeaker geometry and should be considered together during the design process.

Acoustic Treatment

Dedicated home cinemas require controlled sound reflections to maintain dialogue intelligibility, surround imaging and bass accuracy. Acoustic treatment should be considered as an integral part of the room design rather than an optional addition after construction. Acoustic treatment should be considered as a two-stage process.

The first stage addresses the building structure, using acoustic insulation and absorptive materials to control low-frequency energy, reduce sound transmission and provide acoustic isolation from adjacent spaces. The second stage addresses the sound field within the room, using a combination of absorptive and diffusive finishes to optimise dialogue intelligibility, surround



imaging and overall acoustic performance while complementing the interior design.

Ceiling Heights

Ceiling height directly influences the performance of immersive audio formats such as Dolby Atmos™. Adequate ceiling height provides improved separation between listener-level and overhead loudspeakers, allowing the three-dimensional sound field to develop.