

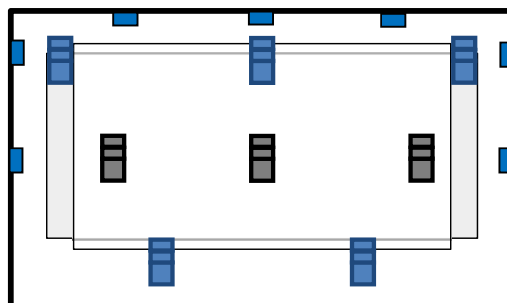
Higher Order Ambisonics (HOA)

- **Renderer**
 - The HOA audio renderer may combine incoming HOA, channel and audio object based content into a common HOA description.
 - Content available in HOA description is loudspeaker layout-agnostic.
 - The HOA renderer enables audio rendering on a large variety of loudspeaker setups, such as the examples A and B on the following slides.
 - Alternatively, the HOA renderer can render HOA formats only and
 - add audio objects using VBAB-based rendering techniques
 - add channels to existing and predefined loudspeaker positions (Non- layout-agnostic)
- **Format**
 - HOA order should be greater-equal 4 for diffuse audio objects and order 6 to 8 for high and very high spatial resolution.
 - 4th order → 25 transport channels
 - 5th order → 36 transport channels
 - 6th order → 49 transport channels
 - 7th order → 64 transport channels
 - 8th order → 81 transport channels

HOA - Front view

Example

A



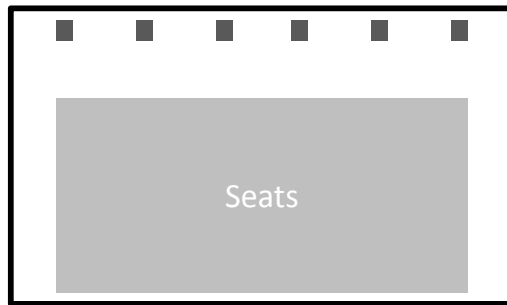
- Gray → Standard Cinema Speaker
- Blue → New speaker

HOA - Rear view (rear speakers only)

- No change

Example

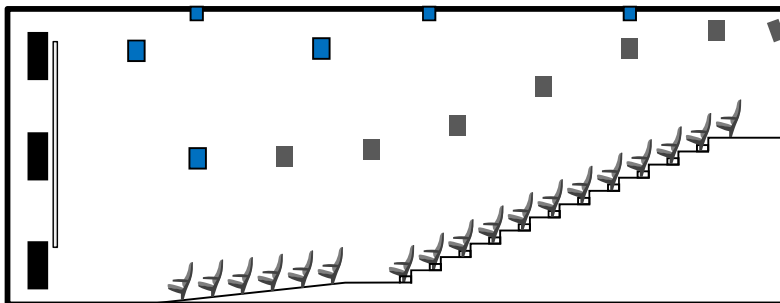
A



HOA - Side view

Example

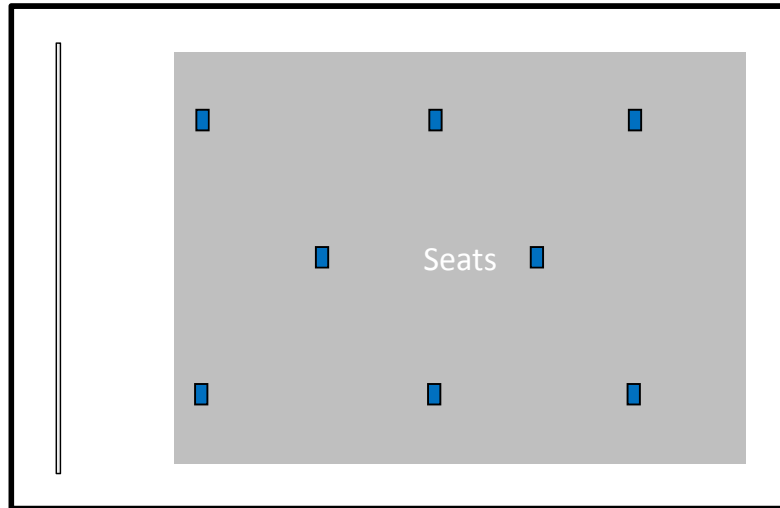
A



HOA - Plan view (top and height speakers only)

Example

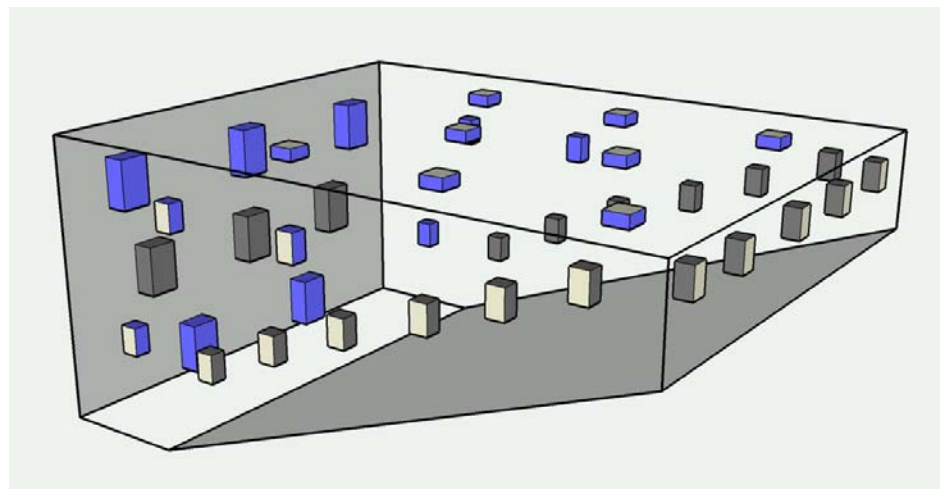
A



HOA - 3D-View

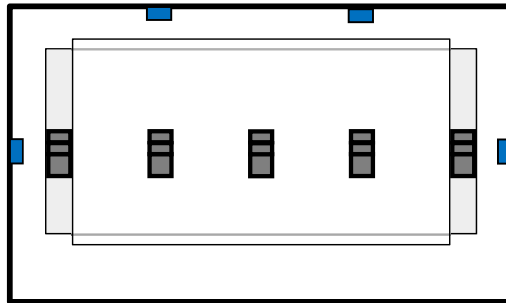
Example

A



HOA - Front view

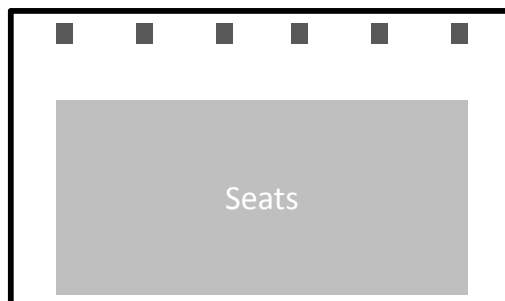
Example
B



HOA - Rear view (rear speakers only)

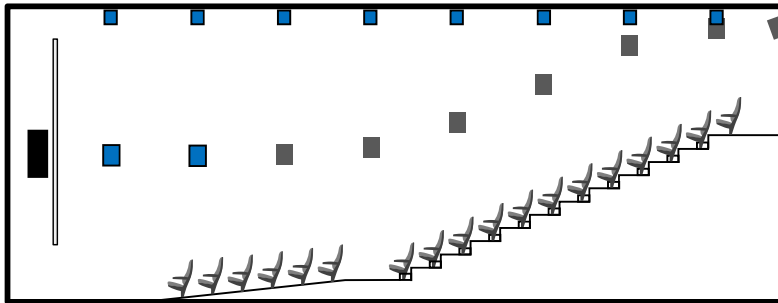
- No change

Example
B



HOA - Side view

Example
B



HOA - Plan view (top and height speakers only)

Example
B

