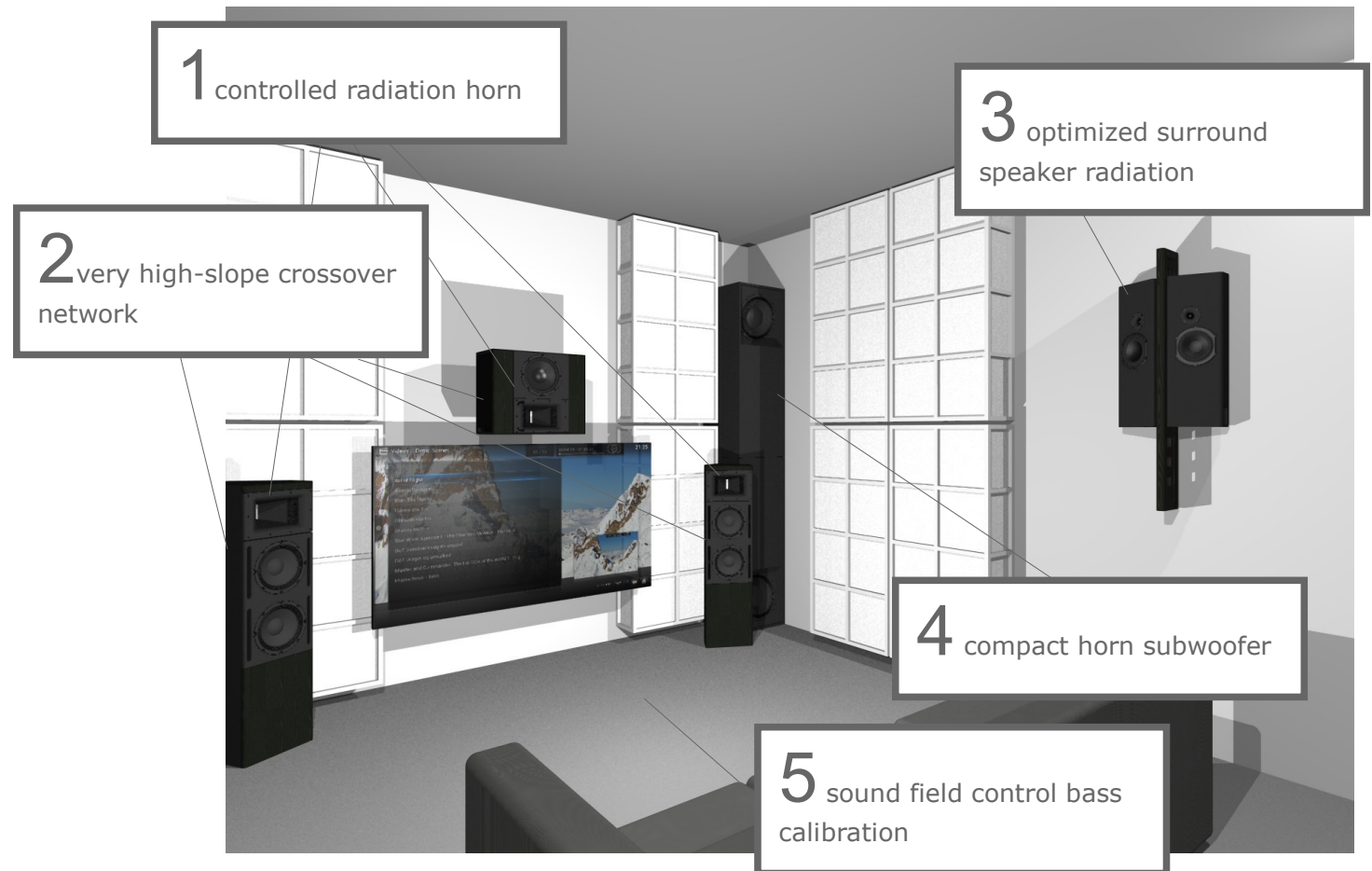


5 inventions for Better Sound

the new generation
loudspeakers with the new sound
brings the music in to your living
room.

To make this happen, it was necessary
to develop new technology solutions.

Here are 5 inventions for better sound
that really makes a difference, giving
you a more realistic and more
involving sound experience in music
and movies.



5 inventions for better sound

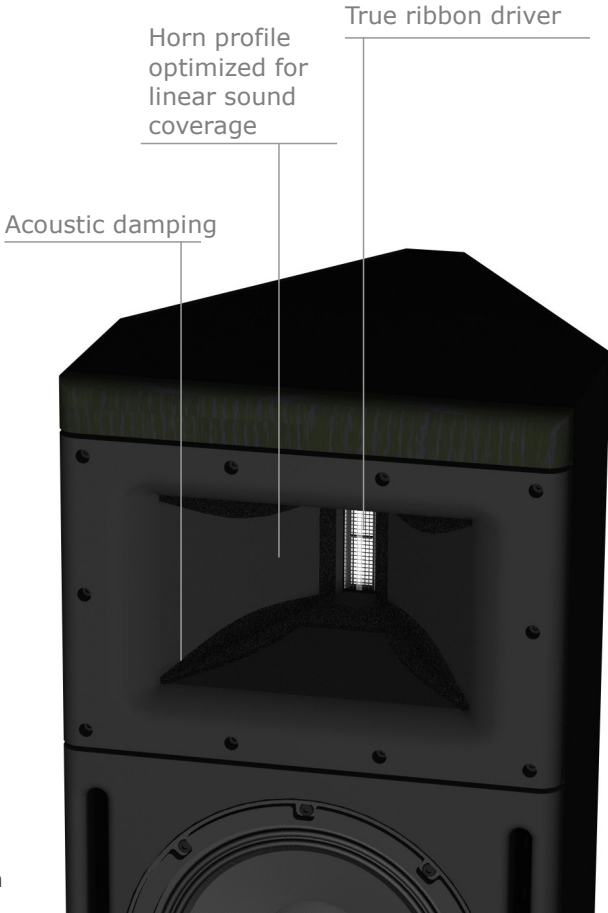
1: controlled radiation horn

horn for highest quality mid-range and high frequency sound reproduction, with optimized radiation pattern.

Horns in all kinds of shapes and variations have been around since the first loudspeakers were invented, some of them sound good, some have a reputation for adding coloration. The term horn covers a very wide variety of different designs.

The new Kvålsvoll Design horns are designed for best sound quality, combining smooth and open sound with real-life dynamics.

Combining the advantages of horns with the highest performance ribbon and planar drivers sets a new standard for sound quality.

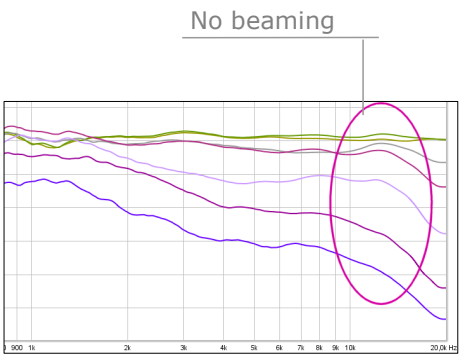


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Horn shape and acoustic damping gives desired radiation pattern - smooth sound focused inside wide coverage area with no high frequency beaming.



Exceptional clarity and realism, precise and accurate holographic placement of sounds.



5 inventions for better sound

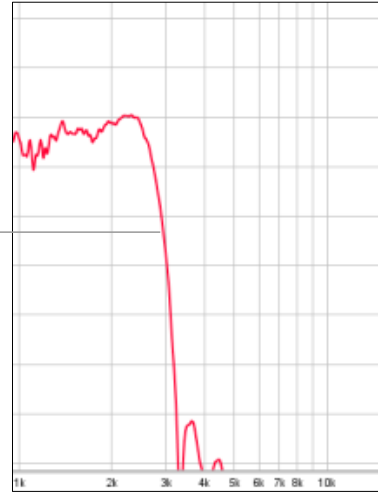
2: very high-slope crossover network

using high-efficiency drivers for bass and midrange is necessary to achieve the realism, openness and dynamics of the new generation loudspeakers.

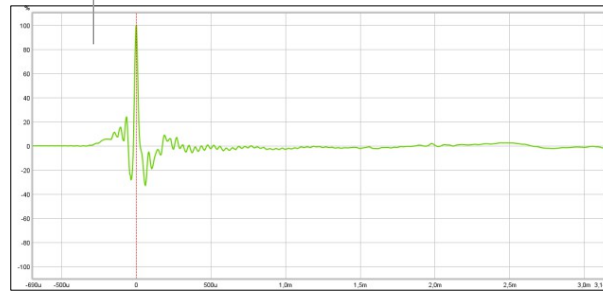
The very high-slope crossover network filtering is what makes it possible to use these open and lively sounding drivers and maintain the highest sound quality.

The filter simply cuts off all unwanted sound.

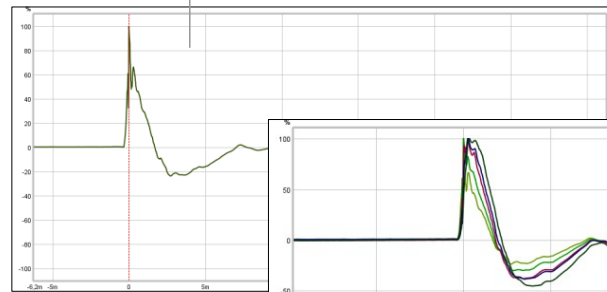
All unwanted sound is cut off



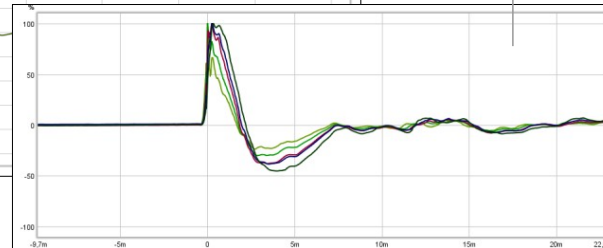
Impulse response reveals controlled phase and timing



Step response shows nearly impulse correct behavior



Step response off-axis 0-60° show similar impulse correct response



?
Signal processing using notch filters to achieve a shelving filter response with very steep and accurate cut-off combined with near perfect impulse response. Implemented as passive crossover or in DSP software.

Smoother and less colored sound, more precise transients, better 3D placement of sounds.

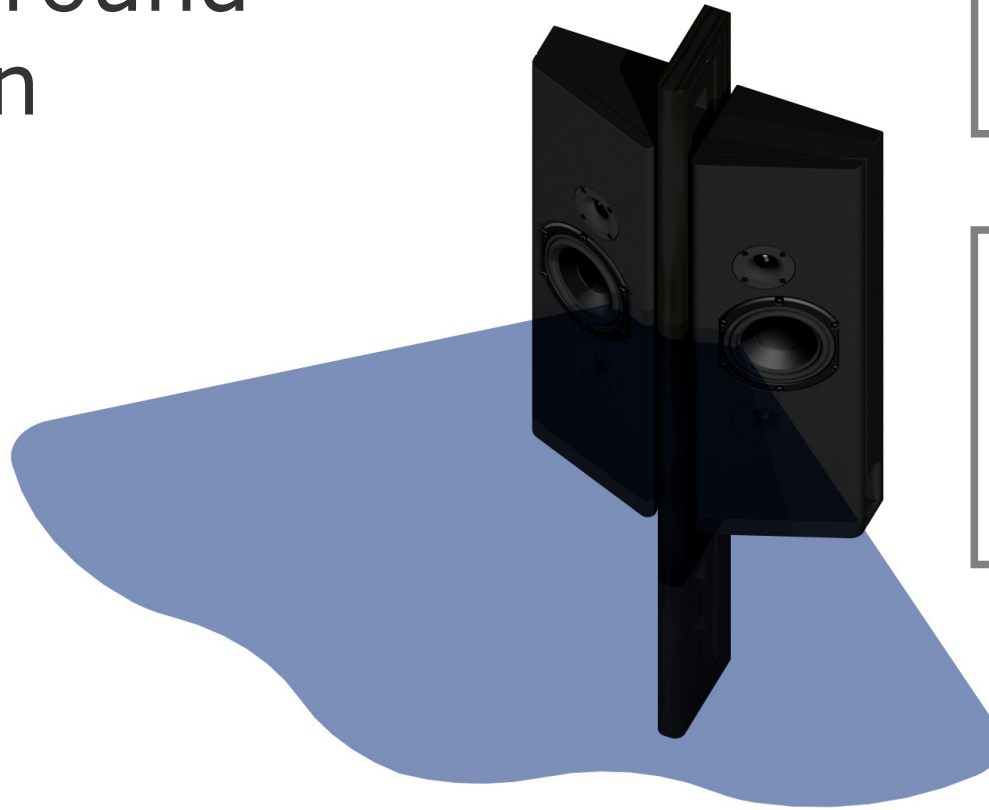
5 inventions for better sound

3: optimized surround speaker radiation

immersive surround sound where sounds appear life-like with clarity and precision all around you.

The job of a surround speaker is very different from the main speakers.

By optimizing radiation pattern for surround sound the experience improves quite dramatically – the speakers disappear, much more immersive sound all around you, better localisation of sound objects, simply much more realism.



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Surround speaker with optimized radiation pattern.

♪♪
Immersive and realistic surround sound, all around you.

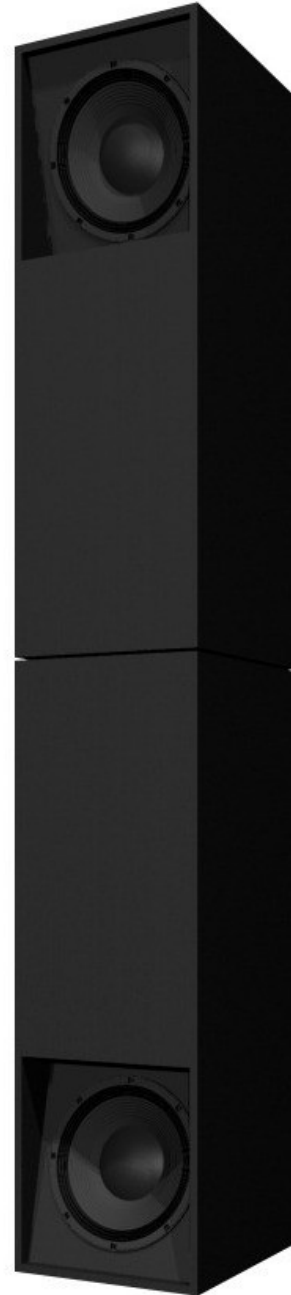
4: compact horn subwoofer

addictive bass in a small package – this is a difference you can both hear and feel physically.

The sound from a bass horn system is addictive - the sense of realism, effortless impact and clean, powerful bass.

The Compact Horn Subwoofer technology introduces new methods for designing horn subwoofers with high performance in a smaller package – which can actually fit in to your room.

Read more in the Compact Horn Subwoofer Technology article on the Kvalsvoll Design web pages.



Horn for low frequency with tuned damped channels for smoother response and wider bandwidth.



Addictive, realistic, powerful bass - once you experience it, there is no other alternative.

5 inventions for better sound

5: sound field control bass calibration

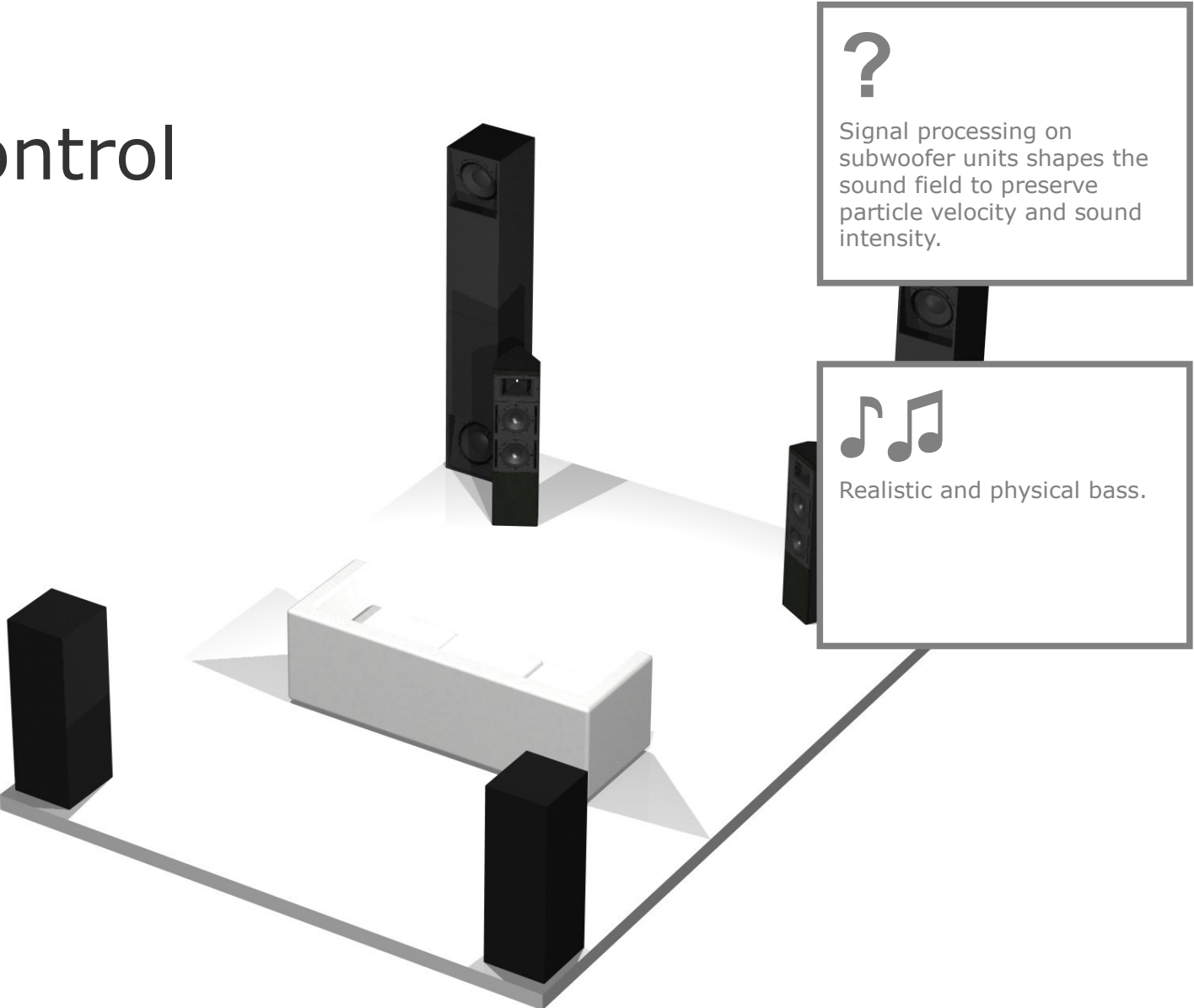
perception of bass and low frequencies depends on a combination of sound pressure and sound intensity.

That sense of huge space induced by very low frequency sound, where you feel the vibrations, but can barely hear anything.

Or the violent, physical hit from the drums at a live concert.

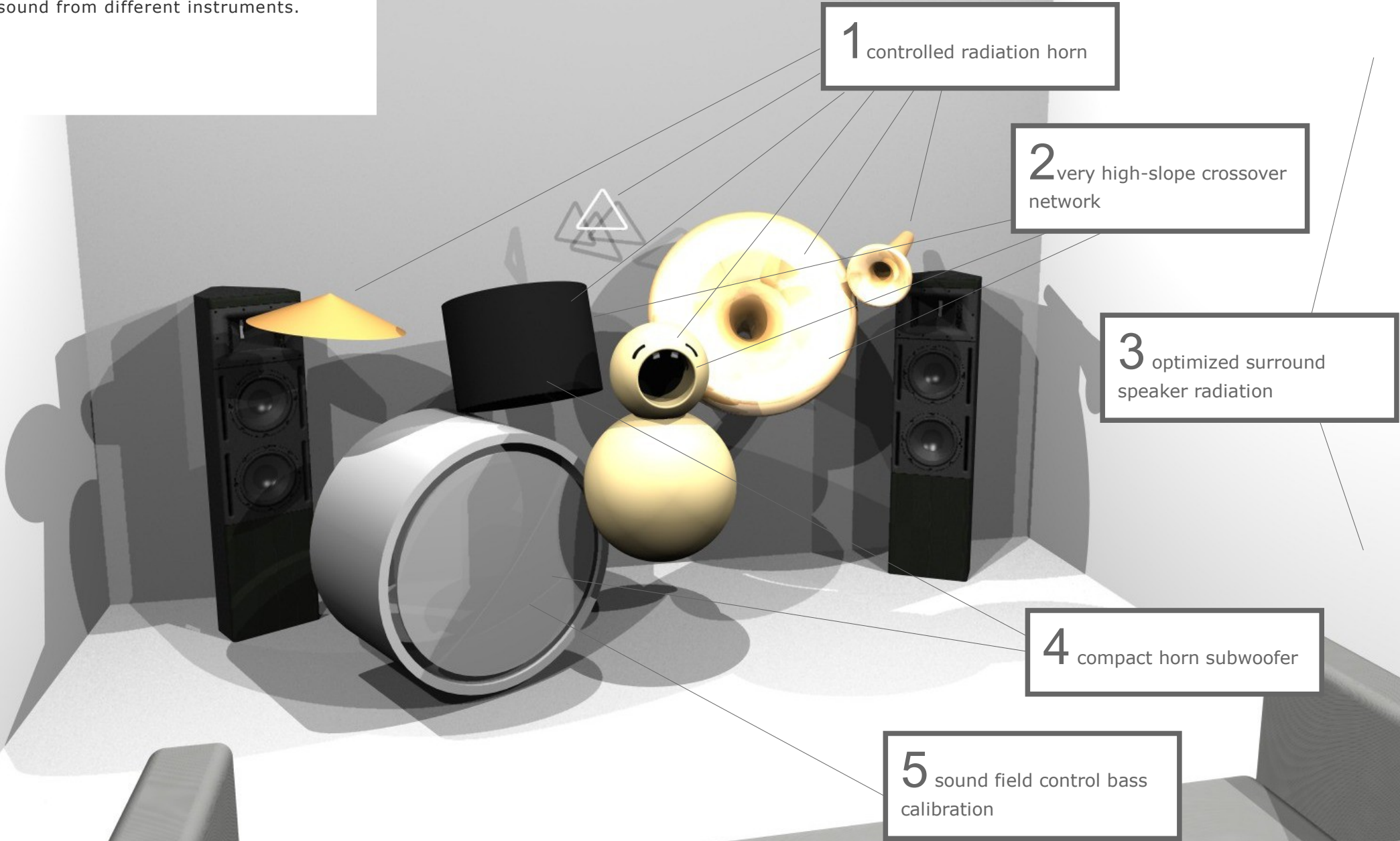
Sound intensity and particle velocity are properties of the sound field - well known in acoustics, but has been ignored in sound reproduction applications.

Kvålsvoll Design is now providing loudspeaker calibration which accounts for sound field properties, to preserve tactile and physical feel of real world events.



5 inventions for better sound

instruments and
soundstage - the 5 inventions affect
sound from different instruments.



5 inventions for better sound

where the 5 inventions are implemented.

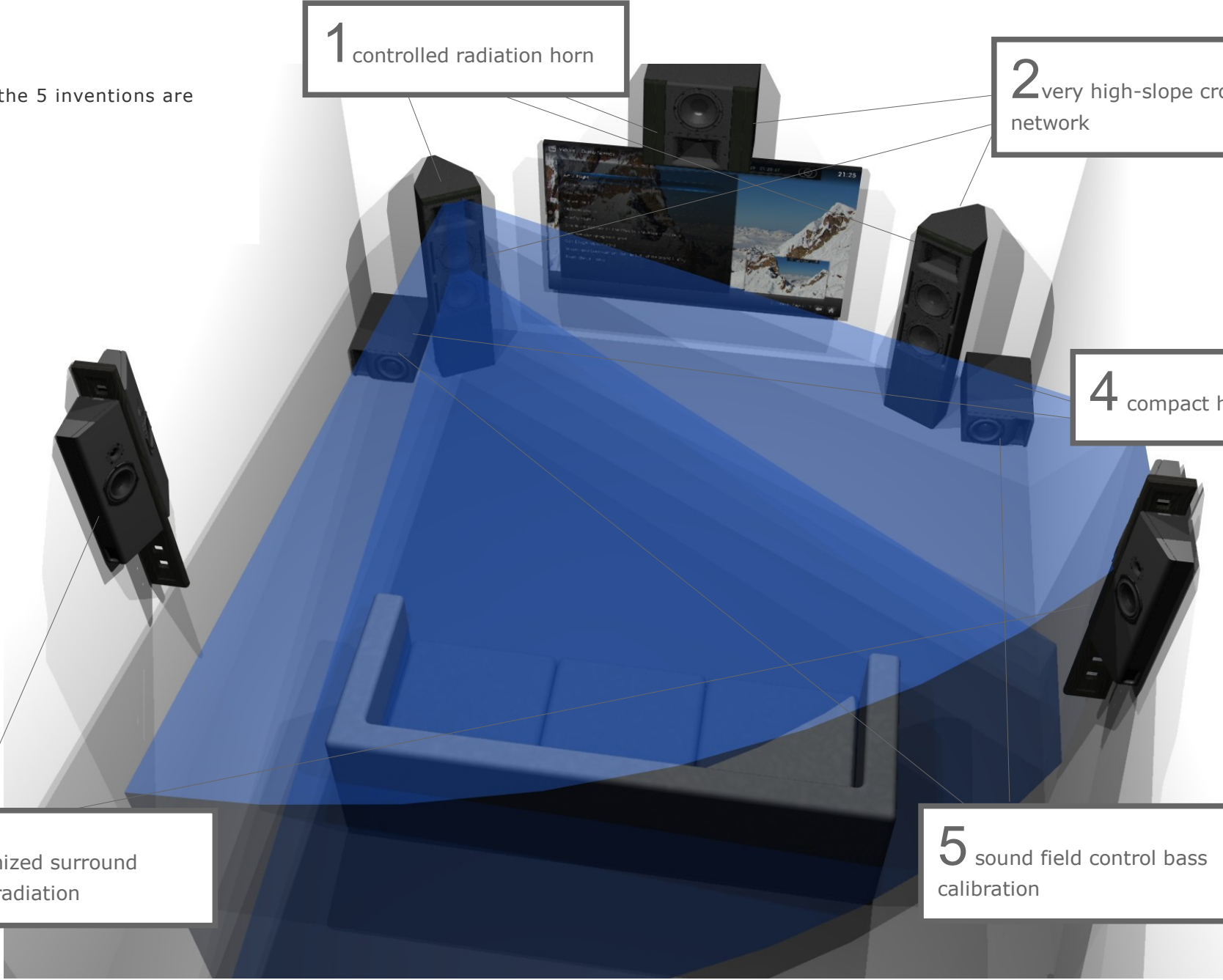
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5 inventions for better sound