LINKWITZ

HOLOGRAPHIC SOUND

Siegfried Linkwitz (1935-2018) worked as an Electronic Engineer at Hewlett-Packard in Santa Rosa/CA, developing industry-reference spectrum analyzers and microwave equipment.

His name is well known to every serious loudspeaker designer for bringing ground-breaking achievements to the audio world: E.g. the **Linkwitz-Riley Filter**, the Linkwitz Transform.

Siegfried Linkwitz followed a strictly scientifically and psycho-acoustically driven approach in designing loudspeakers. This resulted in the development of **actively driven open baffle speakers** (not a closed box), radiating the sound in an advantageous dipole pattern.

After many years of intensive cooperation with our German workshop, Siegfried Linkwitz handed me over the “keys” to his audio business in 2017. So, we are carrying on the flag and take care of the continuous development of these systems.

We **ship** these handmade gems **worldwide**.
https://linkwitz.store/product/lx521/

Not able to make it to an event like Pacific Audio Fest, Capital Audio Fest or AXPONA?

Several LINKWITZ®-partners around the world offer auditions at for audiophiles
(e.g. in California, Texas or Taiwan).

Actively driven open baffle speakers, what does this mean and what is it good for?

Active Speaker- The crossover and driver linearization happen in a fully analog electronic crossover network. Filter types used in LX521® are Linkwitz-Riley 2nd order and Linkwitz-Riley 4th order. Active crossovers in dedicated filter topologies allow precise crossover slopes and driver linearization, that are impracticable with passive networks. Only finest components at lowest tolerances are selected for these filter circuits.
After the electronic crossover / linearization, each driver is fed by its own power amplifier. A very easy load for every amplifier. Multichannel amplification requires more effort than just two stereo channels. But as you hear: It´s worth the effort!

Open baffle speaker: The drivers radiate simultaneously from the front and the backside of the speaker. With inverted polarity. The soundwaves meet at the side of the baffle (+/-90 deg off) and cancel each other. It´s the so-called “dipole” radiation pattern, a flat lying figure of eight. The lateral cancellation/constriction is the “dipole null”. The “dipole null” is very useful for managing the intensity of wanted and unwanted room reflections.
This contributes to the uniquely realistic phantom stage illusion, that you experience with LX521®. Not only with your head “nailed” to a sweet spot, but rather in a “sweet area”. Even when you wander around in the listening room. This makes stereo rendering more social, several listeners enjoy the music on the phantom stage illusion simultaneously.

Furthermore, the symmetrical radiation pattern allows the listeners to position themselves on the opposite/rear side of the speakers and enjoy the band playing around the usual listening chair.

Another beneficial aspect of open baffle speakers is their minimalistic cabinet. It avoids resonances and unwanted energy storage. Resulting in a clear and neutral sound reproduction.

Why Dipole (Pattern)? A dipole radiation pattern from low bass up to high treble frequencies allows the room to be “illuminated” very evenly. Room reflections carry the same sound color as the direct sound. Receiving these, our ear and brain generate a very believable sound stage illusion, with musicians perceived as “playing” up to 20ft behind the speaker baseline!

The Dipole Bass: Quite different bass reproduction, compared to the usual bass-“boxes” and fundamentally different from vented/ported designs. The dipole bass loads the room with less energy, while generating the same sound pressure level (SPL) at the listening position.
The tendency to excite room nodes is diminished by -4.8dB!
Furthermore, the LX521® dipole bass units may be toed-in/out independently from the top-section. So, the radiated energy may be directed towards different path lengths in a room, greatly avoiding typical standing-wave peaks/lows. You hear the very powerful and realistic bass, very un-boomy. More information: See FAQs
https://linkwitz.store/blog/category/faqs/

The LINKWITZ® setup at Audio Shows

The LINKWITZ® system takes care of everything that happens downstream of your analog music source. During the Pacific Audio Fest, we rely on third party analog music sources. Here is a short overview of the gear in action:

Music Source Digital: Music on a NAS server, played back by a LINN streaming DAC.
or
Music Source Analog: Turntable / Tapemachine / (Phono-) Preamp

Balanced Interconnects

2x PowerBox 6pro Ncore precision analog, one per side. It houses the new phase-coherent cascaded analog precision crossover with driver linearization (ASP). Short internal balanced interconnects lead to 5 tailored Ncore® amplifier channels.
All signals remain purely analog. A purely analog high power multiway device.

Multiway OFC speaker cables with professional SpeakON® connectors

LINKWITZ LX521.4MG
Siegfried Linkwitz´ masterpiece in loudspeaker design. An active 4-way open baffle speaker. We use an improved midrange driver from SEAS, with a new ultra-low distortion motor and stiff magnesium cone: Extremely low 2nd and 3rd order HD, below human perception threshold!

LX521®, a speaker, that doesn´t distract from the artists performance.
Free of commercial pressures, Siegfried Linkwitz` research culminated in the LX521®. He arrived at a level of performance, which made him search no further. Neutral sound, clarity, speed, spatial openness, and disappearance from one's auditory illusion.
It renders a superb recording probably as good as it gets.

Sound radiation is substantially different from conventional "box"-speakers. Cabinets show minimum resonances. Form-Follows-Function. An "*uncanny*" (THE AUDIO CRITIC), realistic reproduction of musicians on stage. **Enjoy soundstage depth of as much as 7m/21ft, for an unrivaled realism in rendering acoustic scenes.**

"...I didn't have any other speakers that could reveal as accurate a sound stage, do so with tonal & timbral neutrality, and seemingly bypass the room..... LX521® are used for the final production stage mix qualification of all San Francisco Symphony SACD download releases that I've produced during the last three years; they are an indispensable tool."
Jack Vad, Producer, Engineer, SanFrancisco Symphony, **GRAMMY** "Best Classical Album"

Special Edition: LX521® in Panzerholz

Panzerholz is a very special kind of industrial wood with unique properties:

- It´s bullet-proof, used for security doors and security window frames.
- With the strength of aluminum, Panzerholz weighs only 50% of aluminum. An ideal wood for race-car chassis!
- But we appreciate Panzerholz for its enormous inner dampening qualities.
  Just knock at it. It is acoustically “dead”.

The downsides of Panzerholz:

- Panzerholz is very expensive and has limited availability.
- Being an industrial wood, Panzerholz itself is not very decorative for living rooms. However, our workshop found a special way to apply beautiful wood decks (e.g., American Walnut) onto Panzerholz reliably, while keeping acoustically critical dimensions/shapes within tight tolerances
- Panzerholz is not easy to work with. Miter heads wear off quickly, drilling needs intermediate cooling, saws turn blunt.

But don´t worry, we take care of all this! Our workshop is experienced in handling Panzerholz. We can apply various wood decks of choice onto Panzerholz. Ask us!