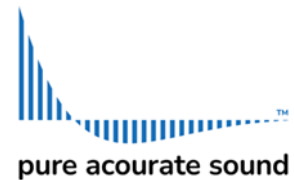


THE PURE ACOURATE SOUND PROJECT

Ultra-low distortion in room sound reproduction

www.pureacouratesound.com



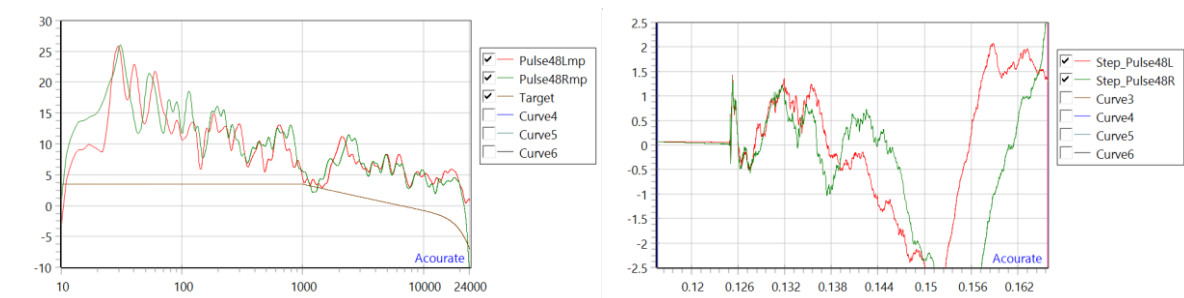
How we got there.

Leading edge technology meets music which is linearly reproduced in a small room. Imagine you would take today's best-in-class technology and use it to produce ultra-low distortion sound without bass boom: This is possible. This is the Pure Acourate Sound Project!

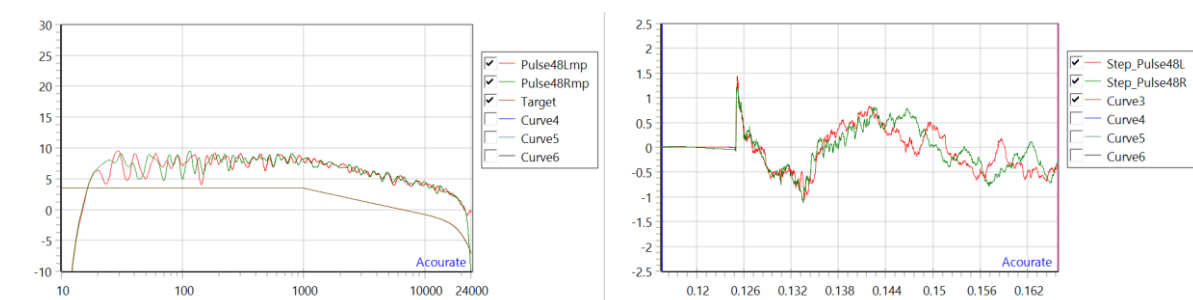
The idea has been to combine the best in class loudspeaker drivers (Purifi), class-D amplifiers (Purifi), Digital-to-Analog converter (Okto Research), room acoustic treatment (GIK Acoustics), measurement technology (Klippel), software engineering (Audiovero), professional woodworks (ROSE Handwerk) and experience in speaker building (Joachim Gerhard). All this is applied to a generic speaker in an imperfect room and can achieve outstanding performance!

You may have listened to many different systems. None of these does everything right. This one does it all! It illustrates, that latest digital technology has improved sonic quality of all components including the room and its deficiencies. The system is customized to the room.

How it improves performance.



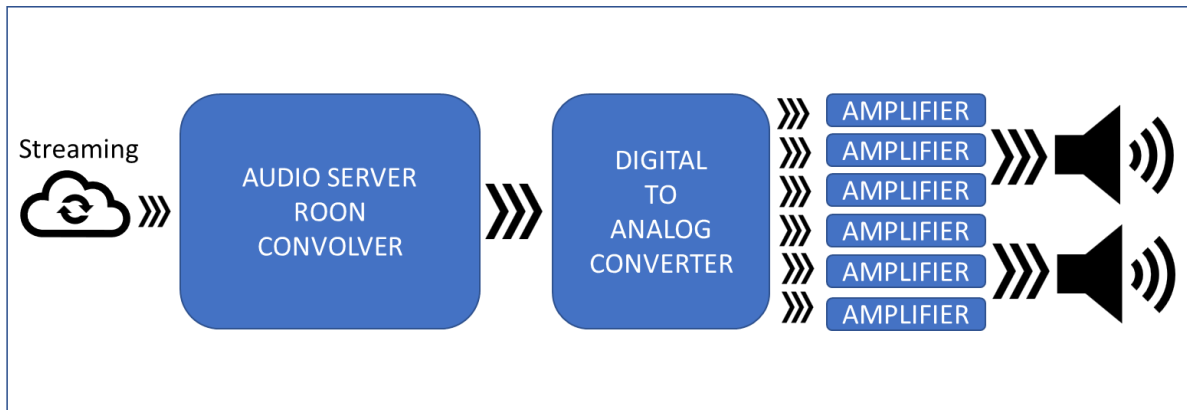
Example of a non-corrected playback system.



Example of a corrected playback system.

How the system works.

In this set-up music is streamed via Roon and routed via AcourateConvolver, running on an optimized audio server. The two-channel input is split into six channels. The speaker and room correction are applied together with a digital linear phase crossover via convolution. The output channels are fed to a DAC and then into the power amps, one for each chassis. It all sums-up in perfect low distortion sound reproduction.



Overview of system and signal path

How it has been done.

At the beginning of the process, each chassis is individually measured. Based on its characteristics the phase is corrected in particular for being in-phase at transition frequency. Next, each chassis' magnitude response is linearized and gain variations are corrected. A six-channel linear-phase digital crossover is generated. All corrections are convolved into the crossover, individually for each driver. The resulting total performance combines into an almost perfect speaker. Taken to the Klippel measurement system, all system parameters have been validated and partly refined, optimizing radiation pattern and minimizing distortion.

Measurement of the entire speaker (installed in the room) allows to derive the necessary room corrections. Sonic degradations of room modes (magnitude and phase) are reduced within useful acoustic boundaries without over-correction. Additionally, mid and high-frequency performance improves delivering a balanced and holographic soundstage. The digital processing is performed with non-compromise 64bit floating point accuracy throughout the entire processing chain. The FIR filters employed work with 64-128k filter tabs (maximum 524k), giving unprecedented low frequency resolution and correction possibilities.

Frequently asked questions.

- Can I set-up this specific system shown at the High-End be customized to my listening room?
 - Yes, this multichannel system can be set-up and measured on site to adopt for your specific living and listening environment.
- Can any other music reproduction system be treated with Acurate as well?
 - Yes, any other existing system, be it multi-channel or just stereo can be individually corrected and adopted to your listening space with Acurate.
- Can this system be set-up with other components (speakers, amplifiers, server)?
 - In principle, yes. It does require the speakers to have access to all chassis without internal crossovers. Amplifiers can be chosen freely as long as they can drive a single chassis properly. Any server running Roon, JRiver or other player software supporting convolution can be used. Processing requirements for multi-channel applications can be demanding. This is why we recommend specific components for both, amplifiers and servers.
- Can I buy the system presented?
 - Even though this is meant to be a demonstration of technical feasibility, the entire system at display can be purchased. Please contact ROSE Handwerk for a commercial proposal.

CONTACT for all enquires.

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