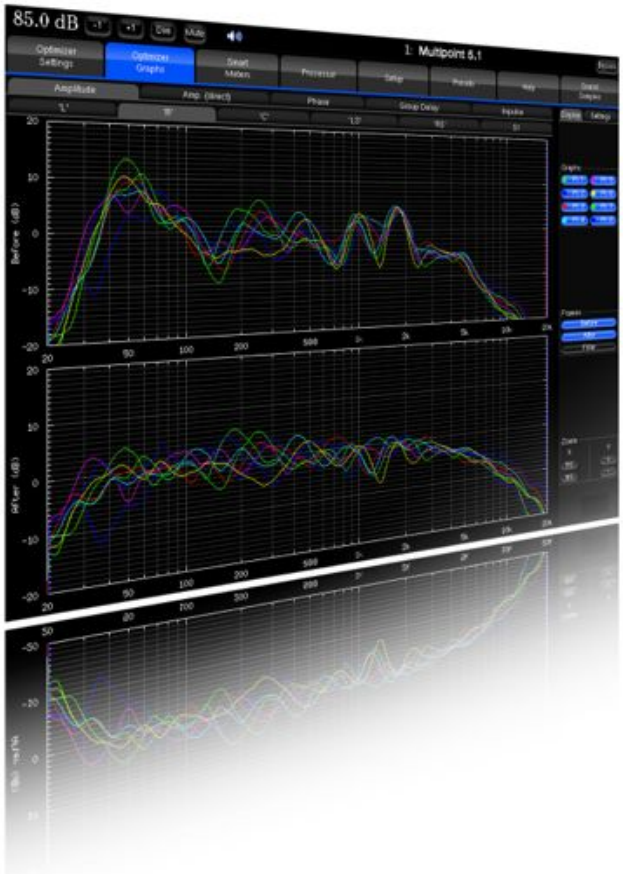
Trinnov Optimizer

Loudspeaker/Room Optimization

Software Option



Maximal

The challenge of every sound engineer is to create a mix that sounds great not only in the studio, but for a ***majority*** of listeners. Whether it's mixing music, film, radio or TV material, ***accurate*** monitoring is half the job.

Mix

Trinnov's Optimizer uses state-of-the-art phase and frequency response optimization algorithms, so we feel confident that what we hear comes from the ***mix***, not from the ***room***.

Translation

The Optimizer allows you to meet our industry ***standards*** with unmatched precision. Optimal sound reproduction accuracy means ***maximal translation of mixes*** across a majority of rooms.

Trinnov
3D measurement
microphone

Trinnov Optimizer 3.6

Loudspeaker/Room Optimization

Digital Acoustics

The room's problems have been identified, and are taken into account while recording or mixing. But as long as the room's acoustics are distorting the mix, how will it translate in other rooms? Trinnov has applied the results of breakthrough research in the area of loudspeaker/room acoustics to create a new generation of loudspeaker processors, setting a new benchmark for accurate sound reproduction. The Trinnov Optimizer takes mix translation to the next level.

Modern Acoustic Measurements

The Optimizer uses MLS signals to measure the full impulse response of every loudspeaker in the room. This adds the time dimension to the frequency response, and enables the Optimizer to see the full picture of the loudspeaker's behavior in the room. In multichannel setups the Trinnov's unique cal mic identifies the real positions of the loudspeakers in 3D.

Exclusive Acoustic Analysis

Trinnov's state-of-the art time-frequency analysis algorithms identify room modes, first reflections and late reverberation. Every acoustic aspect is analyzed and compensated with a specific technique. All the subtlety of the Optimizer resides in knowing which defects can be corrected with acoustic transparency.

Comprehensive Graphs

The integrated acoustic analysis tools provide insight on the measurements. You can easily overlay multiple graphs to compare loudspeakers caracteristics, measurement points, or the results of the optimization against the unoptimized sound.

Powerful Equalization

The Optimizer's intelligent acoustic analysis engine automatically computes FIR and IIR filters to dramatically improve the consistency of direct sound against late reverberation. Full-phase, time domain techniques are applied compensating for the loudspeaker's group delay and for very early reflections (deconvolution), while later reflections are left untouched.

2D/3D Remapping

2D and 3D remapping is one of Trinnov's leading technology. Thanks to the 3D microphone measurements capabilities, speakers distance, azymuths and elevations can be identified precisely. According to these reported informations, a more accurate speaker placement can be retrieved, ensuring a full compliance with surround sound standards.

Meets Your Target Curve

The Optimizer automatically defines the filters that will achieve the required frequency response defined by your target curve. This is particularly useful in post-production studios in order to comply with SMPTE standards (X-Curve). Phase and group delay targets can also be defined, making the Optimizer a unique tool for sound system designers.

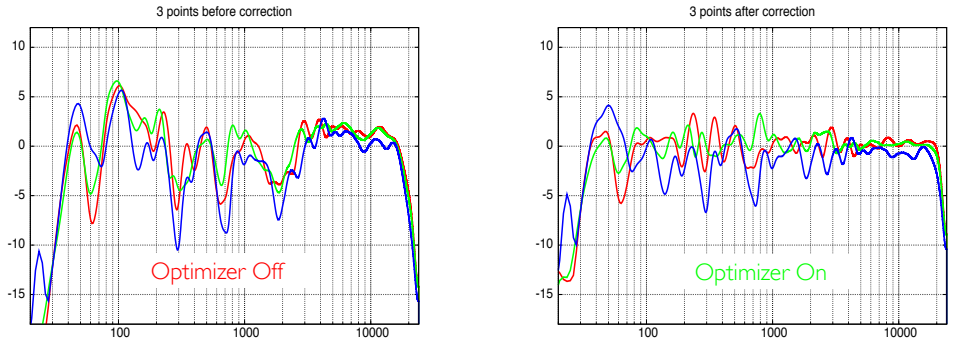
Fine Tuning

Manual FIR, parametric and graphic EQs are included to quickly identify target listening curves and provide real time adjustment. Your ears have he final word.

Wide Listening Area and Multi-point

Trinnov's sophisticated multipoint algorithm can take into account the measurements of different positions to perform the optimization. A higher weighting may be assigned to the most important listening position(s), and lower weighting to the remaining points.

Multi-point Optimization



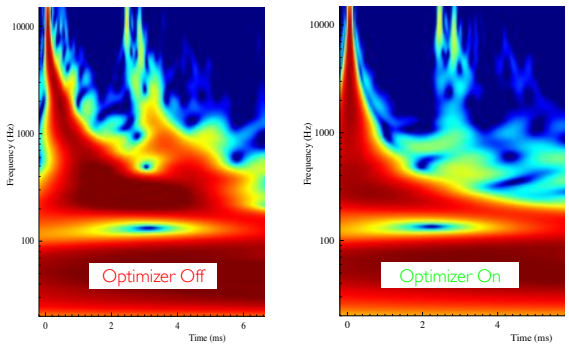
Improved Tonal Balance

The loudspeaker's direct sound (including early reflections) and the room (energy response) are separately equalized, opening up the listening window. The Optimizer corrects the tonal balance by targetting the most neutral timbre for each speaker.

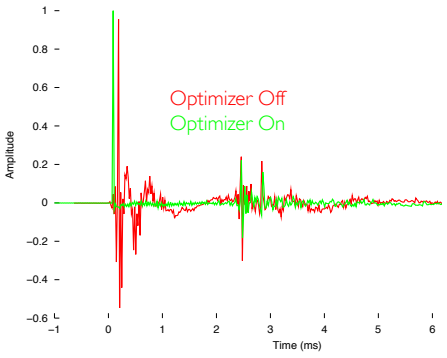
Improved Phase Response

By achieving Time domain techniques, the Optimizer can easily address phase response issues. This results in high resolution stereophonic and surround interchannel images with well-focused phantom sources.

Time-Frequency analysis (wavelet)



Impulse Response



Easy Setup

- Insert the system between mixing desk and the loudspeakers
- Connect the microphone
- Run the measurements at one or multiple mic positions.
- Listen to the optimized sound
- Set target curves an optimization parameters
- Compute filters
- Save a preset

nnov.com

Digital Acoustics

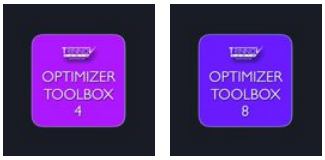
Trinnor Processor Platform

The Trinnov Optimizer is a software option for the Trinnov Processor Platform.

Available Software Modules & Licenses

The Trinnov Optimizer is declined in 4 complementary modules that enables different levels of processing and analysis.

Optimizer Runtime Module:
- Available in both 4 or 8 Channels modules
- Read-Only mode of the Digital Louspeaker/Room Optimization.
- Acoustic Correction, Level & Delay Alignments are run as a Black Box.
- Needs previous installation with a Universal Optimizer Toolbox from an authorized Dealer/ Installer.



Optimizer Toolbox Module:
- Available in both 4 or 8 Channels modules.
- Unlocks the access to Acoustic Measurement and Analysis, Multipoint Measurement and processing, Automatic EQ, Automatic Phase Alignment, Automatic Crossover Alignment, Target Curves, 2D and 3D Remapping.
- Enables to create Correction presets.
- Requires a previous installation of the Optimizer Runtime

Optimizer Bundle:
- Available on both 4 or 8 Channels licenses.
- Gathers both the Optimizer Runtime and the Optimizer Toolbox Modules.

Additional Channel Licenses:
- **Output Channel:** Adds one more Crossover, Sub or Satellite output channel to a 4 channels or 8 channels Optimizer Module.
- **Full Channel:** Adds one more Input and output processing channel to a 4 channels or 8 channels Optimizer Module.
- Available both for Optimizer Runtime and Optimizer Bundle.

Request a demo from a Trinnov partner near you

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