

# LD-3 Compensating Line Driver



### Features & Benefits

- Compensates for low to mid-low frequency build-up in line arrays to provide ultra-flat frequency response
- Input gain from -12 to +6 dB, mute, signal/clip/mute indicators, and a switchable high-pass filter for boundary correction or crossover optimization
- Compensates for high frequency absorption of air based on temperature, relative humidity, altitude, and throw, enabling your system to work consistently under virtually any weather conditions
- Corrects frequency response up to 16 kHz at a resolution down to 1 dB
- High-quality, wide dynamic range, digitally-controlled analog filters
- Up to three separate array outputs per channel to control the correction according to the distance of the array section's coverage, and dedicated sub output controls
- Total control of an array with mute and optimized filters to integrate subwoofers into the array
- Male and Female XLR Send/Insert Returns allows flexible routing of the signal and allows the insertion of signal processing such as parametric equalization
- Integrates different M Series self-powered speakers for maximum flexibility
- Maintains signal integrity for long cable paths



Once a challenging part of line array system design, environmental conditions are just another part of the mix with the eight-channel LD-3 line driver - a powerful new tool from Meyer Sound for optimizing large-scale sound reinforcement systems by correcting frequency response for the attenuation of sound in air.

Feed the day's weather report into the LD-3 through its Temperature, Altitude and Relative Humidity knobs, dial-in the type of loudspeakers and distance of the throw for each section of the array, and the LD-3 goes to work. A RISC microcontroller retrieves response correction coefficients and corrects the output to compensate for the weather.

By utilizing multiple-variable atmospheric loss equations and pre-calculated MAPP Online stored values, the LD-3 delivers results quickly and efficiently. Its high-quality, digitally-controlled analog filters provide the best of both worlds: the low latency and wide dynamic range of analog and the nimble, precise, repeatable results of digital. The LD-3 corrects frequency response up to 16 kHz at a resolution down to 1 dB.

### Technical Notes

[LD-3 Settings for MICA and M'elodie Loudspeakers](#) (PDF)

[User-Defined Equalization Curves with the LD-3](#) (PDF)

### Operating Instructions & Datasheet

[Low resolution](#) (PDF 3.68 MB)

[High resolution](#) (PDF 12.3 MB)

[Data Sheet](#) (PDF)



[Pro Audio Review's rave review of the LD-3](#) (PDF)

Panels  
(click to view)



[PDF of panels](#)

Figures 1, 2, and 3 are example frequency attenuation curves for three different temperatures with a fixed distance of 100 meters, at seven values for relative humidity. Depending on the atmospheric conditions and the distance the array is throwing, the number of possible correction combinations is staggering - and achievable with the LD-3.

Figure 1  
Air absorption for 10 degrees C at 100 meters

Amplitude in dB SPL

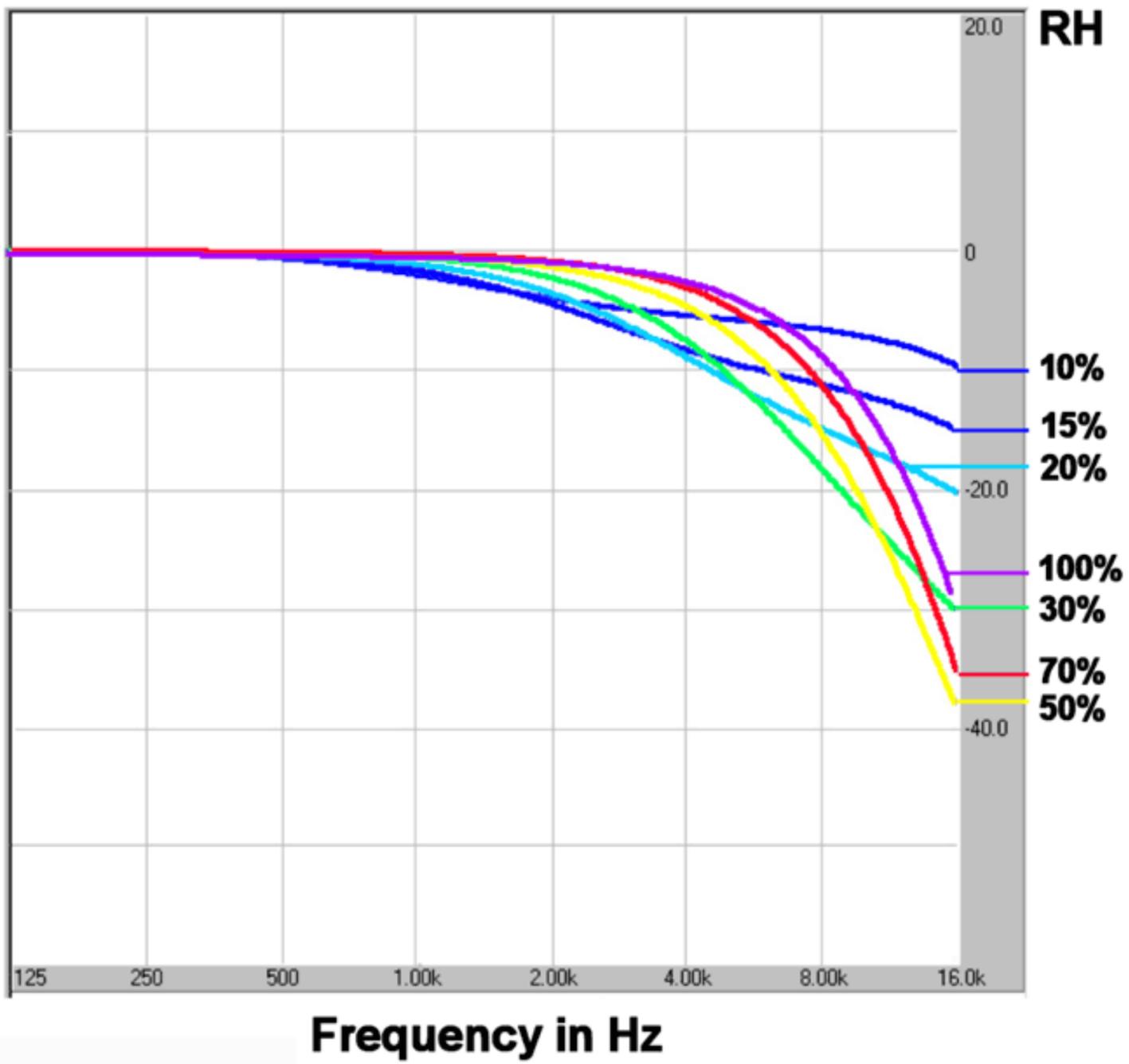


Figure 2  
Air absorption for 20 degrees C at 100 meters

Amplitude in dB SPL

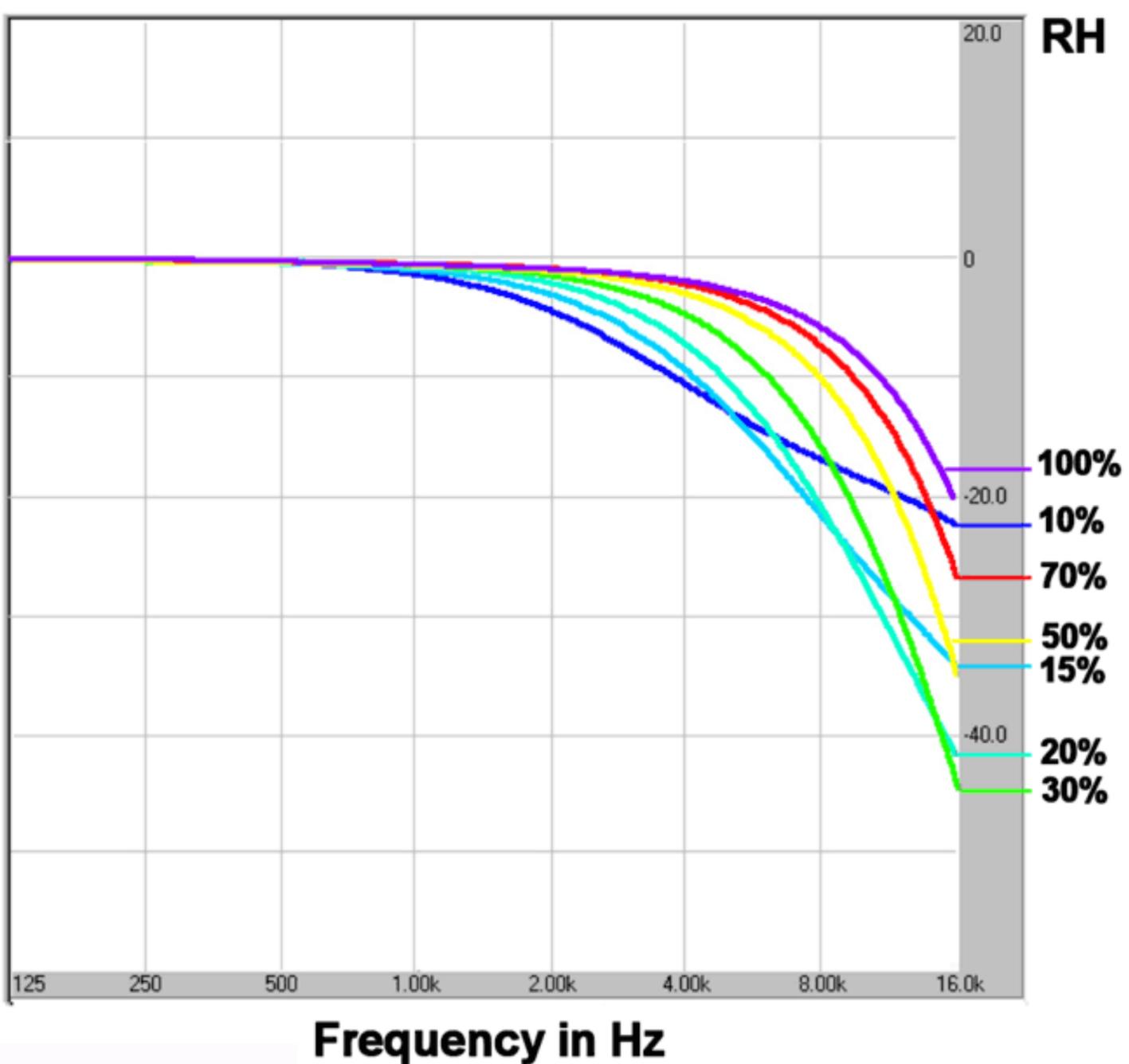
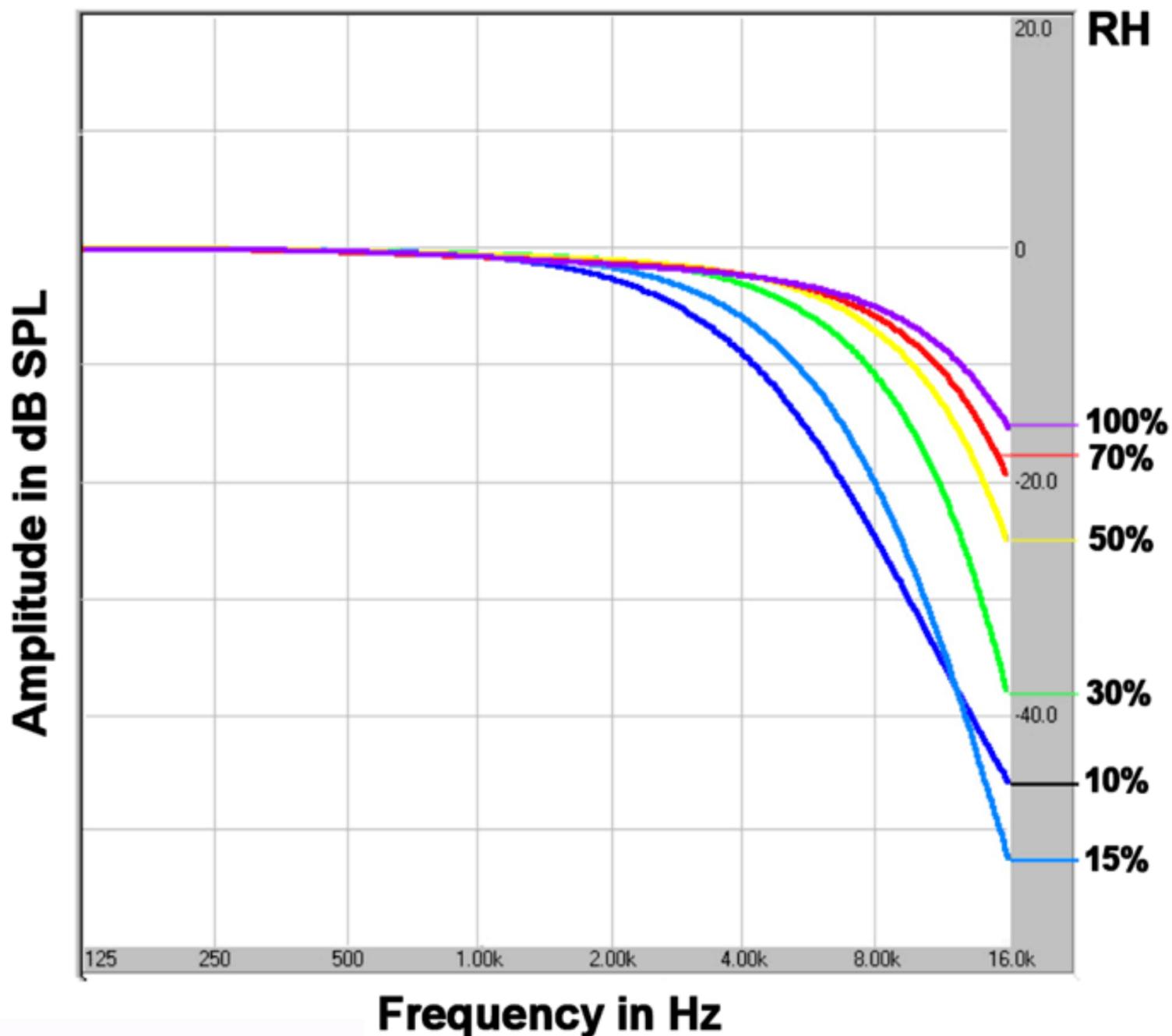


Figure 3  
Air absorption for 30 degrees C at 100 meters



In addition to weather correction, the LD-3's unique ability to compensate for low to mid-low frequency build-up allows you to fine-tune each channel driving an M Series array. Set the type of loudspeaker you're using and the number of cabinets in the array, and the LD-3's stored presets do the rest for you.

Figure 4 is an example of a correction made on a MILO array with eight loudspeakers. By applying this correction to the array the result is an incredibly flat array system response across a wide range of frequencies.

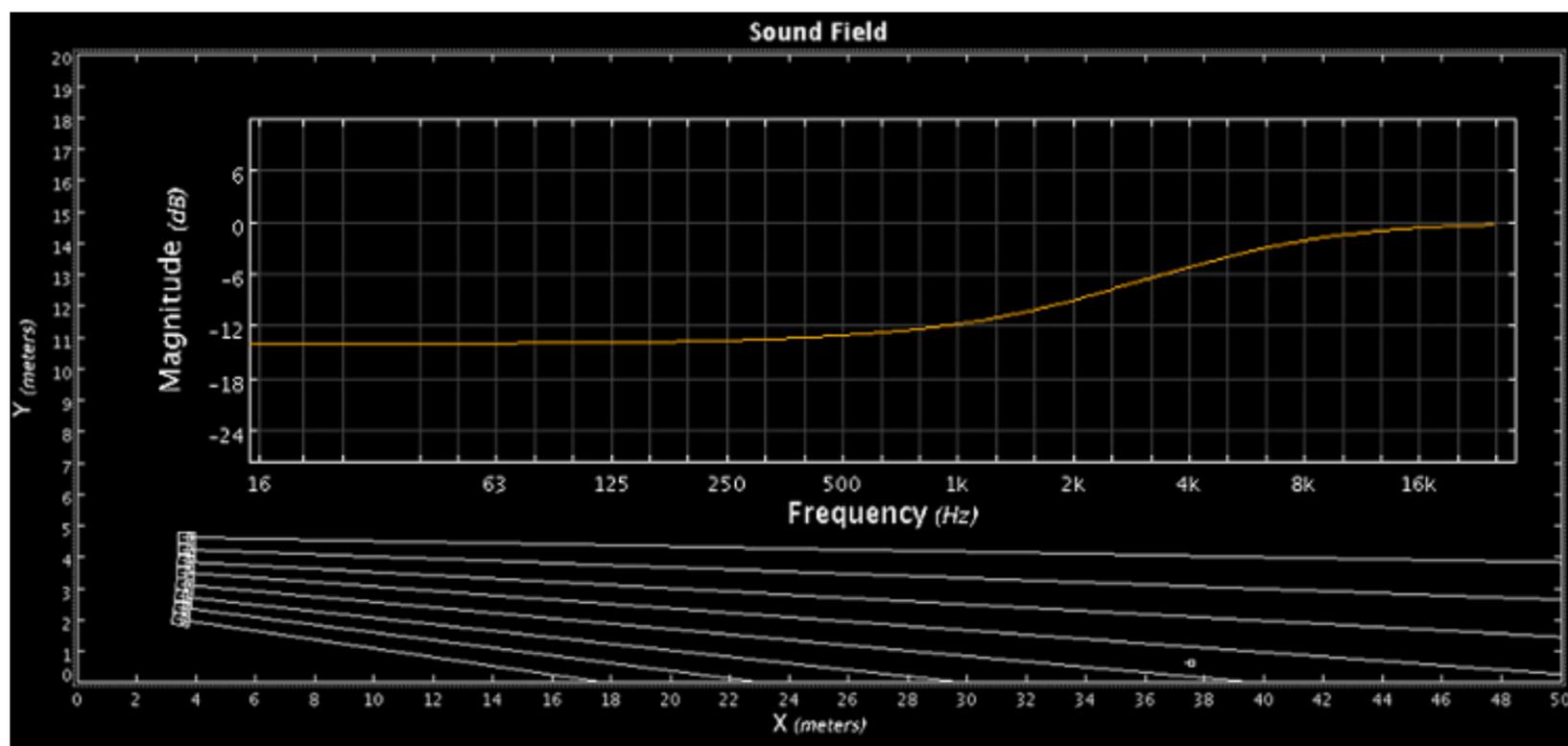


Figure 4  
Correction needed shown with eight MILO loudspeakers at 35 meters

Each of the LD-3's two channels consists of a master input section, a dedicated subwoofer output, and three outputs to control the array. Three sends and four returns provide the control you need, via insert switches, to route the signal and incorporate additional signal processing, such as parametric equalization.

The master input section provides individual channel gain adjustment from -12 to +6 dB, mute, signal/clip/mute indicators, and a switchable high-pass filter (0, 80, or 160 Hz) for boundary correction or optimizing crossover to subwoofers. Master environmental controls include temperature (0° to 45° C), altitude (switchable in three ranges: 0-800, 800-2200, and 2200+ m) and relative humidity (10 to

100%).

Individual outputs provide gain trim from -6 to +6 dB (-6 to -3 and +3 to +6 settings not recommended to preserve array behavior), signal/clip/mute indicators, send/return insert switches, and distance controls to define the throw from each sound system branch to its audience coverage area up to 150 meters (492 feet).

The LD-3's dedicated subwoofer control sections feature polarity switches, gain trim from -6 to +6 dB, mute, signal/clip/mute indicators, and send/return insert switches.

In addition to its sophisticated environmental and array control functions, the LD-3 integrates different types of Meyer self-powered speakers into a full-range main system, while maintaining signal integrity for long cable paths.

The LD-3 occupies two standard 19-inch relay rack spaces. Flash memory for future expansion is built in, and all input and outputs are electronically balanced and utilize XLR (A-3) type connectors. The AC inlet is an IEC standard male connector, protected with a 250 mA 250 V fuse, and switchable in the ranges of 105 to 125 V AC and 210 to 250 V AC.

## Solutions

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