

CLFViewer Adds Direct-Field Averaging Feature

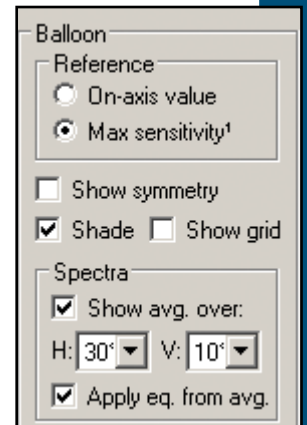
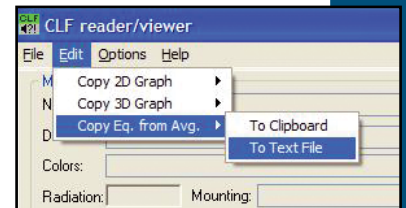
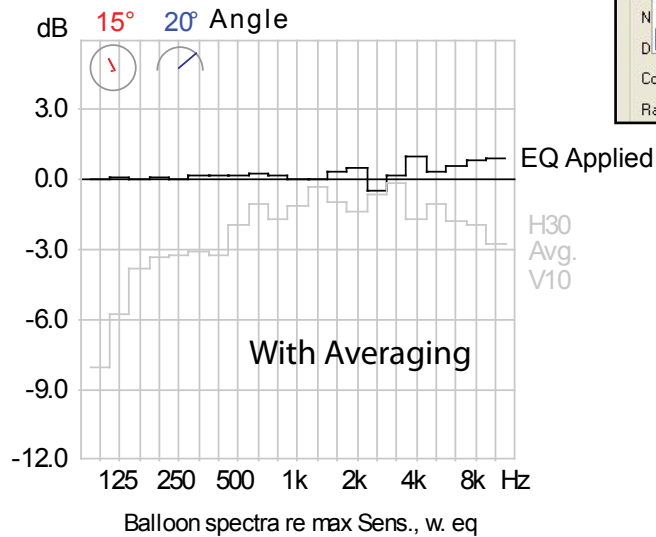
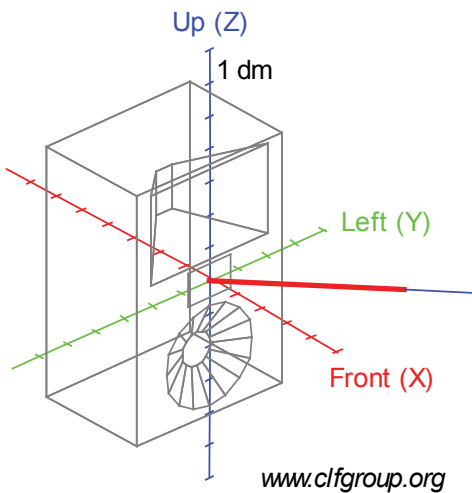
Regardless of the acoustic environment, most loudspeakers need some direct field equalization. This is the first step of an equalization process that may go on to include adjustments for loudspeaker placement and room acoustics.

No loudspeaker has the same frequency response at all angles within its coverage pattern. This suggests that spatial averaging should be used for corrective equalization. Spatial averaging is hard to implement in the field because room reflections cause the measured response to change from seat-to-seat. Since the CLF data file is taken from impulse responses made at 5-degree increments around the loudspeaker, it includes the angle-specific frequency response of the loudspeaker (in the Balloon Spectra display). It makes perfect sense to use this infor-

mation to produce a spatially averaged correction curve for the direct field response of the loudspeaker.

The user can choose the angles to be averaged by selecting a horizontal and vertical limit. This way, loudspeakers that exhibit severe lobing in one plane can be averaged only in the plane of coherence. This yields much less aggressive correction curves that exclude non-equalizable phenomena. The equalization curve can be exported as ASCII for import into DSP control software.

Of course this method is dependent on good quality control by the loudspeaker manufacturer, so on-site measurements should always be used to verify the axial response. *pb*



Potential or Kinetic?

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Don Davis used to present this thought-provoking riddle in the Syn-Aud-Con Seminars. He would put a drawing similar to the one at left (depicting Dick Heyser) up on the screen and ask “Is Dick in trouble?” The answer is in whether what is shown illustrates potential or kinetic energy.

If potential energy (energy due to position) then Dick is not in trouble, because the bowling ball is just hanging statically from a string. If kinetic energy (energy due to motion) then Dick is in big trouble because the bowling ball is in motion and swinging toward Dick like a pendulum.

The riddle serves as a reminder that data must often be viewed from more than one perspective to get the whole picture.