

## ETL™ - THE EFFECTIVE DYNAMIC ACOUSTIC ROOM TREATMENT

Audiophiles have been struggling for years to conquer the negative effects of the rooms' acoustics. The use of equalizers has long been ruled out as a solution for room acoustic problems even those with high quality electronics. Now the latest subwoofer technology is the use of equalizers and displays to blend the subwoofer with the mains and solve the room acoustics problems. Even the subwoofers that don't come with one need it now, as the reviewers would have it. Electronics is now supposed to have solved the acoustic problems created by the lack of acoustic synergy that the subwoofer has with the room and the system for which it is providing bass extension. Manufacturers are finally getting serious about subwoofers or are they? Digital equalizers are better in the electronic domain but do nothing to affect the acoustic radiation characteristics of the drivers.

The acoustic energy radiated by the speakers and that of the subwoofer have entirely different characteristics when relating to the room and to each other. Any attempt at equalizing the subwoofer has no effect on how reflections affect its driver or how it interacts with the drivers in the main speakers. The combined effect of the reflections impinging the driver cone, the input signal and the influence of the equalizer do not equal the original signal. The reflective acoustic anomalies and the interactions between the independent loudspeaker platforms are the main impediment in creating realistic listening environments.

Electronics manipulation of the signal whether it is in the frequency or time domain has no normalizing effect on the acoustic interactions of the diaphragms and room. The application of room treatments and/or electronic processing only make static subjective attempts to solve a dynamic acoustic problem. Room treatment dampens through common static absorption affecting all transducers within the room and frequency range. This compromise solution only robs the system of natural color and dynamics while making other sounds not related to the system sound unnatural (conversation etc.).

The random effects of room reflections and the lack of a common acoustic impedance characteristic for the systems low frequency drivers allow only one solution. The subwoofer driver must operate as a high-pressure origin, signal-defined low frequency acoustic signature devoid of a resonance characteristic. This reference acoustic energy will dominate the pressure field to mechanically synchronize all of the drivers while minimizing the effects of the lower energy coherent reflections. This dynamic reference signal causes cohesion as a normal external fluidic influence of the acoustic resistance associated with the main speakers drivers. This allows each recorded sound source to create its own acoustics not those caused by static external acoustic damping of the room or electronic DSP manipulation. Preventing problems is always more effective than trying to eliminate them.

When one analyzes the comments from reviewers and customers the definition of their responses is a description of a solution for bass extension and room acoustics treatment. The Magellan anti-subwoofers become a system foundation that fluidly dampens your main speakers to reduce reflected acoustic interference allowing for the sound that the designer intended while providing a synchronized fundamental bass extension.