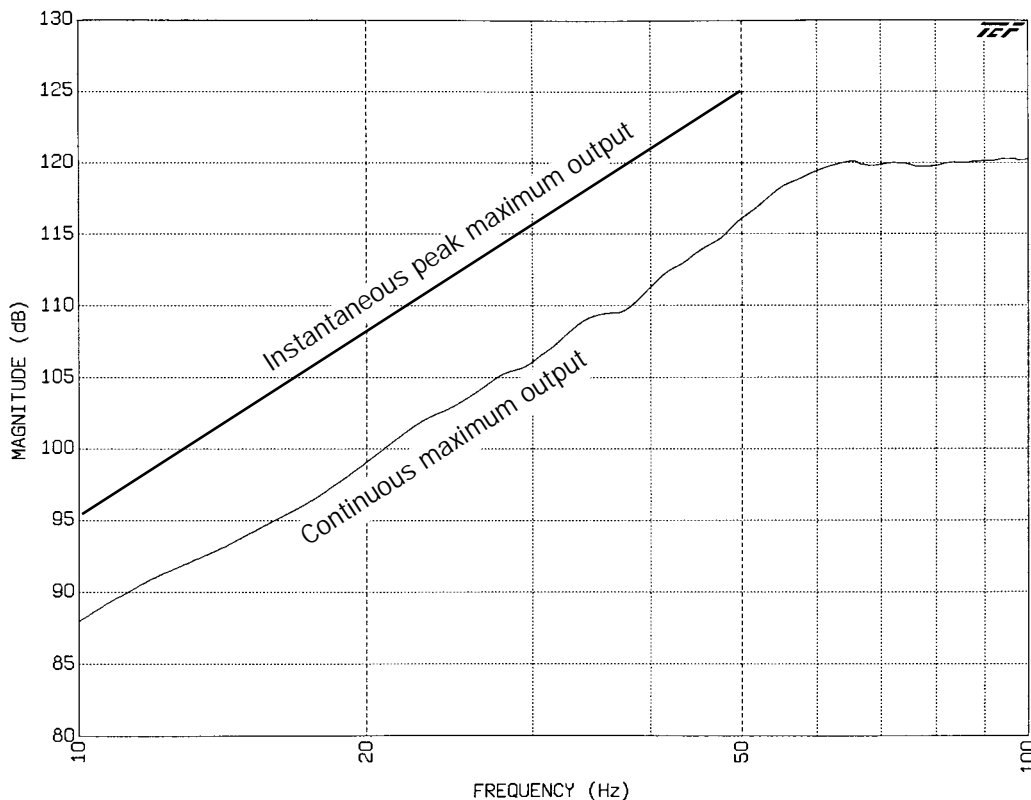


BAG END

INFRASUB-18 MAXIMUM SPL

T E C H N I C A L N O T E



The measurement was made on a Techtron TEF20 analyzer with SoundLab TDS software. The test signal is a 15 second swept sine wave. The microphone is a Bruel & Kaer 4007 and was placed on the woofer axis at 1 meter from the baffle. The measurement has a 2 Hz resolution and there is no smoothing applied to the display.

Maximum sound pressure level ratings of low frequency loudspeakers are only really useful when the measurement frequency is also known. We have found it useful for design purposes to refer to the data for the full operating bandwidth of the Bag End Infrasub-18 powered subwoofer system. The graph above shows the maximum continuous sound pressure levels at a distance of 1 meter in a half-space environment.

Since there is an attack time parameter designed into the concealment threshold detector, sounds of short duration and the leading edge of percussive sounds are able to attain levels up to 6 dB spl higher than the graph. This allows the Infrasub to deliver incredible impact with transient sounds.

The **Dynamic Filter** circuit is a complimentary technology to the INFRA. Set to the proper threshold, it insures that unexpectedly large signals will not overload the system resulting in possible damage or audible distortion. This allows high level operation close to the maximum system capabilities without fear of accidental overload. The Dynamic Filter is not a band limiter. It dynamically reduces the low frequency extension.

The lower frequencies require more amplifier power and driver cone excursion than the higher frequencies for a "flat" magnitude vs. frequency response. The measurement above shows spl with the full spectrum above the concealment threshold. That is, the concealment circuit is actively reducing the lowest frequencies more than the higher frequencies. This means that with typical program material, only those lower frequency components are reduced in level, leaving the upper part of the subwoofer spectrum unaffected. In most instances, the functioning of the concealment circuit is practically inaudible. The crossover region, where the sounds from the subwoofer and the midrange speakers are blending acoustically, is not affected by the concealment function. Compared to a limiter, which reduces the level of the whole subwoofer band, concealment is a very natural sounding method to protect the system.

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