DESCRIPTION OF COMPOSITE BASS TONE-BURST WAVE FILE

Don Keele, Sept. 16, 2004 (Revised Aug. 29, 2005, Revised July 22, 2016)
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Description:
This 10-second wave file contains 10 identical bass tone bursts at one second intervals intended for assessing the maximum peak output capability of subwoofers. The power spectrum of each burst is essentially flat from 30 to 80 Hz, with rapid rolloff at higher and lower frequencies. Each burst is composed of the linear sum of five individual shaped tone bursts at third octave centers: 31.6, 40, 50, 63 and 80 Hz. Each individual burst is a 6.5-cycle Hann-weighted burst. The levels of each burst have been modified slightly to yield an approximate flat power spectrum from 30 to 80 Hz. The peak levels of the looped wave file ("LoopedBurst32To80HzV2Mod.wav") are +27,972 and -30,000 counts, with an RMS level of 5080 counts. The crest factor of the 10-second looped signal is 15.5 dB [= 20 * log(PEAK_count/RMS_count) = 20 * log(30000/5045)], while the crest factor of a single burst is 8.6 dB.

Test Technique:
The composite bass tone-burst test track is intended as a test signal to assess the maximum peak output capability of subwoofers. The subwoofers can be located in a standard test environment or "in situ" in a listening environment such as a room or vehicle. Just turn it up until it just starts sounding bad or the distortion reaches a specific threshold and then note the max SPL. The signal covers the whole bass range from 30 to 80 Hz but is greatly attenuated at higher and lower frequencies. Distortion is easy to detect subjectively and/or objectively! **NOTE:** If you use this to drive a power amp from the headphone jack, make sure you have enough gain to actually drive the amplifier to clipping.

TIME WAVESHAPE (Single Burst): Length = 0.2057 Secs (9,072 Samples at 44.1 kHz)
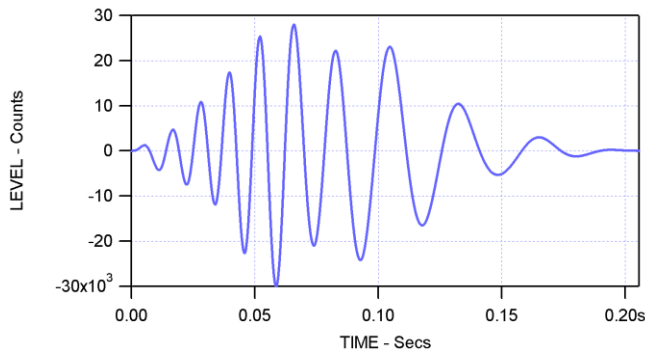
POWER SPECTRUM
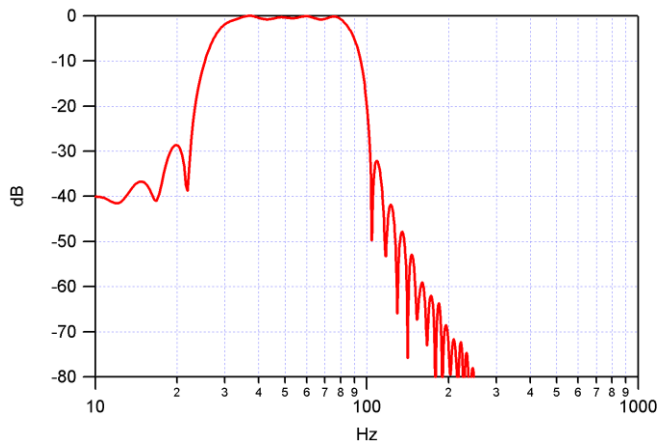
TIME WAVESHAPE (Looped Signal): Length = 10 Secs (441,000 Samples at 44.1 kHz)