Test Waveforms

These folders contain test waveforms (all in .wav format) with several possible uses. All files come in both a 48kHz and 96kHz versions. They are based on the concept of spectral contamination in the presence of a noise or music like stimulus. The first set consists of four multi-tone files where there are 30 tones at 1/3 octave spacing with random phases. In the time domain it sounds a little like one big 6 handed chord. There are both a general use, flat, version and a version with RIAA pre-emphasis applied which can be used as a simple test for RIAA conformance.

The numerical noise filling the space between the tones is below the noise floor of a 24 bit DAC so any imperfections in the signal path will fill the space between the tones with IM/THD components. The files with a flat spectrum are generally useful for DAC/ADC testing as well as any amplifier/speaker chain. It may be difficult to find a DAC or ADC to reproduce these without excessive spectral contamination of their own, in that case a comparative analysis might be useful. These file are designed to be analyzed with a 65536 point FFT and with no (rectangular) windowing though some window functions have low enough leakage to still be useful. With any other length FFT the relationship of the tones to the FFT bins is lost.

The next two folders contain pseudo-random noise waveforms containing equal energy at every FFT bin but again with random phase so the resulting time domain waveform looks and sounds like random noise. Each waveform comes in versions with all tones and with four logarithmically spaced gaps to again do the spectral contamination test, and with or without RIAA pre-emphasis for a total of eight files.

Since the RIAA pre-emphasized files see the full 40dB of the RIAA curve and do not take into account that the spectral content of most music rolls off with frequency, they are an extreme test of your signal path.