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Subject: Total Harmonic Distortion

Posted by [moss24](#) on Sun, 03 Sep 2017 16:39:28 GMT

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This measures the total amount of distortion from the original audio signal. Does a higher distortion rate mean less quality of the signal?

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Subject: Re: Total Harmonic Distortion

Posted by [Wayne Parham](#) on Mon, 04 Sep 2017 16:32:18 GMT

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Yes, higher distortion indicates lower quality. Some types of distortion are worse than others though, and THD doesn't show the ratios, only the total amount.

Speakers have a pretty predictable spectrum because of their motor structure. For example, you can assume that the amount of distortion will drop at higher harmonics. But certain configurations tend to reduce even harmonics. So knowing what harmonics are high and what are low gives a better indication of how clear the speaker will sound. Odd harmonics (like 3rd and 5th) sound "grungier" than even harmonics.

Amplifiers tend to generate higher harmonics when they are overdriven, and those are much more objectionable. They are both higher in frequency and higher in amplitude. Tube amps tend to clip a little more gracefully.

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