



Tech Notes

August 2017

EarBuddy

## EarBuddy

### The friendly tech note...

The **EarBuddy** gets rid of hiss and buzz and improves audio quality.

It works on the same principals as the iFi audio iEMatch released in 2016 but its functionality has been adapted to suit a wider audience. Its complex name is an 'attenuator' which just actually means a device which reduces the strength of an audio signal.

For those of you into the mysterious technological workings of the iEMatch, you can find out more in the Tech Notes at [https://ifi-audio.com/wp-content/uploads/data/iEMatch-Tech-Notes\(June17\).pdf](https://ifi-audio.com/wp-content/uploads/data/iEMatch-Tech-Notes(June17).pdf)

However, if you like the background tech stuff, but not quite as much as some of us, then read on. And if you are a newbie, just joining the iFi revolution, these quick explanations might help!

**Bits** In digital audio using pulse-code modulation (PCM), bit depth is the number of bits of information in each sample, and it directly corresponds to the resolution of each sample - imagine pixels on a computer screen or pieces in a jigsaw.

**16Bit audio** CDs have digital audio that has a bit depth of 16Bits and a sample rate of 44.1 kHz.

**Dynamic range** In music, this is the difference between the quietest and loudest volume of an instrument, part or piece of music.

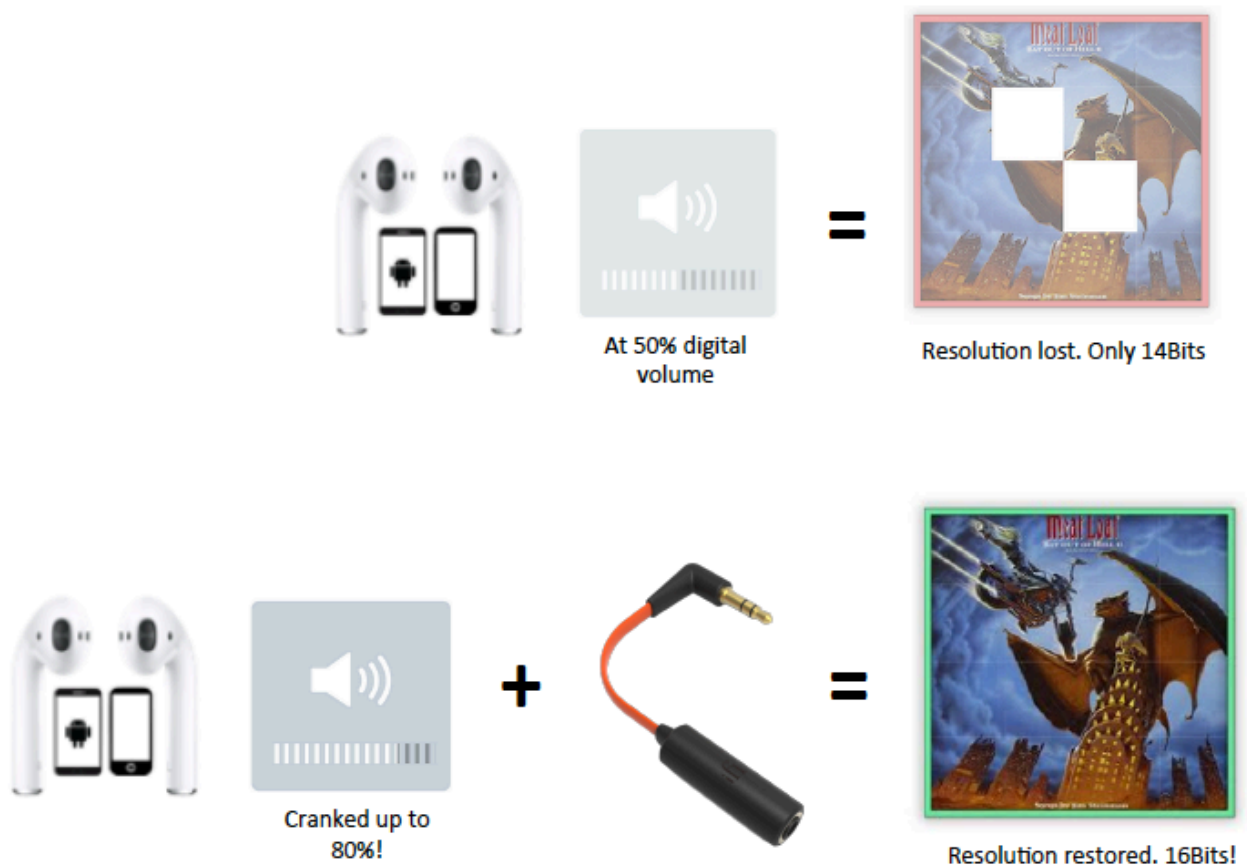
### EarBuddy regains what the (digital) volume loses

Basically, a smart device like your iPhone or tablet or a DAP (Digital Audio Player), uses a digital volume control and most of us typically use just 60% of the available volume.

On most headphones or IEMs (in-ear monitors) any louder than 60% would blow your head off. And it normally increases annoying background noise in the form of hisses or hums.

The trouble with this is that you are not getting the sound quality that you expect/deserve.

Dynamic range is effected so the distinction between the quietest and loudest parts of the music is blurred. And resolution is distorted – it’s like a jigsaw puzzle with missing pieces – you just don’t get the complete picture.



### In an everyday context...

If you are streaming music via Tidal or Spotify, you pay for and expect to be listening to music at 16Bits – CD like quality.

What actually happens, because you aren’t listening at optimum volume, is that you lose 2Bits of resolution, so you are only listening to 14Bits – less than CD quality.

Now, add in the EarBuddy and crank up the volume.



The EarBuddy 'moderates' the digital volume with an adjustment of -15dB. And at same time gets rid of annoying hisses or buzzes.

Effectively, you are allow your device to run at a higher volume without going deaf! You immediately get the 2Bits back and benefit from better resolution and an increased dynamic range, vocals may seem clearer and background hiss has disappeared.

It's a bit of iFi magic. Give the EarBuddy a try and get your Bits back.

