

Hertz

## ByteNoise

### Hertz

Named after physicist Heinrich Hertz, Hertz is a measurement of how often something happens. Specifically, it's the number of times something happens every second. For example, say you have a piano string tuned to produce the note of A4. When you strike it, it will vibrate 440 times every second. This is a frequency -- literally, how frequent the event of it moving back and forth is -- of 440 Hertz, or 440Hz for short.

LFOs can move back and forth very slowly. If one repeated every two seconds, you could say it has a frequency of 0.5Hz, meaning it manages to make another half of a cycle every second.

The phrases Hertz and frequency only make sense when applied to something that happens again and again. An [envelope](#) only plays out once every time a note is pressed, so it doesn't have a frequency and cannot be measured in Hertz. Oscillators continually move back and forth, so they can be measured in Hertz.

The human range of hearing is generally thought to span from about 20Hz to about 20,000Hz. As you may gather from kilograms and kilometres, kilo means a thousand, so we can call 20,000Hz 20 kilohertz, or 20kHz for short. So to put it another way, the human range of hearing is roughly 20Hz to 20kHz.

