

### 4.6.1: Introduction

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Healthy young humans can hear sounds in the range of 20 Hz to 20 kHz although humans generally cannot vocalize across this entire range. The object of this exercise is to become familiar with the range frequencies produced by the human voice as well as the effect of additional harmonics or overtones. It is these overtones, collectively referred to as the timbre, that make dissimilar sounds at the same pitch sound different as well as appear different on an oscilloscope.

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