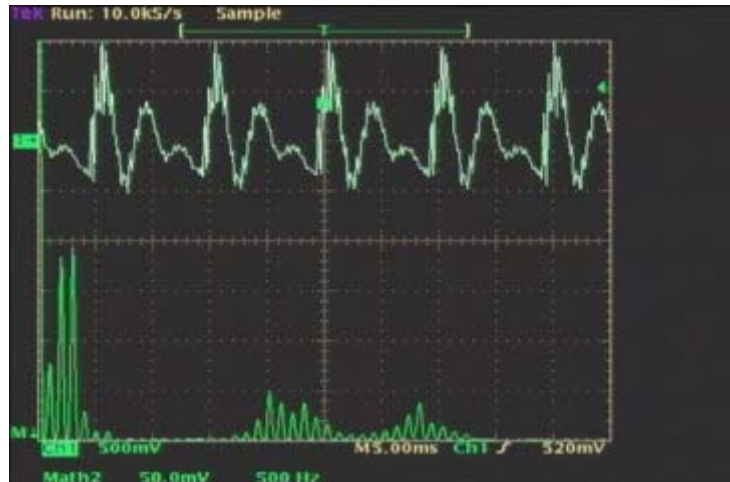


Question #328

The picture below show the wave shape and the spectrum of the vowel sound "ee" sung at a frequency of about 100 Hertz by a male voice. Click on the picture to hear the sound and see its wave form and spectrum created.



The question this week involves how the spectrum of this sound changes as the frequency of the voice is raised from 100 Hertz to 200 hertz, about one octave. For example, the spacing between the individual harmonics might increase, decrease or remain about the same. Further, the location of the formant regions might increase, decrease, or remain about the same.

When the frequency of the voice seen and heard in the figure above is increased from 100 hertz to 200 hertz:

Part 1: The spacing between harmonics will:

- (a) increase.
- (b) decrease.
- (c) remain the same.

Part 1: The frequencies of the formants will:

- (a) increase.
- (b) decrease.
- (c) remain the same.

Click here for [Answer #328](#) after November 17, 2008.

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For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).