Answer #271

The answer is (b): it will sound like noise with a tone superposed, as can be heard by clicking your mouse on the photograph below.



The resonance of the tube enhances frequencies near the resonant frequency of the tube. The tube functions as an open tube of length about 64 cm (including the end correction for the top end), which is about 540 Hz. The sound of the noise persists, however, because the tube does not have a very high Q (resonant quality factor) and because noise frequencies over a large range of the audible frequency band are present with significant amplitudes.

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For questions and comments regarding the *Question of the Week* contact <u>Dr. Richard E. Berg</u> by e-mail or using phone number or regular mail address given on the <u>Lecture-Demonstration Home Page</u>.