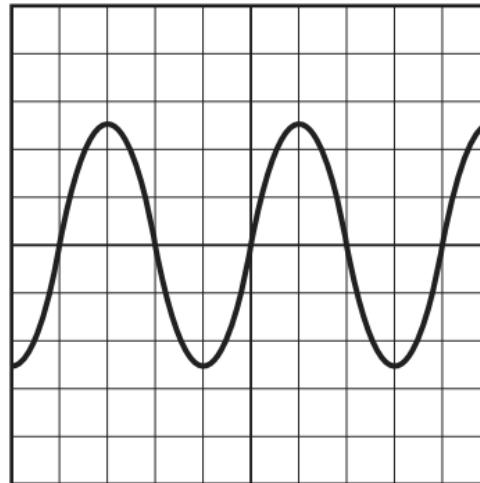


- 23** A sound wave is detected by a microphone. The output from the microphone is connected to the Y-input of a cathode-ray oscilloscope (c.r.o.). The trace on the c.r.o. is shown.



The time-base is set at 0.20 ms per division.

What is the frequency of the sound wave?

**A** 1000 Hz

**B** 1250 Hz

**C** 2000 Hz

**D** 2500 Hz

- 24** A bat flies directly towards a fixed ultrasound detector at a speed of  $25.0 \text{ m s}^{-1}$  emitting pulses of