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- (b) The wave form of a clarinet shows much more complicated wave and the spectrum diagram gives the amplitudes of the fundamental and the harmonics

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(a) In addition of a fundamental and its second harmonics gives 'Complex' Wave. The exact shape of this resultant depends on the relative amplitude and phase of the fundamental and second harmonic. With complex sound wave the ear ignores the changes of the phase, so that even though the phase relation of the two components alters and the wave shape changes there is no difference in the tone quality.

- (c) (b) The complex wave produced by adding a third harmonic to its fundamental has quite a different shape from that shown in (a).

- (d) In those cases where the frequency of the overtones are not exact multiple of the fundamental, the elemental tones are indicated by the term Inharmonic partials.

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