

## Signal

- An electric quantity (voltage or current) whose fluctuations represent coded information.
- If a regular 400 Hz sound wave strikes a microphone, then the microphone will produce a regular 400 Hz electrical wave. The voltage (or current) will pulse 400 times per second, with each pulse being identical to every other pulse.
- But sound waves aren't single pitch. Beyonce's voice, for example, is made up of many different pitches and harmonics (overtones), as well as changes in loudness. So sound waves tend to produce very erratic electrical patterns.
- But the **pattern** of the sound (both frequency and pressure) is exactly analogous to the **pattern** of the electrical output (both its frequency and amplitude). So the **shape** of the electrical output is known as an electrical signal because the information imbedded in it (frequencies and amplitudes) can be retained, stored, retrieved, amplified, transmitted, and fiddled with – and still we can recover the original pattern and recreate the original pattern of sounds!