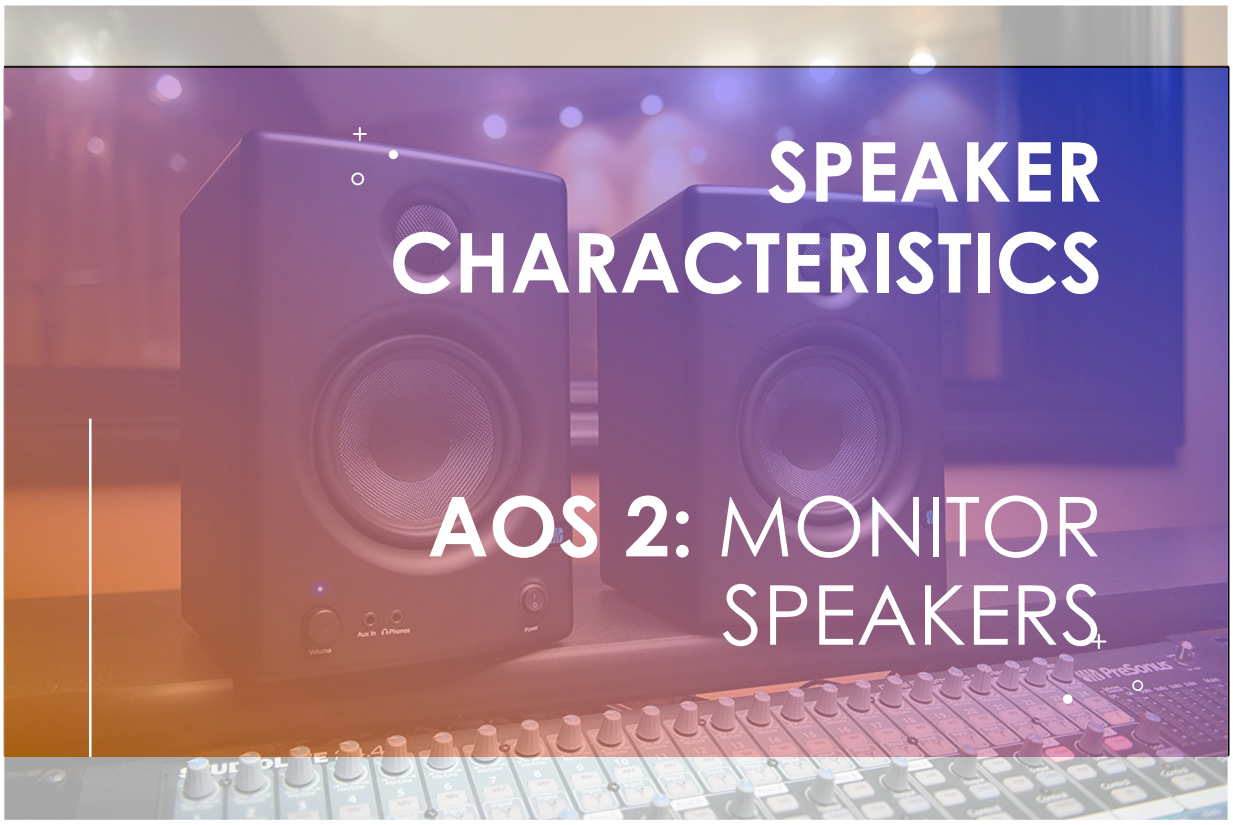
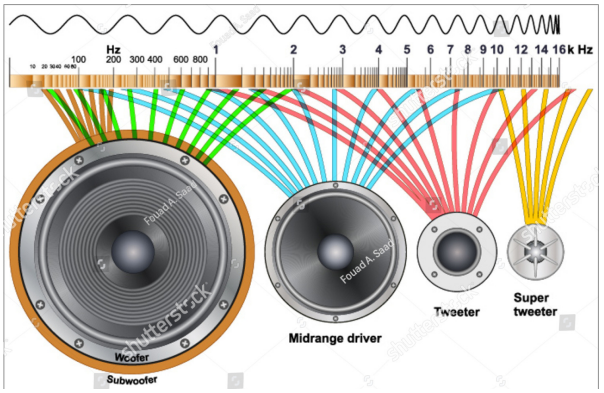

SPEAKER
CHARACTERISTICS
AOS 2: MONITOR
SPEAKERS

Monitor Speaker Characteristics

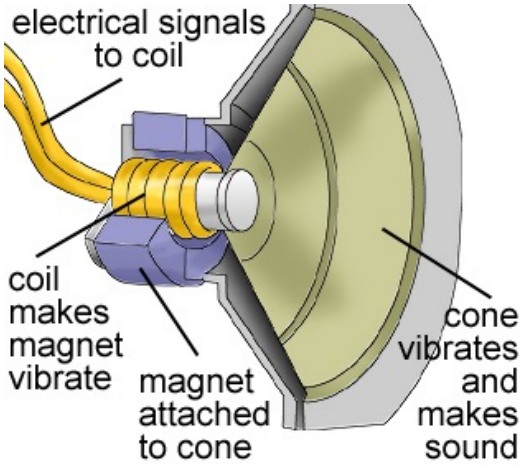
- Studio monitors usually have two **separate** speakers within them
  - **Tweeter**
  - **Woofer**
- Some audio systems also use **sub-woofers**
- A **crossover** is used to separate the signals for the speakers



- Monitor speakers have a relatively flat frequency response
  - They don't emphasise particular frequencies
- The tweeter is designed to handle higher frequencies (2kHz – 20kHz)
- The woofer us designed to handle everything below 2kHz
- Sub-woofers handle frequencies below 100Hz
- Crossovers work as a series of filters
  - HPF for tweeters
  - LPF for sub-woofers

How Do Speakers Work?

- Like dynamic microphones, speakers work using **electromagnetic induction**
- Speakers are also **transducers;** they convert **electrical** energy into **sound** energy



Mix Translation

- If a mix is carried out using speakers with **colouration**, specific frequencies can end up either **lacking** or **over-emphasised**
- It is important to check a mix on **various** monitoring devices to ensure the frequency balance is in tact

- If the speaker plays back certain frequencies louder or quieter than they should be, an engineer is likely to compensate for this in a mix
    - This issue is referred to as 'translation'
- As well as regular monitor speakers, mixes should be checked on headphones, speakers with a pronounced mid-range and systems with sub-woofers