

# **HEARING AND LISTENING**

## Speaker notes

- Before we get to mixing we have to spend some time talking about hearing and listening. How does the technology we're using effect our ability to hear and understand? Also, what effect does the room have on what we hear? - What are some issues that could come up if we have a poorly setup mixing environment?

# FAMOUS STUDIOS AROUND THE WORLD

- Hans Zimmer's Music Lair
- Electric Lady Studios
- Real World Studios
- Abbey Road Studios
- Blackbird Studio
- Ocean Sound

## Speaker notes

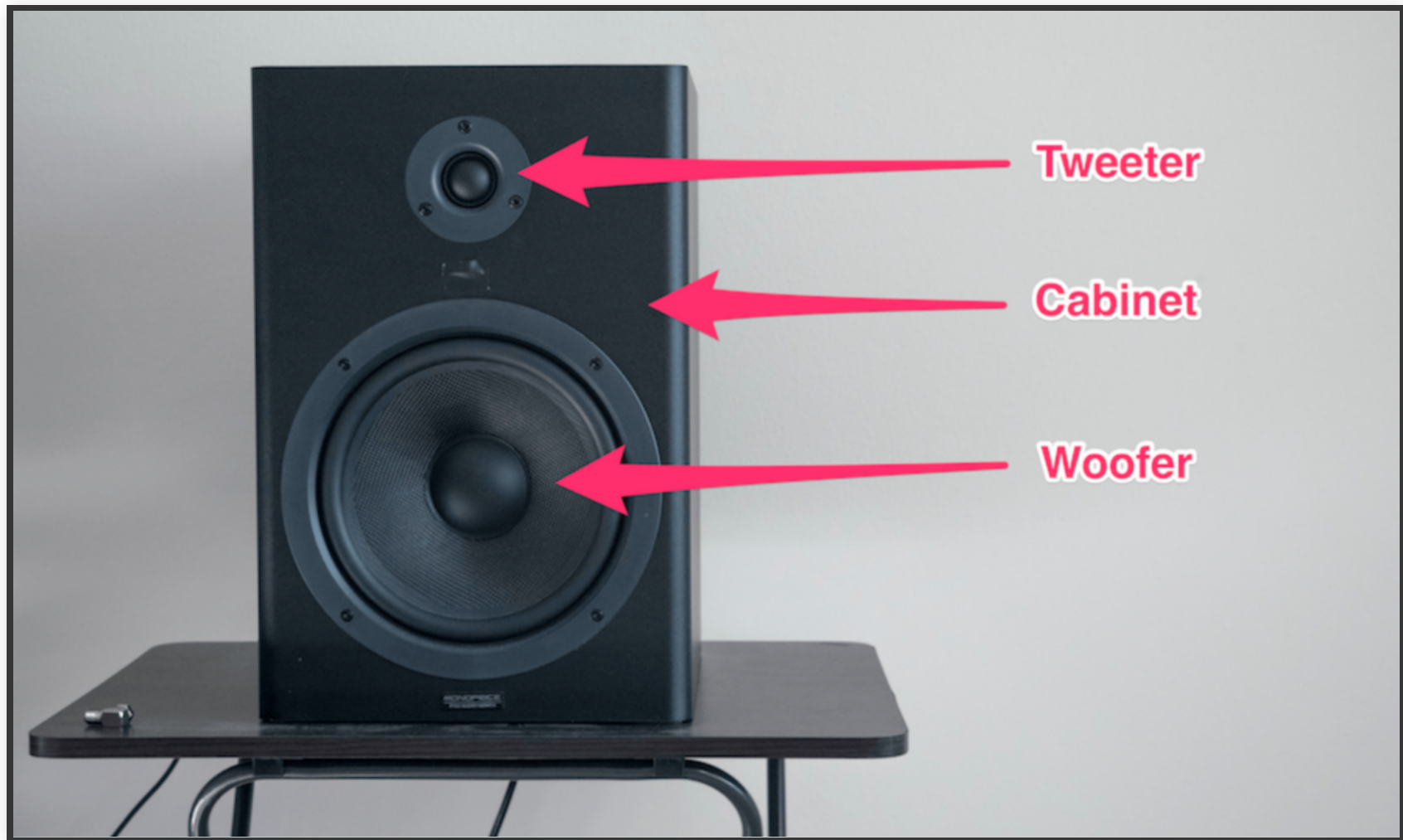
- While most professional engineers have access to the best equipment and purpose built rooms, they also have method of getting the best results when moving from one room to another. - Being able to interpret what you're hearing regardless of the environment is the most important part of mixing. - If you want to be a great musician, hearing and listening are the most important things, its no different in engineering.

# REAL WORLD STUDIOS

SOS visits Real World Studios



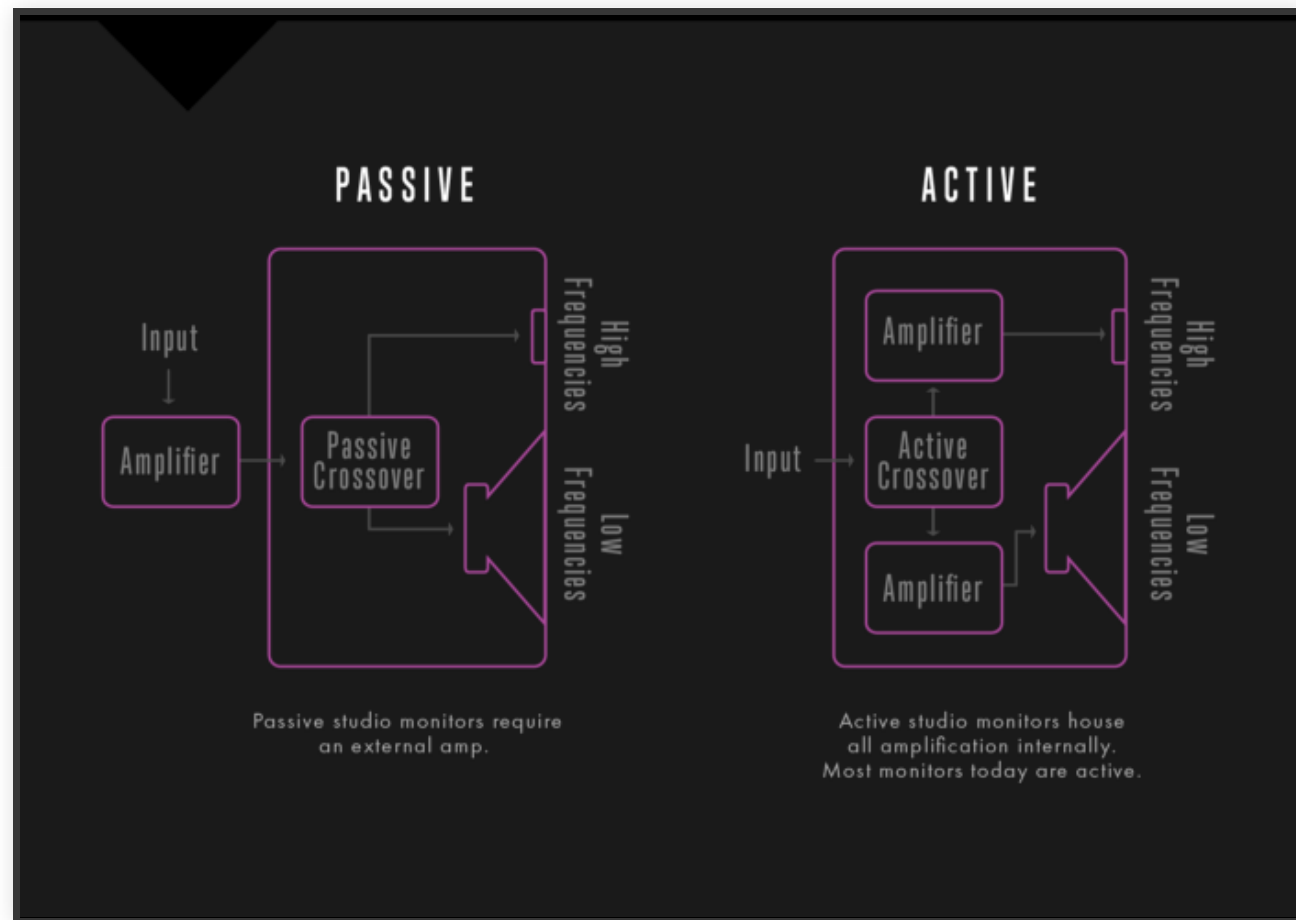
# STUDIO MONITORS



## Speaker notes

- cabinet - what surrounds the speaker electronics, can be made out of various materials, like metal, wood, or plastic. - two drivers - tweeter
- Tweeters are often cone- or dome-shaped, again constructed from a wide range of materials. They are responsible for producing high frequencies, usually starting at around 2 kHz. - woofer - These are generally cone-shaped and responsible for producing low and mid-range frequencies in monitors with two drivers (called two-way).

# ACTIVE VS PASSIVE





## Speaker notes

- passive - requires an external amplifier to amplify the input signal before entering the monitor. This amplified signal is then sent through a series of electronic components within the monitor called the crossover network. - active - does not require external amplification, as amplifiers are housed within the cabinet. The input signal entering the monitor passes through the crossover network first, after which each band is separately amplified before being sent to the relevant drivers. - Active speakers are much more convenient to use, as they require no external equipment to be used.

# NEARFIELD MONITORING



### Speaker notes

- Our monitors can be the most important part of our mix environment. They are something that it makes sense to spend a bit of money on.
- generally have smaller drivers and are placed closer to the listener (around 2-3 feet away). Their proximity means that more direct sound from the monitor will hit the listener's ears, rather than reflected sound from surfaces in the room. Near fields will seem to increase the ratio of direct to reflected sound.

# WHAT ARE THE MAINS FOR?

*“There just aren’t many situations where the main monitors sound all that good,” says Chuck Ainlay.  
“The mains in most studios are intended primarily for hyping the clients and playing real loud.”*

*“I don’t use the big monitors in studios for anything,” says Nigel Godrich, “because they don’t really relate to anything.”*

# WHICH MONITORS TO PICK?

- ADAM Audio T5V 5 inch Powered Studio Monitor
- KRK ROKIT 8 G4 8 inch Powered Studio Monitor
- Behringer Truth B2031A 8.75 inch Powered Studio Monitor
- Yamaha HS8 8-inch Powered Studio Monitor Pair - Black
- Other suggestions from the book

## Speaker notes

- It's also a good idea to avoid "hi-fi" speakers, such as those used in home stereo systems. - active are good - a lot of it is budget and personal preference

# SPEAKER STANDS AND OTHER MOUNTS

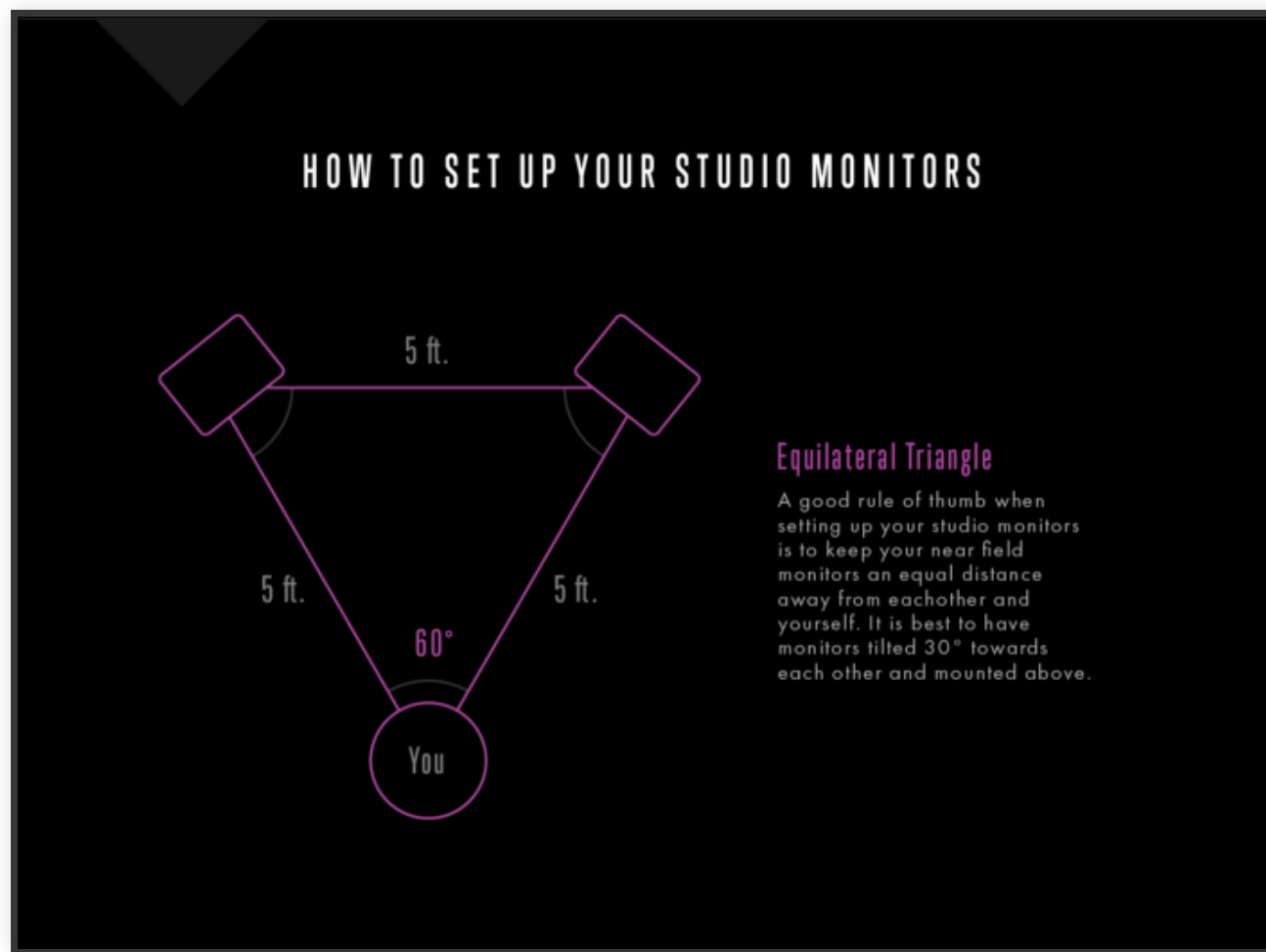
- Stand recommendations
- IsoAcoustics
- Auralex MoPAD Monitor Speaker Isolation Pads

## Speaker notes

- the speaker cabinets should be as firmly fixed as possible, because if they move at all in sympathy with the woofer excursions it'll mess with how the low end of the mix is represented. How exactly you decide to mount the boxes will depend on the physical limitations you have to work with in your particular setup, but my recommendation is to use dedicated speaker stands, as these typically give a much better sound than desks and shelves and can be moved around the room more easily than heavy-duty wall brackets.



# HOW TO SET UP THE MONITORS?



## Speaker notes

The first step in setting up studio monitors is check if they are a good distance apart. A good rule of thumb is to have them an equal distance apart from each other and also to have your seat to be that same distance from the monitors. The angle of the monitors can also make an impact in your sound. Studies show that having the speakers at a 30 degree angle will work best for listening purposes.