Choosing the Right Microphone

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Pre-Amble

When you've taken the plunge to record your own podcast one of the first items on your shopping list really should be a good quality microphone. This doesn't necessarily need to break the bank, after all, a well treated room will significant improve your audio recordings as opposed to adding an extra £200 onto an already serviceable microphone. When you're in the market for microphones, there's a bunch of jargon you need to get your head around first. This won't be an in-depth discussion on the topics, but enough to understand what they mean and how they affect the microphones in your shopping basket.

Glossary of terms

- **Dynamic** - A type of microphone which operates using air-pressure resistance.
- **Condenser** - A type of microphone which utilises electrical currents from *Phantom Power*.
- **Hybrid** - Technically my own term for *Dynamic* microphones which can benefit from the input of *Phantom Power* such as the *Aston Microphone Stealth*.
- **Phantom Power** - usually a switch found on most audio interfaces which activates a 48v current to power electrical components in *Condenser* and *Hybrid* microphones.
- **Polar Pattern** - The Polar Pattern of a microphone represents how the microphone listens to sound, and from what 'general' direction it can hear.
- **USB Microphone** - As the name suggests, a USB microphone is a plug-and-play microphone with some form of built in Analogue-to-Digital (ADC) converter, forgoing the need for an audio interface.
- **Sensitivity** - Usually accompanied by numbers and the measurement `dBV` or `mV/Pa`. Essentially this tells us how quiet a sound the microphone can pick up (or conversely how loud you need to be to create listenable sound). The lower the negative number the less sensitive a microphone is in `dBV`. Conversely `mV/Pa`, the higher the number the more more sensitive the microphone.

- **Frequency Response** - How a microphone captures the intensity of individual frequency bands, some frequencies may appear louder, or 'boosted', compared to others.
- **Off-Axis** -
- **Proximity Effect** -

Consider Your Applications

First and foremost in your mind should be how you intend your podcast to sound. Is it going to be group discussion, is it going to be journalistic, is it going to be solo, are you planning on a close-sounding NPR-style, or is this going to possibly get loud. These questions may sound arbitrary at first, however can have implications down the line if the ultimate purchase is of the wrong polar pattern, for example.

Remember Sound Reflects

I should clearly state that sound emits from a source-object in radials, much like dropping a pebble in still water. Therefore, the sounds in your room are constantly bouncing off walls, furniture, and anything else you might have in there. Just bear that in mind going forward. To get the cleanest recordings you need the quietest place.

Polar Patterns

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  ### Cardioid

  The most common *Polar Pattern* used for podcasting and broadcasting is the *Cardioid*, named after the apparent heart-shape it hears. Cardioid Polar Pattern From the above diagram, you should be able to see that *Cardioid* handles sound extremely well from the front, whilst providing a good *Off-Axis* rejection of sound. What this translates to in the real world, is that sounds coming from behind the microphone are dampened, and less likely to be heard in your recordings, such as typing keyboards. Cardioid microphones also suffer from the *Proximity Effect* and should be positioned slightly further away from your sound source to get a more neutral and representational sound.

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  ### Omnidirectional

  Less common in the broadcasting and podcasting world, *omnidirectional, or omni* microphones can 'hear' in a 360o arc, great for catching discussions from around the table. Omnidirectional Polar Pattern Because of its

construction, *Omnidirectional* microphones have little *Proximity Effect* issues, and can be placed much closer to a sound source.