

# Setting up a School Studio

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# Introduction

- In this presentation we will look at how to set up a basic recording studio.
- This is the technical set up – obviously the environment and room set up are really fundamental for great results too.
- Alternative brands/manufacturers are available to all options I give.

# Mac vs PC

- Macs are typically well suited to music production, but they also come with a higher price tag, and they're less commonly dealt with – so there might be some tuition on how to use the Operating system required, rather than just jumping onto a PC.
- PCs are typically more affordable and readily available, though not all software is PC compatible (such as Apple's Logic Pro X).
- The differences are probably less now than ever before.

# DAW Choice

- The choice of your digital audio workstation (music software), is really important. There are three main options that are used within the professional industry which are:
  - Avid Pro Tools
  - Apple Logic Pro
  - Ableton Live

# DAW Choice

- Avid Pro Tools is available for PC and Mac, and works on a monthly or yearly subscription basis. It's the industry standard software for recording studios, but isn't hugely intuitive to begin with. It's less friendly for electronic music.
- Apple Logic Pro is only available for Apple Macs, and is £199 (and comes bundles with a lot of other great software for students such as video editors). It's well suited to beginners, and caters to a wide variety of music genres, as well as film music.
- Ableton Live is available for both Mac and PC, and there are two different versions, with different levels of content included – both will work fine for most people's needs, but the Ableton Suite includes more software instruments and pre-made loops. Ableton is very well suited to electronic or pop music.

# Audio Interfaces

- Audio interfaces are devices capable of converting audio signal from a microphone or guitar/synth into a digital signal so it can enter a computer. Audio interfaces usually connect to a computer via a USB cable.
- The audio interface dictates how many individual channels of audio can be recorded simultaneously.



# Microphones

- There are three types of microphones: Dynamic, Condenser and Ribbon.
- Dynamic microphones are typically rugged and reliable. They require no power or batteries to function. They essentially work like a speaker but backward, where the movement of the diaphragm sends current out of the microphone.
- Condenser microphones typically use a lightweight and more sensitive capacitor than a dynamic microphone, and require power to operate, either from an external supply or with phantom power (48V). Sonically they are capable of extended high frequencies, and are often considered to be more detailed and clear.
- Ribbon microphones are considerably more fragile and delicate than dynamic and condenser microphones, and can be damaged by phantom power. They require no power to operate, and they are typically associated with having a warm sound and smooth frequency response.

# Connectivity

- Connectivity is an important aspect of setting up a studio to get your head round. Knowing how signal flows from one place to another, as well as how everything is connected together is a really great place to start when diagnosing problems.
- There are two main cable types you'll encounter – Analog and digital. Analog cables are really simple, they're just copper wire with a couple of connectors. Digital cables are a little more complex, and can often have multiple functions.
- An example of analog cables are XLR and Jack Cables. An example of digital cables are USB or optical cables.
- XLR cables will only ever carry a channel of audio, whereas an optical cable could carry 16 channels at once in multiple directions.



# Small Set up

- Mac/PC with a DAW installed (price dependant)
- A small USB audio interface (approx. £100)
- A condenser microphone (approx. £70)
- MIDI Keyboard (approx. £150)
- A Mic stand (approx. £25)
- An XLR lead (approx. £10)
- A Jack Cable (approx. £10)
- Headphones (any)

# Medium Set up

- Mac/PC with a DAW installed (price dependant)
- A medium sized USB audio interface (approx. £400)
- A set of microphones (approx. £600)
- MIDI Keyboard (approx. £150)
- 4 x Mic stands (approx. £100)
- 8 x XLR leads (approx. £80)
- 4 x Jack Cables (approx. £40)
- Headphones (any)

# Large Set up

- Mac/PC with a DAW installed (price dependant)
- A large sized USB audio interface with external preamps (approx. £1000)
- A set of microphones (approx. £1000)
- MIDI Keyboard (approx. £150)
- 8 x Mic stands (approx. £200)
- 16 x XLR leads (approx. £160)
- 4 x Jack Cables (approx. £40)
- Headphones (any)

# Small Set up



USB



USB



Headphone  
Cable



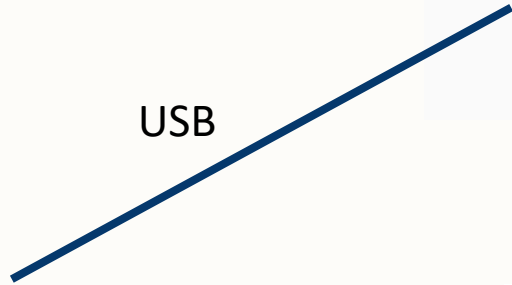
XLR



# Medium Set up



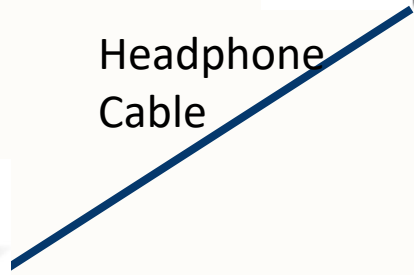
USB



USB



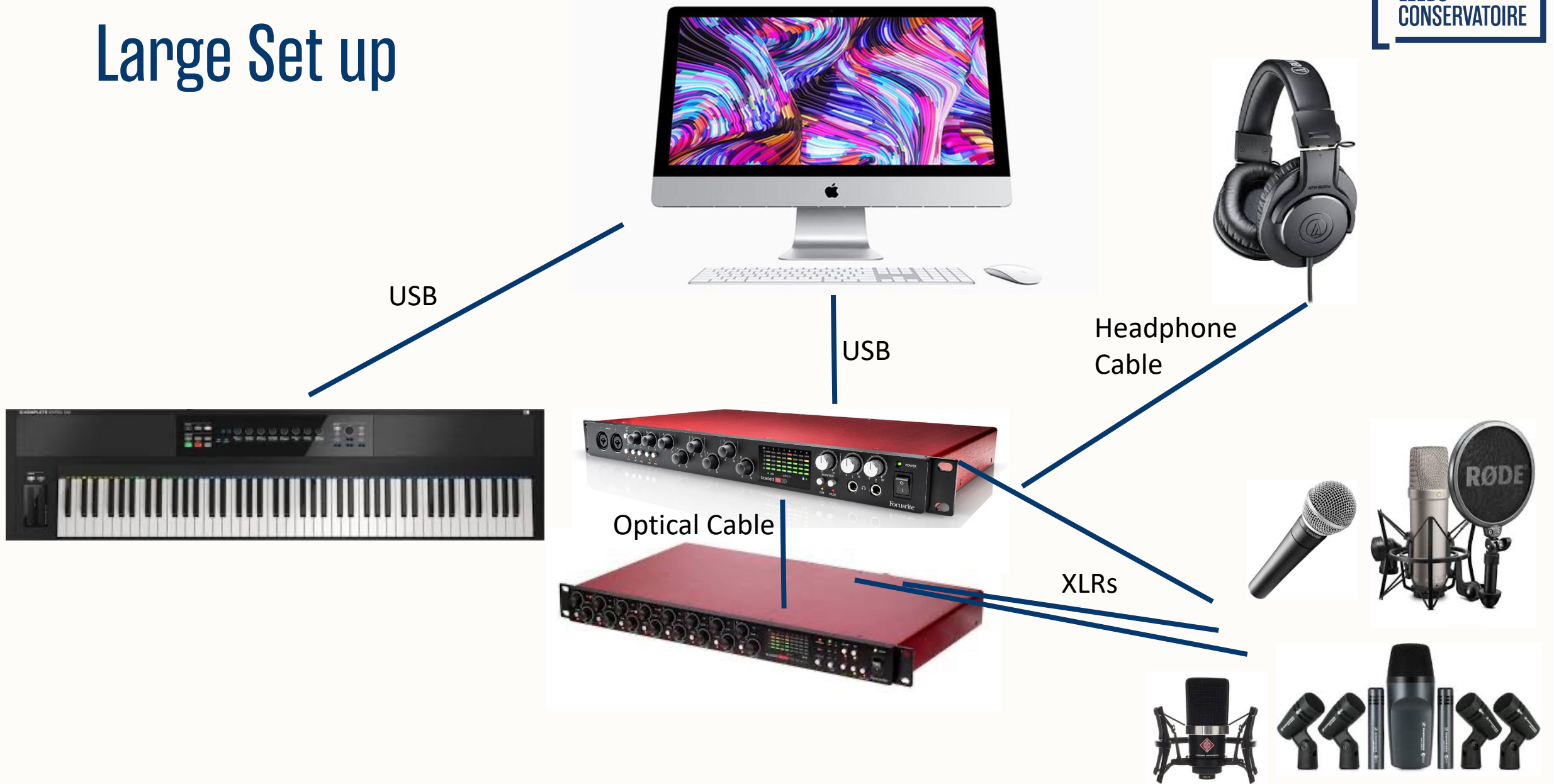
Headphone  
Cable



XLRs



# Large Set up



# More Cost Effective Options

- There is a free online DAW called Bandlab, which offers limited functionality, but is more than capable of recording a few channels of audio and applying some modest processing.
- Garageband, Pro tools express and Ableton live Intro are all free versions of Logic, Pro tools and Ableton, which again offer limited functionality but may well be appropriate options for more modest set ups.

# Portable Recorders

- Portable recorders can be a really cost effective way of recording audio. Options like the Zoom H5 or H6 can record high quality audio to an SD card, but they're a lot less inspiring for students to be creative with, and only facilitate audio recordings, without MIDI or software instrument functionality.
- Portable recorders are a solid option for recording assessments, and when combined with a DAW so the audio can be processed and mixed, they can be a very useful tool.



Thank  
You