Audio Production Basics & Equipment

Audio Production

Audio is perhaps the most important aspect of any media production. Whether its part of a video or film, online tutorial, or stand-alone audio project. Consistent, quality, audio will make it possible to effectively convey your message to the audience and keep them engaged. Poor video can always be covered with B-roll and images in post-production, but it's very difficult to correct poorly recorded audio after the fact. This tutorial will be a guide of best practices when recording audio, and will also help familiarize you with the audio equipment available at the Digital Media Studio.

Best practices:

The first thing you will want to do when recording audio is to find a quiet place to record. You will want to avoid rooms with lots of ambient sound such as air conditioning or heating vents, fluorescent lights buzzing, or natural echo. The ideal location would be room with low ceilings, few windows, and plenty of carpeting to absorb the sound. Closing windows & doors, turning off cell phones, and avoiding noisy clocks or furniture will all help reduce the amount of background noise. Microphone placement is also important to consider, both to avoid popping, and to ensure the microphone is picking up your voice clearly. Generally, you will want the mic to be around 6-8 inches from the mouth of the speaker. The optimal distance and positioning however depends on the microphone, and may require some trial and error. That's why we always recommend recording a quick test first, and then playing it back, to make sure your levels sound good before recording the final product. Some microphones are very sensitive to handling so you may want to use a desk stand to avoid getting these sounds. When making a recording, it is also important to sit or stand in a comfortable position. Sitting comfortably upright will make it easier to breathe and speak, and will make a difference in the end result. When conducting an interview its also important to make sure your interviewee is both physically and mentally comfortable as well, so take a minute or two to make sure they are at ease before beginning.

PC mics

Most laptops have a built in microphone. The good thing about these integrated mics is their high convenience. However, in terms of performance, they should be avoided as much as possible. In many older laptops, the integrated mic would pick up a lot of noise from the laptop's hard drive and fan. Newer laptops sometimes have directional microphones that are much better at filtering out that noise, but even then their frequency range is not very good. The best solution if recording to your PC is a USB microphone.

USB Mics

USB Microphones are a hybrid between professional mics and consumer mics. They offer an integrated solution that has a microphone and a sound card all in one device that connects directly to your computer's USB port. There are both dynamic and condenser mics with a USB connection on the market, they offer an excellent combination of convenience, performance, and price. We have 3 different USB mics that can be borrowed from the Digital Media Studio. One is the Snowball made by Blue. This is a very intuitive, plug and play microphone that will give you good sounding audio. It has a switch on the back that lets you choose from 2 pickup patterns. The 2nd USB mic we have is another condenser mic made by Blue called the Yeti. It features an internal gain adjustment, headphone jack and 4 different adjustable pickup patterns. The last mic is the MXL AC-404. This is a high quality boundary mic that can be used for web conferencing, recording meetings and any larger groups. It features a 180 degree coverage for great sound over a wide range.

Camera mics

Video cameras and camcorders all have built in microphones but they are not always the best choice. For instance most of these microphones are Omnidirectional, meaning that it picks up sound evenly from all directions, which makes it prone to noise coming from all directions as well. Many cameras have fans or other parts that can create a buzz while recording. Most camcorders also have Automatic Gain Control or AGC. AGC turns up the volume or gain when the sound is low, and down when the sound is high. This is fine in a loud environment, but in quiet environments high gain can create a hum or buzz. While these onboard microphones work, if you are serious about good audio, you may want to look at other options such as shotgun mics or lavaliere mics. We have both of these at the Digital Media Studio which can be attached to our cameras. The Shotgun is a directional mic that has a pickup pattern focused in the direction it is pointing. The lavaliere will do an excellent job of recording the person wearing it however you will find it difficult to hear anyone or anything else in the room.

Portable Digital Recorders

Digital recorders come in many varieties and in a wide range of price and quality. Most recorders have internal memory and some have slots that allow you to use interchangeable flash memory cards which allow you to store many hours of recordings. If simply being used for dictation or recording meeting a lower quality recorder would suffice. If being used to record podcasts or semi-professional content you would want to use some of the higher quality models. The one we have available at the Digital Media Studio is a Tascam recorder. The model DR-05 is an easy to use high-quality recorder with two condenser microphones for creating stereo recordings. It can record both .mp3 and .wav files and includes a headphone jack for monitoring. Digital recorders and cell phone recorders tend to pick up quite a bit of handling noise if being moved or held so you will want to keep the device stationary while recording.

Professional Studio recording

The Digital Media Studio also offers professional sound recording in the studio portion. This can be used on appointment only, when the studio is open. Mon-Fri 8-5pm. Here someone will record you and you will be able to walk away with the .wav file on a user-supplied USB drive. Call 758-5023 to make an appointment. We also have a self-serve recording studio on the Mountaintop campus. Please call 758-3059 to make and appointment.