

# RECORDING BASICS

**How To Get Good Tape**

# Welcome to Recording Basics

This collection of slides presents an overview of the aspects of preparing for and recording content that we could consider and plan for.

As Producers, there's more to think about than just hitting record. Taking the time to think about the *whole* process, and doing the work to get the best tape possible.

For support with specific gear and apps, please check out our other resources, or email [info@trentradio.ca](mailto:info@trentradio.ca)

# 5 Components of Recording/Gathering Tape

Historically, the roles required to produce radio content were split into admin, tech & talent. Even now these roles exist in radio production - but we're working on creating independent media here...so we need to take on all the roles.

1. Planning - Admin, Creative, Tech
2. Setting Up - physical space & preparing your "sound source"
3. Sound Check - record something & listen to what you get. Make sure you are recording when you start the session
4. Doing - recording the intended content.
5. Listening Back - listening back to the whole recording to make sure you got everything.

Each stage is just as important. It doesn't matter what type of gear you use - it matters how you use it.

# You Can't Make A Bad Recording Sound Good

The job of a good sound technician is to be invisible, to never be noticed. When this isn't possible - our job is to make things sound "less worse", and you have the most power to do this effectively *before* you record your content. You cannot make a bad recording sound good, you can only make it sound less bad.

It is very important to take the time to prepare yourself, your gear, your space and your source sound *before* you record. You may think you are spending a long time preparing - but it will save you hours in post-production frustration and headaches.

Bad recordings also affect the way we hear content. If we are distracted by background noise, distortion, distance or poor mic placement - it will affect our ability to hear the content. Much like a blurry screen, small font, etc - when we are reading.

A good tech will also know when to stop mid recording to fix a problem - this is always a case by case basis, as you may interfere in the content delivery and lose some magic - however, if you can't hear it, you'll be even more frustrated with the recording afterwards.

# The Gear

Audio recording gear comes in all different shapes and sizes. Just because it is expensive - does not mean it is good. If you take the time to get to know what your gear does, and learn to place it properly, and control your gain staging effectively, you can make your gear capture wonderful sounds. The main components are:

**MICROPHONE** - There are many different types of microphones, and they have different response patterns and frequencies. Microphones with big diaphragms are good at capturing low frequency sounds. Microphones with small diaphragms are good at capturing high frequency sounds. Always test out your microphone to hear what it sounds like, and the directional nature of the way it picks up sounds.

**POP FILTER & STAND** - Most vocal microphones have a “pop filter” built in, but when you are using USB/analogue condenser microphones, it is helpful to purchase or make a “pop filter”. Basically, this is a screen that prevents your breath from moving the magnet in the mic quickly - because when that happens, it creates a “pop” sound. Hold your hand in front of your mouth, and say “potato” (no, really - do it). Did you feel the air from your mouth against your skin? A pop filter stops that from hitting the mic.

A microphone stand is useful because it minimises the noises made from handling the device, and reduces table noise (putting cups down, tapping fingers, etc). If you don't have a stand - consider using a sock or scarf between your hand and your mic/device, or to place it on if you plan to put it down on a table.

**RECORDING DEVICE** - You can purchase a handheld recording device, use your computer or your phone. No two devices are made the same, so get to know how your device works - where to turn up and down the microphone and headphone volume controls, what kind of options you have for file formats (mp3, wav, m4a).

You will want to find and become familiar with the following controls:

POWER, HEADPHONE VOLUME, MICROPHONE VOLUME, PLAY, PAUSE, RECORD, STOP, SAVE, EDIT.

**HEADPHONES** - **The most important piece of gear!** They don't need to be fancy - but you should find a pair you like, and use them consistently while you are learning how to trust your ears and place a microphone. Your ears and headphones can be the one constant in a world of variables, that will help you have confidence in your recording projects and physical set up. *Always wear your headphones during your recording sessions* - sometimes what our device can hear is different than what we are hearing (our ears are in a different place than the microphone is!).

If your recording device does not allow you to monitor during the recording process - take the time to record the space in advance, and be sure to do a sound check with your source sound \*before\* you record your intended content.

**EDITING PLATFORM/PROCESSING** - We will focus on this aspect next week - but we need somewhere to mix and edit out recordings. This can be an analogue platform like a mixing board (what we would use live in the studio), or it can be a digital program on our computers. We will be focusing on how to use Audacity & Soundtrap in this class. They are both free - Audacity you will need to download onto your computer, and Soundtrap is web based.

# Microphones

Vocal Microphone,  
SHURE SM 58



Instrument Microphones,  
SHURE SM 57 & SM Beta 57



Large Diaphragm Dynamic Mic -  
EV RE20 - this is a pretty  
standard analogue studio mic



Condenser Mic for distance,  
AKG Shotgun Microphone



Built In Mic On your  
Device or Computer



USB Condenser Mic

# Analogue Cables

There are many different analogue cables, you do not need to memorise these - however, you do need to pay attention to what type of cable you have, and what type of cable you need.



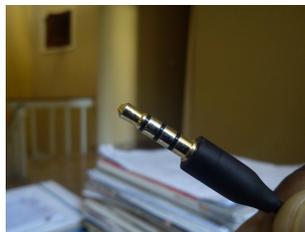
XLR or Mic  
Cable



1/8 inch (mini)  
stereo cable  
(tip/ring/sleeve)



1/4 inch mono  
cable  
(tip/sleeve)



1/8 inch TRRS (3 pole  
mini)  
phone/headset cable  
(tip/ring/ring/sleeve)



1/4 inch stereo  
cable  
(tip/ring/sleeve)

PLUG vs JACK: The plug is the end attached to the wire, and the jack is the outlet where you plug the wire into.

Each ring on a plug is attached to a wire inside the cable sleeve. They carry different signals back and forth through the wires.  
(Mono/Stereo/3chan/4chan)

# The Space

If you have control of your recording environment think about (and set up) the following things:

- 1) Turn off fans, radios, phone ringers. Try not to set up a microphone near a fridge or heating vent...or any other appliance that makes noise.
- 2) Set up away from doors and windows - to minimise outdoor/background noise. (especially in the summer when windows are open)
- 3) Set up a comfortable space to sit, where you have enough room for your notes and gear, are facing your guest, and you can comfortably make eye contact.
- 4) If you are sitting at a table, make sure that the microphone has a “buffer” between itself and the table top to reduce ambient noises.
- 5) Set up in a way that will be comfortable for you to hold (or place) your microphone/recording device for an extended period of time.
- 6) Avoid hard surfaces such as windows and empty walls, avoid large rooms - they will produce echoes and reflect the sounds. Many people literally “go into their closet” to get a studio type sound for their podcasts and radio shows.
- 7) Avoid high-traffic areas. Consider making a sign that says “recording in progress” to inform others to be quiet/considerate, especially if you are in public.

# Sound Check & Tech Talk

You've just become the expert because you are holding the recording device in your hand. Fancy that! Your guest doesn't know that you don't know what you're doing...and they don't really know what to do either! You need to talk about the tech - explain what you need from them...and - if something goes sideways in the middle of the recording, it is always a better idea to take 3-5 seconds to address the problem than to end up with 20 minutes of poor quality/distracting/unusable tape.

You need to create a relationship with your guest, and there are 2 basic steps to this.

- 1) Explain what will happen, what you need them to do (turn off their phone, close a door behind them, speak clearly, get closer to the mic, wait for the mic to be in front of their face), and how you will communicate with them.
- 2) Do a sound check. Take a moment to record about 30 seconds of the set up - ask your guest to say a few words (or, if it is an instrument, play a few notes) - always a great time to get their consent recorded and then listen back. Does it sound good enough? Could it be better? The question is always the answer!

# Microphone Placement

This is basic - but SO important.

Make sure that your microphone is pointing toward the source sound.

Make sure that your microphone is close enough to your source sound so that their voice (or the instrument) sounds realistic. The proximity affects the type of sound you will get, as well as the volume of the sound.

When interviewing with a handheld device/microphone, do not just place it “equidistant” to both parties, take the time to use it like a mic - and move it back and forth between the source sounds - and take the time to talk about how this will work in advance.

Use your input volume and microphone placement in cooperation to get the sound and input level you want.

# Signal Flow / Gain Staging

The way we let the sound travel through our devices affects the type of sound we get. At each stage we have tools to increase and decrease the volume of our sound to get the best tape at the end. At each stage we want to make sure that the sound isn't too quiet and isn't too loud. When we turn up a recording, we turn up *\*everything\** that has been captured - this includes all the background noises. When we've recorded something too loud, it will be distorted, and we cannot change this by turning it down later...it will just be quieter, but still distorted.

Source Sound > Microphone/PickUp > Cables > Mixing Board/Volume Controls > [tape] > Amplifier > Speakers/Headphones.

# Etiquette & Ethics

After you consider all the gear you have, and how to make it all work, you need to once again consider your subject and the people you are working with.

Did you create a comfortable and welcoming environment?

Did you let the people around you know that you were recording?

Are you in a public space, a music venue - are the staff expecting you?

Do you have consent and approval from all parties to record and broadcast the content?

It is important to empower your subject to feel in control. They are sharing their story with you, and you are sharing their story with your listeners.

Outline possible issues that may arise, and how to deal with them - specifically empowering them to know how to say stop, and go back. Your integrity and theirs are both affected by how your recording and your subject sound.