

Audio Recording

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What's involved in Making a Good Audio Recording?

- Right recording circumstances
- Right Microphone type and placement
- Correct settings and level adjustments on recording device
- Good quality equipment

Recording Circumstances

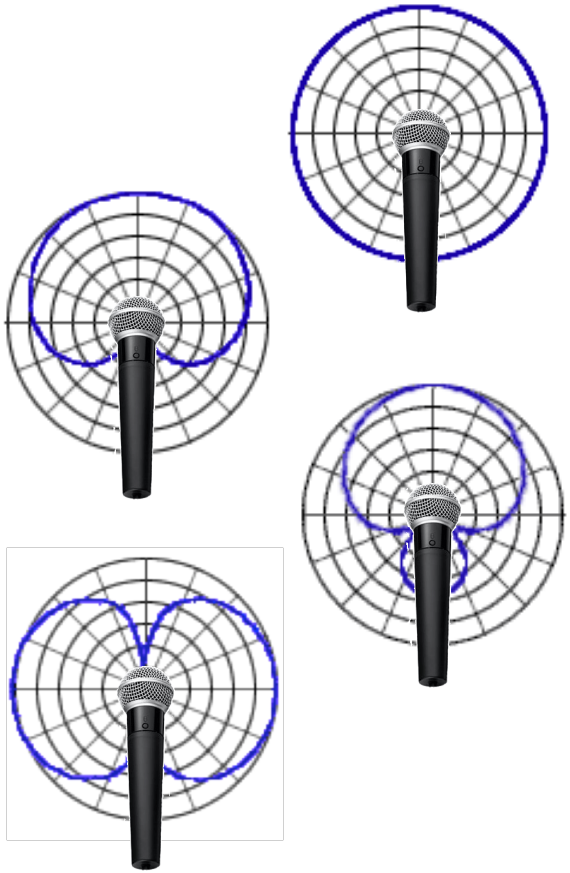
- Unlike the human ear, microphones do not have an adaptive filter to focus on a particular sound -> everything will be recorded, also noises that you may not notice.Therefore:
- Look for a quiet environment
- Outside, avoid wind if possible and always use a windshield on the microphone
- Be aware of sources of interference and hum: mobile phones, fans, light dimmers, electrical tools, ground loops, …

Wind Shield (Dead Cat)



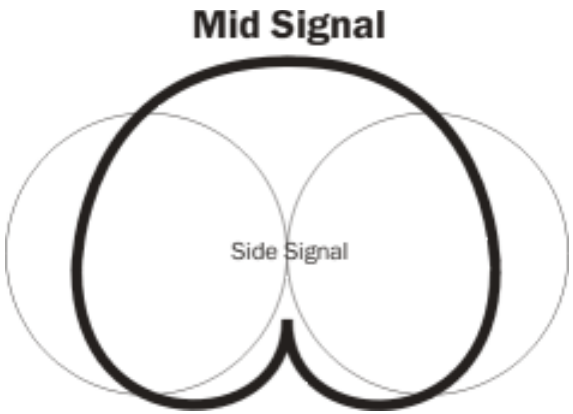
Microphones

- Different characteristics
  - Omnidirectional
  - Cardioid
  - Hyper-cardioid
  - Figure-of-eight



Microphones

- Different characteristics
  - Combination of 2 different capsules for some stereo mics, e.g. Mid-Side (M/S) stereo

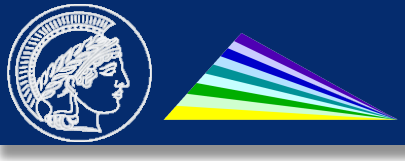


Omni, Cardioid, Figure of Eight



Hypercardioid





Microphones

- Different types
  - Condenser -> needs 48V phantom power
  - Electret -> needs a battery
  - Dynamic -> needs no power

Connecting the Microphone

- Keep cable lengths as short as possible to reduce the risk of hum
- Use of a wireless system might be useful, especially in combination with a clip-on mic, but of course consumes power.

Microphone Placement

- For speech, place the microphone as close to the speaker(s) as possible, but don't let them speak directly into the microphone
- To avoid contact noise, place the mic on a tripod or stand
- Use of a clip-on microphone is often convenient

Recorder Setup

- Correct settings, e.g. 16 bit 44.1/48 kHz linear PCM for digital recorders (higher sampling rates not really necessary, higher bit depths could be beneficial in case of incorrect recording level).
- Adjust the recording level. Leave some “headroom” for unexpected peaks, but don’t record too soft either. General rule of thumb is to leave 12 dB of headroom, but this depends a bit on the dynamics of the speech that you are recording.

Start Recording

- Make a small test recording first to see if everything works well, listen to this test recording
- Speak some meta-information (date, person, …) about the recording at the beginning, to avoid identification problems later.

Types of recorders

- Compact Flash (Solid State memory) recorders
- DAT tape recorders (disappearing)
- MiniDisc (MD/HiMD)
- Hard disk recorders
- USB Audio interfaces for e.g. a laptop
- Analog cassette tape recorders

Do NOT buy a Dictaphone!

Transfer to computer

- Digitize via USB audio interface in case of analog source or digital source with analog output
- Digital transfer via Optical or Coaxial digital input
- Direct transfer from memory card using a card reader

Practice

- Record a short interview with one of the available solid state recorders.
- Play around with different positions of the microphone and try both the built-in as well as an external mic. Listen to the difference.
- Copy the recorded audio file(s) from the memory card to the laptop.
- Open the recording(s) in an audio editor (Adobe Audition, Soundbooth, Audacity, …) and edit them (e.g. cut out one sentence)