Microphones

- Microphones
  - electrical property
    - dynamic
    - electret
  - design type
    - handheld
    - shotgun
    - lapel, lavalier
  - patterns
    - omnidirectional
    - cardioïd
    - supercardioid
Stands and accessories

• Stand
• Holder
• Windscreen
  – foam
  – fur (‘dead cat’ and ‘dead kitten’)
Recorders

- Analogue
  - Cassette recorder

- Digital
  - Digital audio tape (DAT)
  - Compact disc (CD)
  - Minidisc
  - Flash or SD
  - Computer
Cables and connectors

- **Types**
  - phono (RCA) cable
  - mini (TRS)
  - XLR

- **Unbalanced vs. balanced**
  - single core, shielded cables
  - paired core, shielded cables
Recording media

• Analogue
  – Cassette tape

• Digital
  – Digital audio tape (DAT)
  – Compact disc (CD)
  – Minidisc (MD)
  – Secure digital (SD) card
  – Hard drive (direct-to-computer)
Batteries and power supplies

• Batteries
  – Single-use
    • Alkaline
    • Lithium
  – Rechargeable
    • NiCad, NiMh

• Battery charger/discharger

• AC adapter
Recording and audio editing software

• Expensive
  – Adobe Audition CS6: $350
  – Sony Sound Forge Pro 10: $350
  – Sony Sound Forge Audio Studio: $65

• Affordable, yet powerful
  – Audacity 2.0: $0
Audio 1

Recording
Basic operations

• **Settings**
  – **Time and date**: important metadata
  – **Sampling rate**: 44.1 kHz (suggested)
  – **Bit depth**: 16-bit (suggested)
  – **File format**: WAV (suggested) for creating uncompressed archival recordings; also suggested for acoustic analysis
  – **Automatic gain control**: avoid using
  – **Low (bass) cut filter**: often described to ‘remove wind and/or breathing noises’; avoid using
Basic operations (cont.)

• Be sure to format your storage media!
  – This is easily overlooked when under the pressure to begin recording.
  – Formatting SD cards clears all content and allows for recordings to be saved on the card.
  – Recorders that accepts SD cards has function to format the card.

• Learn to turn on/off your recorder
Suggestion: Microphone placement

• Get your microphone as close as possible to the sound source (without making the person uncomfortable).
• Have the microphone pointed toward the source.
• Have nothing in the way or touching the microphone (e.g. clothes).
• Minimize noise. Have no other, unwanted sources of sound anywhere near the microphone.
Suggestion: Checking your sound

• Sound level check
  – If you have a sound level indicator (or a peak indicator) on your device, make sure the sounds you are recording are not too loud.
    • Extremely loud sounds could produce ‘clipping’ (distortion) in your recording.
  – If you do not have an indicator, try to use monitor headphones and listen for loudness and distortion.
Clipping (Digital distortion)

unclipped (good)

clipped (avoid)
Experiment with your device

• Go out and make a recording
Basic post-processing

• Transferring your file onto a computer
• Renaming your file
  – Most recorders only provide a generic name for your files (e.g. names based on serial number)
  – Some recorders provide you the option to name your files using the data (e.g. better)
  – It is recommended that you rename your files in order to make the name as informative (and unique) as possible
Discussion about your recordings