

*in*Field

Audio

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- Session 1: The signal & recording techniques
- Session 2: Audio Capture
- Session 3: Tools and Techniques (1)
- Session 4: Tools and Techniques (2)

Audio Preservation

Note: the audio workshop is taught in both weeks 1 & 2.

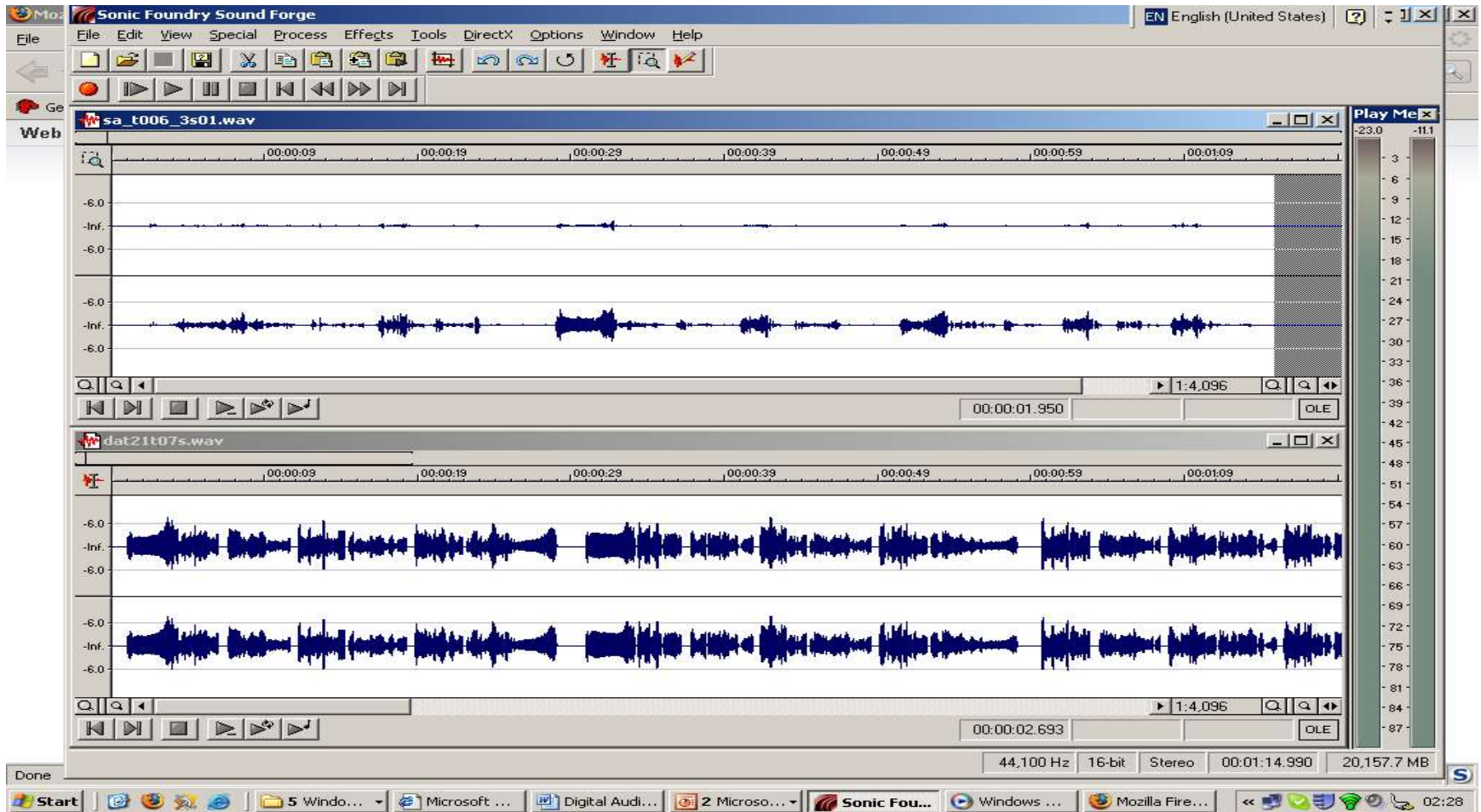
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- Can be very high quality
- Allows for more accurate transcription
- Allows for analysis of sound
- Allows the creation of teaching materials
- Is often less invasive than video

Goal: Good, better, and best practices in audio recording and analysis

- Let's listen to a couple of recordings...
 - Which is better, and why?
 - Let's listen once just to the audio, then
 - Let's listen and look at the wave forms



- Techniques: Minimizing noise
 - ambient (background) – an example
 - machine noise – another example
- Equipment: Compression (e.g. CD vs. MP3)
 - Compressed = small but “lossy”
 - Uncompressed = big but “lossless”

- What purposes?
 - Acoustic (e.g. phonetic) most demanding
 - Interview (e.g. oral history) least demanding
 - Balance cost, purpose, archivability
- Strongly recommended: lossless digital
 - solid-state recorder (CF/SD/HD)
 - Archive Formats: .wav, aiff, (.au)
- Not recommended: dictaphones (also MP3, incl. iPod), cassette recorders
- For interviews, barely acceptable: MP3

- We all have analog cassette recordings
- If you already have such recordings, preserve them!
- These are fine:
 - as “heritage/legacy” materials
 - if you don’t have access to a digital device
- But for future recordings, ideally, we’d recommend *digital recording in wav*

format

- Recording – what your device can handle
 - Sound frequencies in kHz (kilohertz)
 - 44.1 kHz or higher for linguistic work
 - (22 kHz - ok for some work)
- Capture (Day 2)–data transfer to computer
 - Involves a “linear” (lossless) sound card
 - If your device is not digital – conversion from analog to digital, then capture

- Archiving – uncompressed formats
 - Sound frequencies in kHz (kilohertz)
 - 44.1 kHz or higher for linguistic work
- Presentation (web, CD, etc)
 - *Compressed* formats often better
 - esp. .ale (Apple Lossless Encoding)
 - Faster downloads, take less space

Therefore, we recommend these formats for three different research contexts:

- Working format: wav
- Archiving formats: (highest-freq.) wav, bwf
 - NB – only as good as your original recording!
- Presentation formats: mp3, ra, wma

- Focus on making good recordings today
 - Jump-starting your recording (Pause/Standby)
 - holding microphone
 - eliminating echo
 - balancing quiet and “naturalness” , etc.
- Tomorrow: focus on devices & mics
 - device, microphone, peripherals

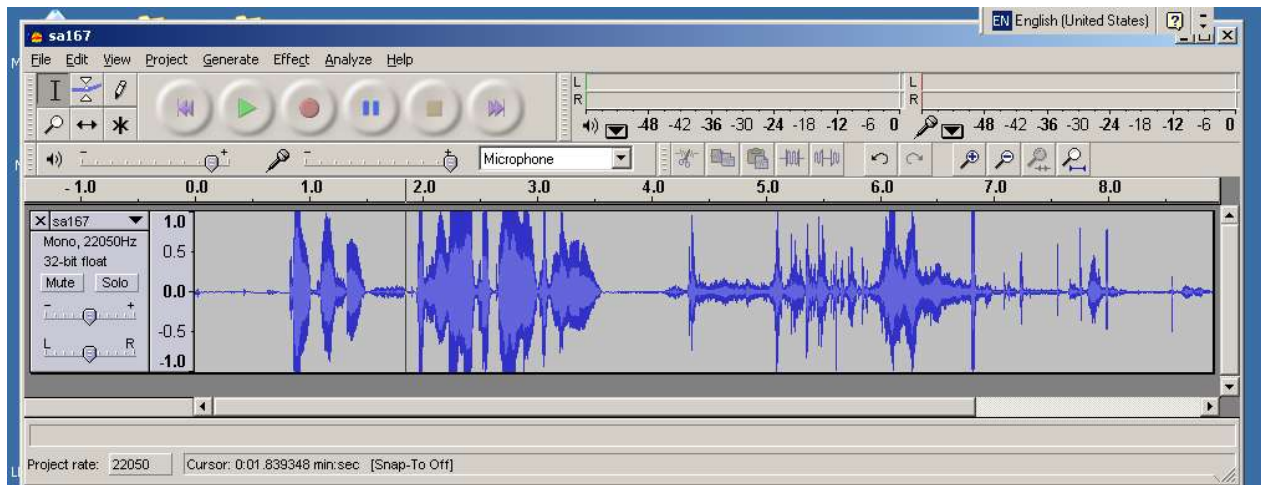
- recommend Solid-state recorders
 - Here for testing are Edirol, Marantz, M-Track
 - There are other, excellent ones (Session 2)
 - You can consult with us on these
- Using the R-09, the Marantz 620, etc.
 - batteries
 - SD/CF cards
 - Settings: recording frequency, format
 - Microphone: setting for external mic, stereo

- We'll talk more about the *types* of devices and microphones tomorrow
- Today we focus on *techniques*
- For microphone use, the main issues are *directionality* and *recording levels*

- Get your mic as close as possible to the sound source (without making the person uncomfortable),
- have it pointed in the right direction
- (if it has one – some mics are omni-directional),
- have nothing in the way or touching the mic (eg, clothes), and
- have no other, unwanted sources of sound anywhere near the mic (ie, near the speaker).

[source for this pg: *Peter L Patrick* LG554 <http://courses.essex.ac.uk/lg/lg554/index.htm>]

- Important for optimal recording
 - Too low – hard to hear
 - Too high – “clipping” (see below)



- Manual (impt. for every device you have)
 - Levels should be set manually
 - Monitored throughout the recording
 - Use headphones!

- Automatic volume – not recommended

- Familiarize yourself with the devices now
- This afternoon, please make a 2-minute recording in a challenging situation – including but not limited to a conversation, interview, outside with background noise (trucks, ocean, construction...), lecture...
- Make sure you obtain verbal consent before doing so
- Manuals are available for your use

- On Metadata:
 - Open Language Archives Community (OLAC)
<http://www.language-archives.org>
 - IMDI (Probably different URL) ; international Standards for Language Engineering
<http://www.mpi.nl/ISLE>
- Reviews of Audio hardware (recording devices and microphones):
 - Vermont Folklife Center http://www.vermontfolklifecenter.org/res_audioequip.htm
 - University College London
<http://www.phon.ucl.ac.uk/resource/audio/recording.html>
 - <http://www.transom.org/tools/index.php>
- On audio signal processing and archiving:
 - Sound Directions
 - EMELD
- For software:
 - Linguistic Data Consortium (LDC) <http://www ldc.upenn.edu>
 - <http://audacity.sourceforge.net/>
 - <http://www.fon.hum.uva.nl/praat/>

- Audio archives
 - Archives of Traditional Music at Indiana University
<http://www.indiana.edu/~libarchm/>
 - Documentation of Endangered Languages
<http://www.mpi.nl/DOBES>
 - AILLA <http://www.ailla.org/>
- Places to buy specialized audio equipment
 - For Edirol R-09, all the big dealers carry it: Amazon, B&H, J&R Photo, [The Sound Professionals](#), etc.
 - US dealers who know about digital audio and microphones: Oade Brothers, Full Compass Systems
 - ...

- Further training:
 - Audio/video recording techniques: <http://www.bbctraining.co.uk/onlineCourses.asp>.