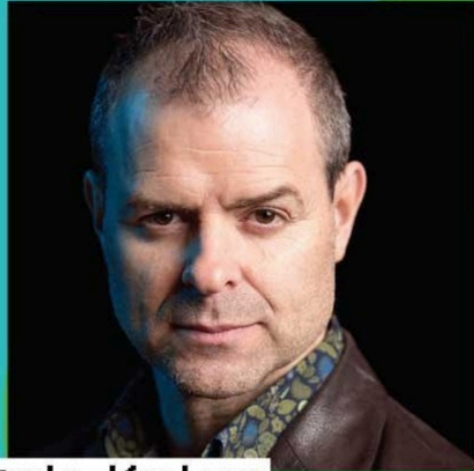


TD CULTURE LAB
w e b i n a r

with



Mark Kelso

&



Matt Zaddy

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Mark Kelso Bio

Originally hailing from Belfast, Northern Ireland, Canadian drummer Mark Kelso has made Toronto, Canada his home for quite some time. Not only is he a skilled musician who plays drums and percussion, but he is also a singer, producer and composer as well. As a sideman Mark has earned 4 Juno awards and has been nominated twice as a leader with his own 2 groups, the **Jazz Exiles** (2016) and the **Chronicles of Fezziwig Project** (2020). Mark has been Artistic Director for the Jazz Room in Waterloo since 2016 and the head of the percussion dept at Humber College since 2005.

Mark's ability to play a wide variety of musical styles has helped him become one of Canada's most sought after drummers. An all around player, he has worked/recorded with a wide array of artists such as **Pat Metheny, Donny McCaslin, Laila Biali, Michael Brecker, Randy Brecker, Michael Bubl , Changuito, David Clayton-Thomas, Holly Cole, Larry Coryell, Eliana Cuevas, Paquito D'Riveria, Hilario Duran, David Foster, Dave Grusin, Herbie Hancock, Olivia Newton John, Molly Johnson, Chaka Khan, Pat LaBarbera, Donnell Leahy, Natalie MacMaster, Bob Mintzer, Peter Murphy (Bauhaus), Donny Osmond, Danilo Perez, Chris Potter, Jovino Santos Neto, NOJO, Richard Page (Mr. Mister), Bonnie Raitt, Maria Schneider, John Scofield, Ron Sexsmith, Mike Stern, Soul Stew, James Taylor, Susan Tedeschi, Ian Tyson, Gino Vannelli, Carol Welsman** and his own band, **The Jazz Exiles**. Mark runs "Groovy Drums Studio" where he records drum tracks for many artists around the world. To date he has played on over 350 recordings and in 2016 Mark released his very first instructional DVD, "**Musician First, Drummer Second**" to great acclaim.

Aside from playing many TV and radio jingles and movie soundtracks, Mark has also been featured in "**DRUMHEAD**" **Drums, ETC** ", "**Canadian Musician**" and "**Modern Drummer**" magazines and has also been a featured clinician/performer at the **Montreal Drumfest, IAJE, Musicfest, KOSA, Percussive Arts Society, Regina Drum Festival, Whack Bam Thudd festival, The Stickman Drum Experience, Victoria Drum Festival, the Ralph Angelillo Drum Festival and the Cape Breton Drum Festival**. Mark endorses and is a featured clinician for **Yamaha Drums, Paiste Cymbals, Evans Drum heads, Headhunters drumsticks and Plunge Audio in-ear monitors**.

Matt Zaddy Bio

Matt Zaddy is an award-winning singer songwriter, multi-instrumentalist, music educator, and content creator. Matt has toured internationally in various projects and has been featured on CBC Music across Canada. He has shared the stage with a diverse group of artists including K'Naan, Tom Cochrane, Jim Cuddy, 5440 & more. During the pandemic, Matt has focused on virtual music education, online concerts, and has worked with the Guitar Shop Canada (based in Mississauga) on a YouTube series promoting music education with a fun twist. His album *Be* recently received the Mississauga Music Award for Album of the Year.

Awards:

2020 - Winner - Mississauga Music Award - Album of the Year

2019 - Winner - Mississauga Music Award - Best Promoter (for my community event series)

2017 - Winner - Mississauga Music Awards - Best Acoustic Artist

2016 - Winner - Mosaic Music Festival Award - Excellence in Art

Co-writer of *We are the North*, Mississauga's official song for the #Canada150 celebrations

Why Learn to Record

- Collaborate with people at a much greater distance
- Perform better when in a studio setting, and have a greater understanding of the process
- Builds your ears in general – frequency recognition, pitch
- Learn what goes into making a song, how to produce/arrange, etc.
- This is a necessary skillset for every musician/content creator in the modern age
- This is a lifelong journey involving building the skillset a little bit at a time, and keeping up to date with technology
- Like most disciplines, this is very much a time spent exercise like most disciplines

Advice for Performing Well in a Studio Setting

- There is no hiding in a studio setting; either you are prepared, or you are not
- You can manipulate performances but ultimately the better the performance, the better everything will turn out and the better it will feel
- Musicians: Get used to playing with a metronome
- Understand that in a studio setting you do not always get the same adrenaline rush as live. You have to learn how to bring that joy you feel into this setting
- Get in the habit of recording yourself on a regular basis, and you will hear where you need to improve

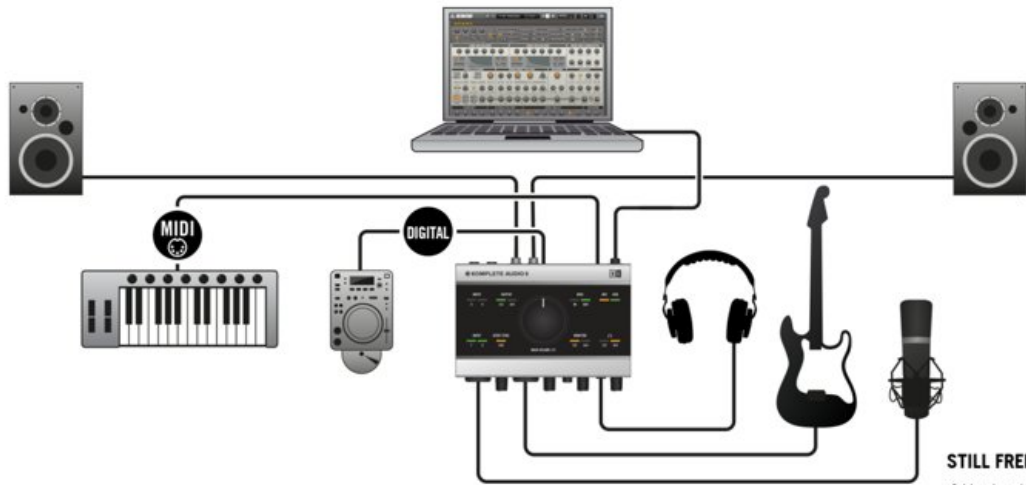
The Basics You Will Need

1. For Podcasters, you will need: USB mic, recording software.

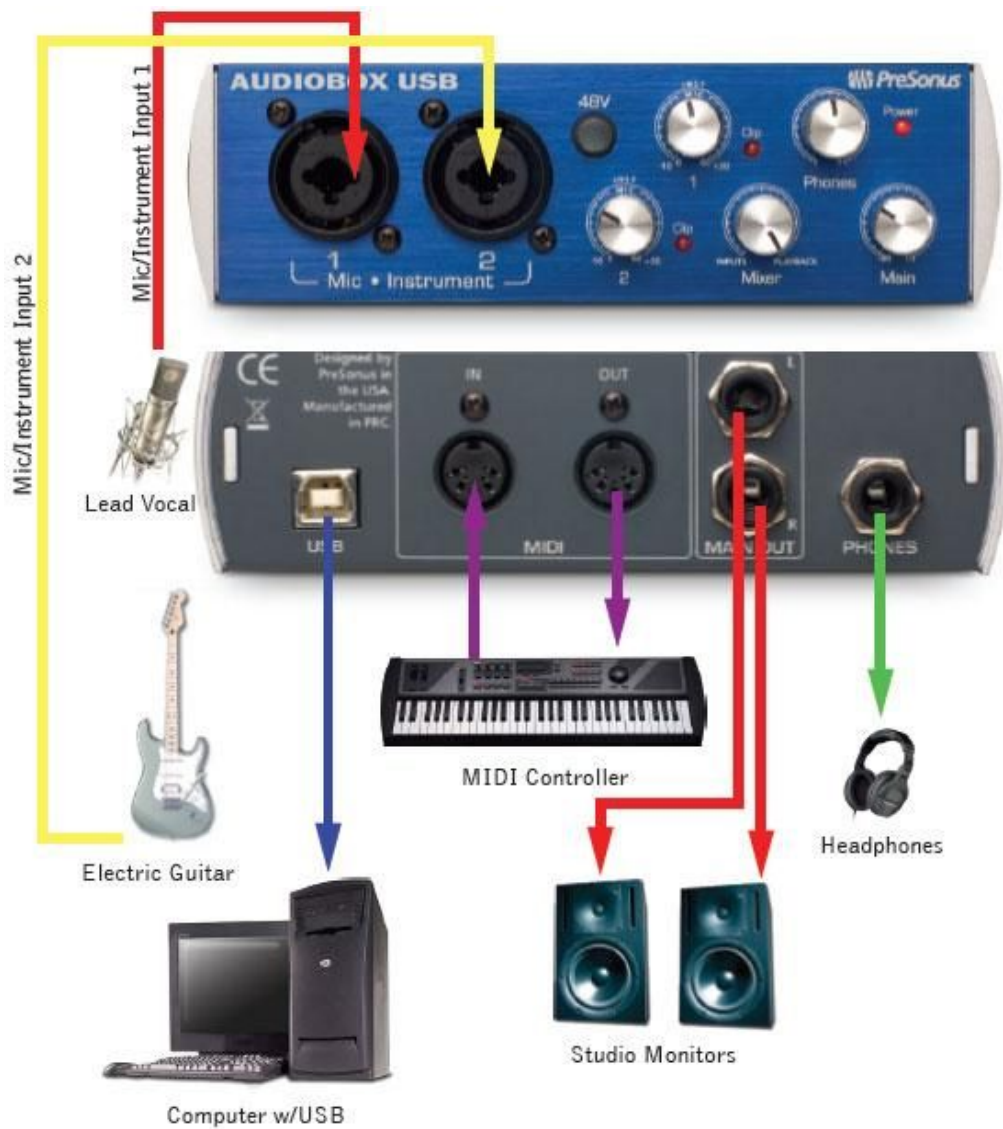
For Musicians: in order to get going with home recording you will need these items.

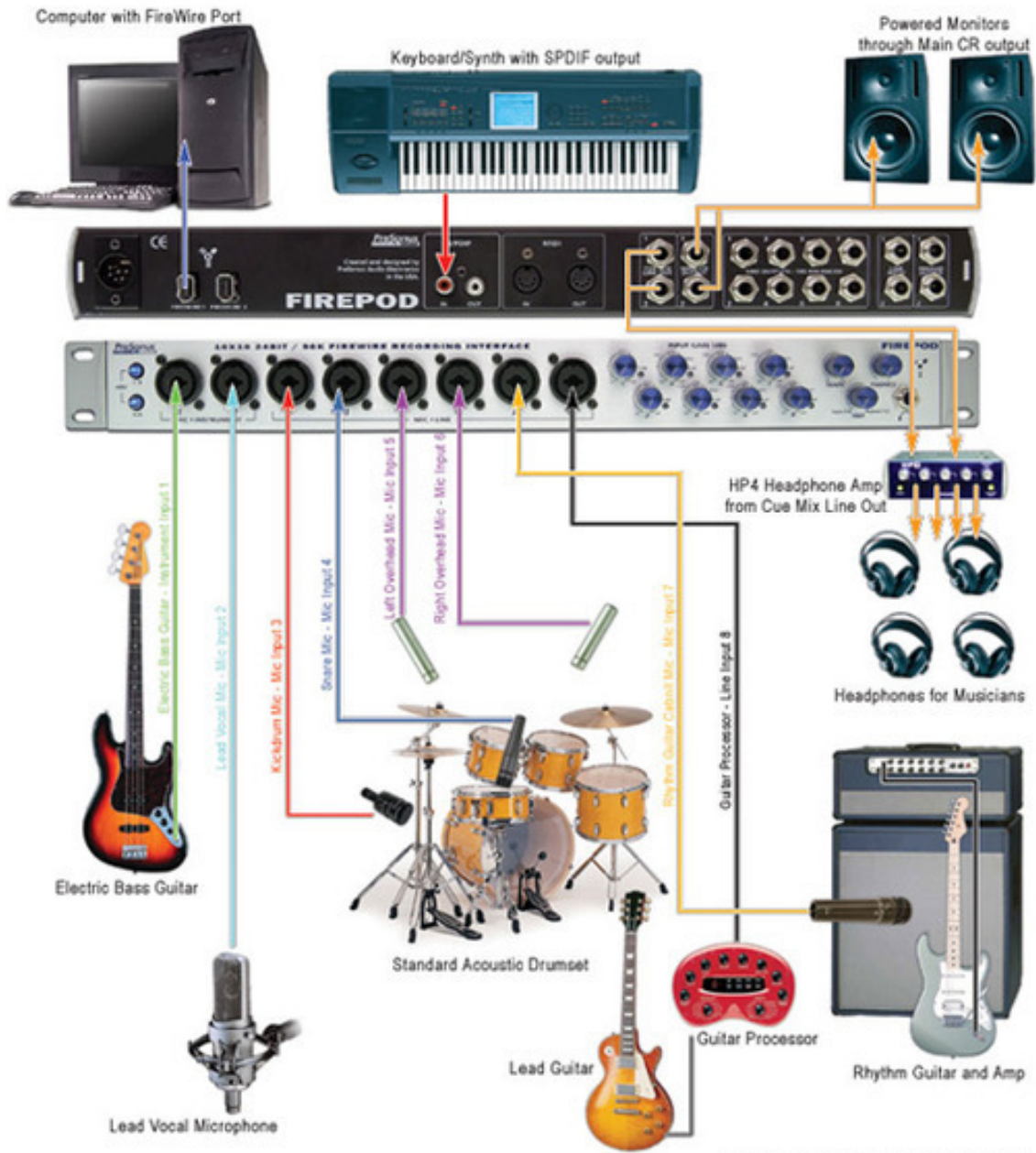
- A good microphone (at least 1 to start)
- Pop filter
- An audio-interface
- A good set of headphones
- A DAW (Digital Audio Workstation)

Basic Walk-through of a Studio Setup



STILL FREE
2 Line Inputs
2 Balanced Outputs
1 Stereo Digital Output





note: all photos are property of their respected owners.

Matt Zaddy Studio Setup





Mark Kelso Studio Setup





Gear & Software

- PC vs. MAC – all a matter of preference, some software only available for each
- Minimum specs
 - Check the software you are trying to use for minimum specs
 - **MAC** – 512 GB internal hard drive, 16 GB RAM

MacBook Pro laptop 13" (*NOTE - the new M1 chip version does not have a lot of non-Mac apps that work with it yet. They are still behind in this tech - so buy with caution).

512 GB (gigabytes) internal harddrive
16GB RAM (Random Access Memory)

OR

Mac Mini
512 GB hard drive
16GB RAM

PC – 256 to 512GB hard drive (SSD ideal for speed), 16 GB RAM, i7 processor or higher or equivalent from other brands (Matt runs an i7 on laptop, AMD Ryzen 5 3600X 6-core processor, 3.8 GHz)

- Recommended: external hard drive to hold files (2TB) and/or separate SSD drive
- DAW – a matter of preference, certain ones work better with PC or MAC
 - NOTE: Certain DAWs tend to be more equipped for electronic music production (FL Studio, Reason, Ableton Live), but most can accomplish what you need
 - Most popular tend to be:

Protools

Logic Pro X (works great with a MAC as it is owned by MAC)

Cubase

Ableton Live

FL Studio

- Cakewalk, Reason and Reaper are just as good, each has their own quirks
- Best bet is to try a few out and see which you like best
- Certain audio engineering programs tend to lean into one program or another

- Interfaces

Audio interfaces are a way to convert your analog recorded sound (vocals, instruments) into a digital format on your computer. When purchasing an audio interface, it's very important that it has very good A/D converters (analog to digital). This will have a huge effect on your sound quality. Your mic plugs directly into the audio interface and then the audio interface plugs into your computer via a USB cable.

Mark's Interface choices:

- **Focusrite Scarlett Solo 3rd Gen** 1 mic - approx. \$169.00
- **Focusrite Scarlett 2i2 3rd Gen** 2 mic - approx. \$239.00
- **Focusrite Scarlett 18i8 3rd Gen** 4 mic - approx. \$589.00
- **Preonus 24/96 In/2 out** 2 mic - approx \$229.00
- **MOTU (Mark of the Unicorn) M4** 4 mics - approx \$299.00
- **Universal Audio Apollo UA-APX4/HE** - approx. \$2899.00

Most brands have versions with 2, 4, 8 inputs, etc.

Matt's Interface choices:

- **Focusrite Scarlett Solo 3rd Gen** 1 mic - approx. \$169.00
- **Audient Evo 4** – Approx. \$200.00
- **Focusrite Scarlett 2i2 3rd Gen** 2 mic - approx. \$239.00
- **Audient iD4** – approx. \$270.00
- **Audient iD44** – approx. \$1,000.00
- **Universal Audio Apollo Twin** – various models \$1,100.00 & up

Things to consider when buying a cheaper interface

- Number of Channels
- Input Ports (combo ports – 2 in 1)
- Mic Preamps and Phantom Power
 - Mic Preamp Quality
 - Phantom Power (most are now 48V standard)
- Analog to Digital Bit Rate and Sample Rate (most do 24 bit, and 96kHz sample rate)
- Computer Compatibility
- Power Options (USB powered or needing external power)
- Bundled Software and Drivers (many come with free applications/basic DAW)

- Headphones
 - **Audio Technica headphones** approx. \$219.00
 - **AKG K371BT headphones** approx. \$279.99
 - There are many brands that make cheaper headphones (Ex. Tascam TH-MX2, \$50) but you tend to get what you pay for
- **Microphones**

General Microphone Info:

***Dynamic mics** are better for capturing loud sounds and picks up the sound directly in front of it. They are not really that sensitive, but they are versatile. *Unidirectional & Cardioid* generally mean the same thing and they regard to the shape of the sound pattern (heart-like). *Bidirectional mics* pick sound from the front AND the back and cancels out the sides sounds. *Omnidirectional mics* picks up sounds from all over and cancels nothing. *Cardioid mics* are great for vocals and things that sound “dry” or “close”.

***Condenser mics** are better at capturing delicate sounds and higher frequencies. These mics usually have a much clearer sound than a dynamic mic. There are large diaphragm condensers (good for lows & low-mids) and small diaphragm condensers (less lows and more top end). **Condenser mics need 48-volt power (also known as *Phantom Power*) to work so be sure that your audio-interface has 48v on it.

***Ribbon mics** are very fragile mics but can produce a nice “warm” or “vintage” sound. These are the most sensitive type of mics and they are used on soft sounds like quiet vocals or strings. They are always bidirectional and have the classic figure 8 pattern to their sound.

Common vocal mics for recording:

- **Shure SM58 or SM57** Unidirectional dynamic mic - approx. \$139.00
- **Bluebird SL** cardioid condenser mic - approx. \$299.00
- **Rode NT1A** large diaphragm condenser mic - approx. \$329.00
- **Shure SM-27** Cardioid condenser mic - approx. \$429.00
- **Audio Technica AT4040** Condenser mic - approx. \$449.00
- **Audio-Technica AT4033** Cardioid condenser mic - approx. \$560.00

- **Neumann Solution-D D-01** condenser mic - approx. \$7800.00 (not cheap!!!)

Common acoustic guitar mics for recording:

- **Shure SM57** Unidirectional dynamic mic - approx. \$139.00
- **Rode NT5** cardioid condenser - approx. \$599.00 for a pair
- **Audio Technica AT4041** cardioid mic - approx. \$449.00
- **Sennheiser MD 421 II** cardioid mic - approx. \$519.00
- **AKG C451 B** small diaphragm condenser mic - approx. \$799.00
- **Audio Technica AT4050** multi-pattern condenser - approx. \$999.00
- **Neumann KM184** small diaphragm condenser - approx. \$1040.00
- **AKG C314** condenser mic - approx. \$1149.99

Common drum mics for recording:

- **Shure Beta 52** dynamic kick drum mic - approx. \$259.00
- **Electro-Voice RE20** dynamic kick mic - approx. \$529.00
- **Shure SM57** Unidirectional dynamic snare (top) mic - approx. \$139.00
- **Audix D4** dynamic tom mics - approx. \$239.00 (x3 or x4)
- **AKG C451 B** Hi-hat condenser mic - approx. \$799.00 (x2)
- **Neumann KM184** small diaphragm cardioid overheads mic - approx. \$1950.00 (for a pair)

Common percussion mics for recording:

- **Earthworks QTC40** omnidirectional small diaphragm mic - approx. \$2799.00 (a pair)

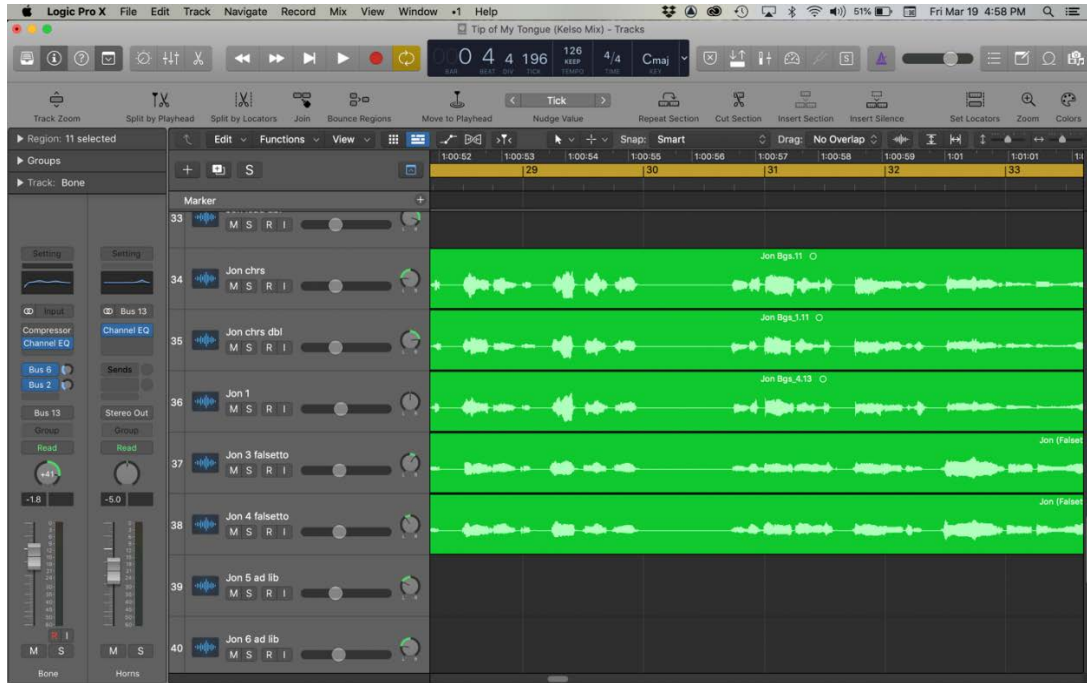
Matt's Choices for Mics

- Dynamic Mic
 - Shure SM57 or SM58 - \$139.00 approx.
- Condenser Mics
 - Audio Technica AT2020 - \$149.00
 - Rode NT1A - \$329.00 for the kit (includes pop filter, shock mount)
 - Aston Origin - \$379.00 (watch for bundle deals with pop filter & Mount)
 - AT4040 - \$449.00 (workhorse of a mic, great for most things)

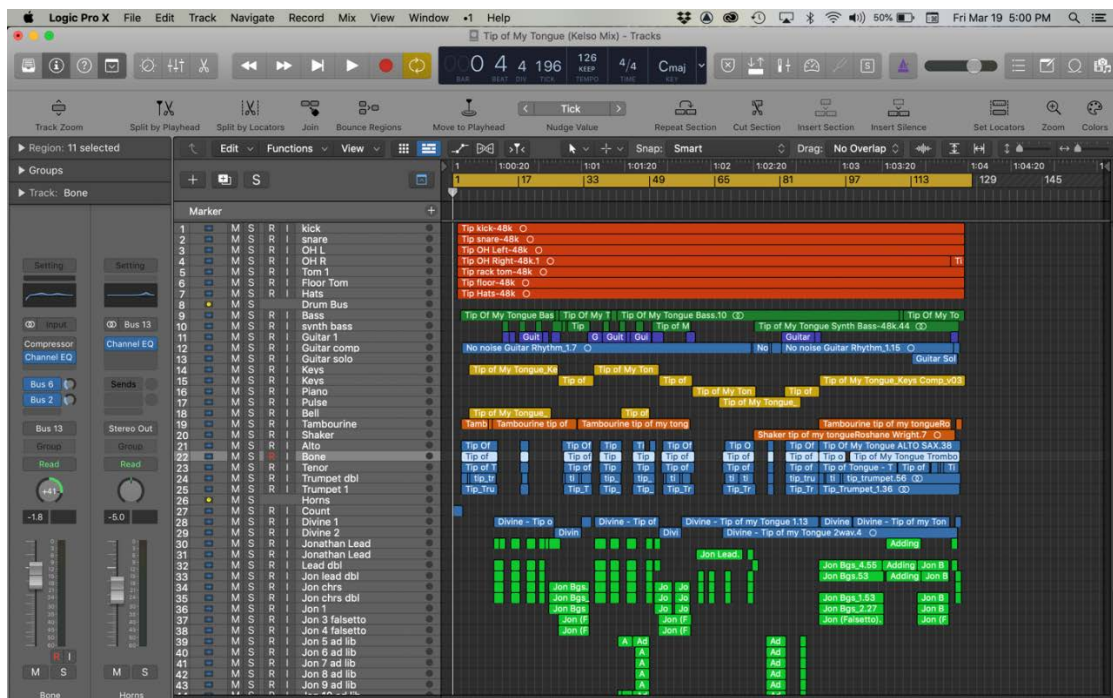
Audio Recording

Wav. Files (in green) look like this.

The wav file is a simple yet accurate format. When recording try to make sure that the size of the audio file is not too big (can cause distortion) or have a flat top/bottom (really distorting!). High home recording rates can go up to 192k nowadays. They are larger than mp3's and are superior in sound quality. Most home recording rates are done at 44.1k or 48k and are 24bit files.

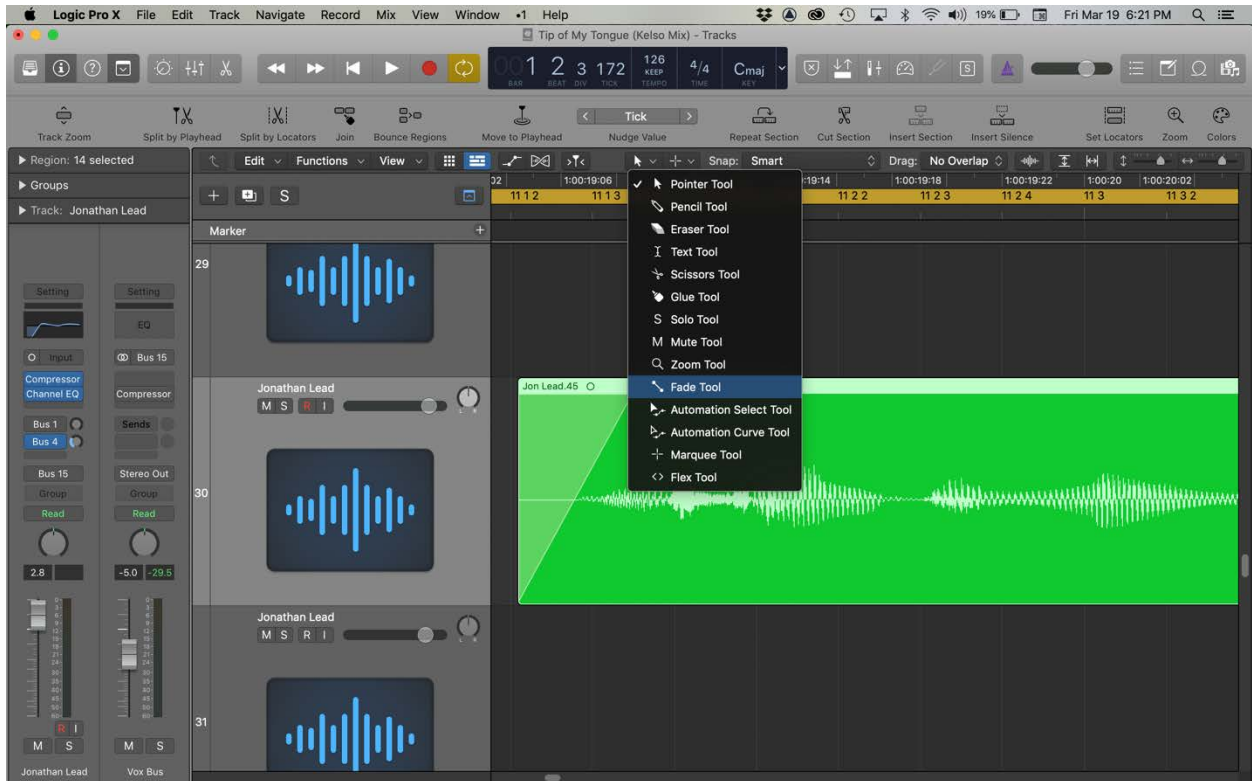


When recording you can have many files running at once, depending on your computer memory and RAM (Random Access Memory) size. These are important things to know, especially when working with audio files (as they take up a lot of space on your hard drive). The audio files below have been edited for various reasons such as: timing issues, volume issues, audio pops, unwanted noise, fade outs and effects.



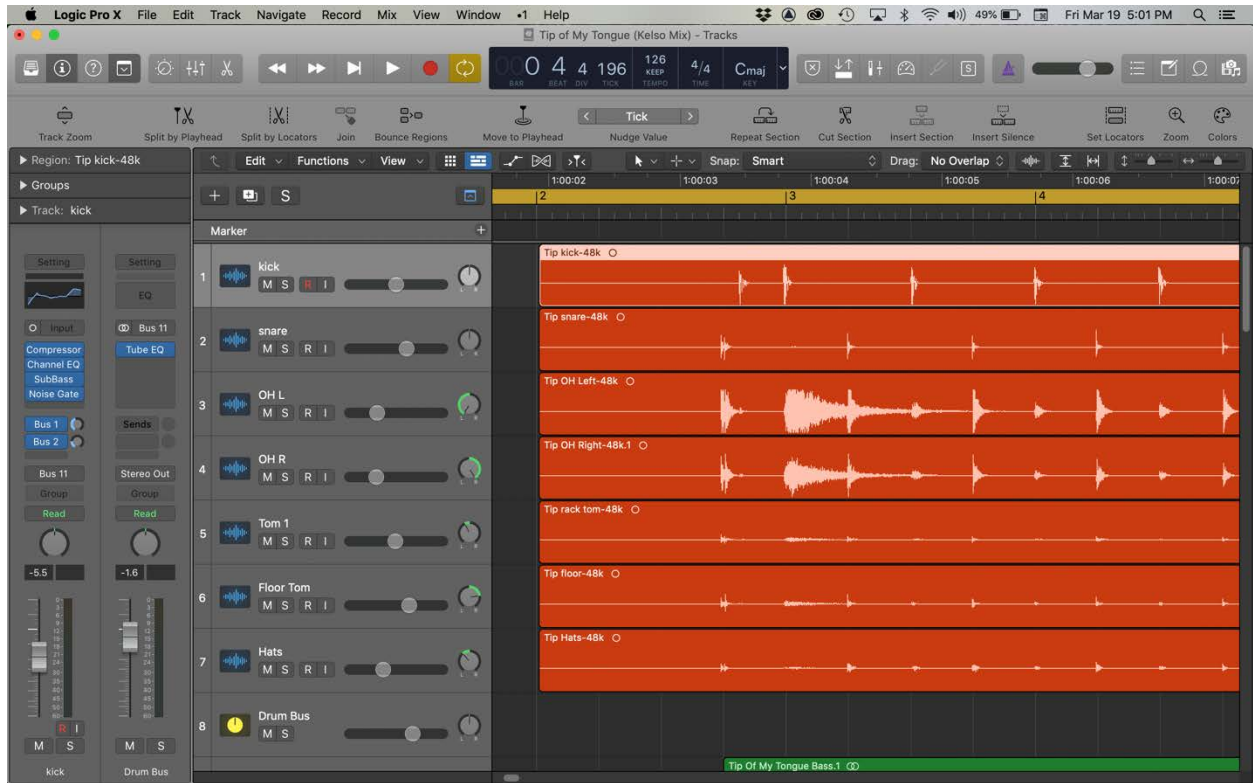
Fade INS/OUTS

Sometimes you can get extra noise or audio clicks/pops where an audio file starts or ends. The easiest way to correct this by using the fade tool. Just drag the cursor over the start or end of a file and drag in the opposite direction and you will see the fade image appear. You can move it around to make the fade in/out longer or shorter.



EQ

In Logic Pro X you can find the EQ (Equalizer) icon on the left-hand side right under where it says Setting. Click the icon to open up the EQ section. *Equalization* is the process used to alter the frequency response of any audio file.



Logic has great EQ templates which can help the novice and pro get a better sounding mix. Here we can see the equalizer open up once we click the icon box in the last screen shot.

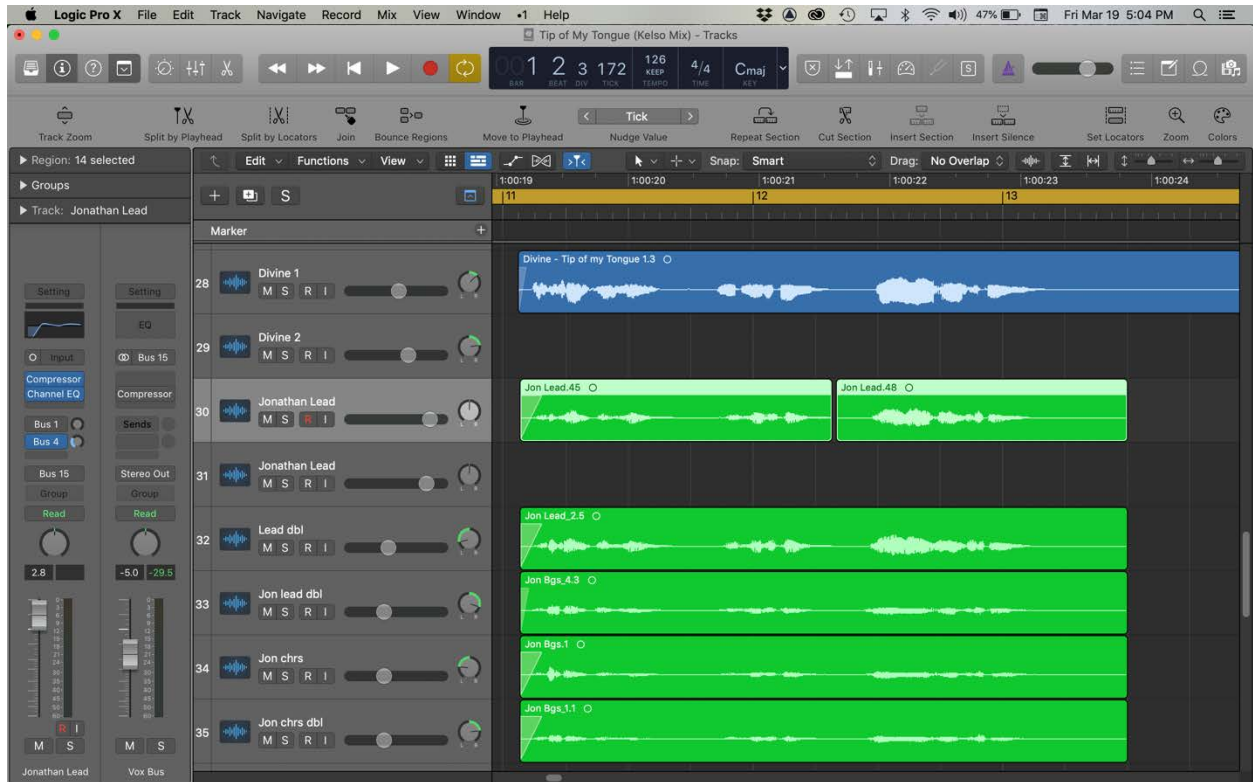


Here we can find a bunch of super helpful templates to use so that we can hear a wide variety of different EQ settings. It's always best to listen under good headphones to hear the difference between the various templates. You will also be able to see how the frequencies change on the screen as well. One note - be sure to click on the blue ON/OFF switch on the left side otherwise you won't hear any difference in sound at all 😊 Experiment with the various individual instrument templates or the EQ tools to see and hear the variety in sound.



Compression

Music compression is the process of reducing a signal's dynamic range. Dynamic range is the difference between the loudest and quietest parts of an audio signal. In Logic, once again, we have a bunch of subtle compression templates for different instruments. Compression should usually be used sparingly as a general rule. The compression plug-in can be found as a preset in the left-hand side under input. Once again it will not work without the plug-in being turned on (usually in blue).



Here's what the compressor plug-in looks like.



Once again, we find a nice selection of nice templates to use for various instruments. Once again, please use good headphones to listen for the effect being done because compression can be hard to hear at first.



Recording vocals Here's a mic with a soundproof stand that attaches to the mic stand to help reduce room "liveness" in order to get a warmer vocal sound.



The POP filter is a handy device to help rid of the air/wind popping that can occur on words that start with the letter B or P. The POP filter usually goes right in front of the microphone. Almost every singer in the world uses one of these and they only cost around \$30.00 so quite a deal for good sound!



Additional Subjects if time permits:

- Mic'ing techniques
- Sound isolation / acoustic treatment
- Workflow – staying organized and efficient
- Mixing
- Mastering – automated software vs. mastering engineer

Resources:

- Glossary of Terms
 - <https://www.soundonsound.com/glossary>
 - <https://www.recordingconnection.com/glossary/>
 - <https://www.musicianonamission.com/audio-terms-by-subject/>
- Good General resources
 - <http://www.basic-home-recording-studio.com/home-studio-FAQ.html>
 - <https://ivygirlguitar.com/questions-to-ask-before-building-a-home-recording-studio/>
 - <https://homerecording.com/bbs/>
 - <https://ehomerecordingstudio.com/home-recording-101/>
 - <https://badracket.com/recording-studio-frequently-asked-questions/>
 - <https://ehomerecordingstudio.com/home-recording-studio-essentials/>
- DAW comparisons
 - <https://thehomerecordings.com/best-daw/>
 - <https://thehomerecordings.com/free-daw/>
- Frequency Ranges & EQ
 - <https://www.4soundengineers.com/understanding-frequency-a-guide-to-better-eq-in-mixing/>
 - <https://www.loopmasters.com/articles/2310-A-Guide-To-Frequency-Ranges-and-EQ-EQ-Frequency-Chart>
 - <https://www.audio-issues.com/music-mixing/all-the-eq-information-youll-ever-need/>
 - <https://www.sageaudio.com/blog/pre-mastering/mixing-magic-frequencies.php>
- Plugins/VSTs:
 - <https://thehomerecordings.com/category/free-vst-plugins/>
 - <https://www.musicianonamission.com/vst-instruments/>
 - <https://blog.landr.com/best-free-vst-plugins/>
 - <https://www.musicradar.com/news/the-best-free-vst-plugins-2020-must-have-freeware-synths-drum-machines-and-effects>
 - <https://bedroomproducersblog.com/free-vst-plugins/>
 - <https://www.producerssphere.com/best-free-vst-instrument-plugins/>
 - <https://www.makeuseof.com/tag/free-vst-plugins/>
 - <https://www.careersinmusic.com/best-free-vsts/>
 - https://www.youtube.com/results?search_query=best+free+vst+plugins+
- Home Studio suggestions
 - <https://www.audiomentor.com/audioproduction/10-things-you-need-for-a-kickass-home-studio/>
 - <https://ehomerecordingstudio.com/home-recording-studio-design/>
 - <https://www.musicianonamission.com/home-studio-setup/>
 - <https://pitchfork.com/features/article/10055-how-to-buy-the-best-home-recording-studio-equipment-a-beginners-guide/>
 - <https://www.musicrepo.com/home-recording-studio-setup/>
- Microphones
 - <https://ledgernote.com/reviews/best-cheap-microphones/>
 - <https://www.musicianonamission.com/types-of-microphones/>
 - <https://numusician.com/best-cheap-microphones/>
 - <https://www.sweetwater.com/insync/best-budget-recording-microphones/>
- Mixing/Workflow
 - <https://www.soundonsound.com/techniques/mixing-essentials>

- <https://www.landr.com/how-to-mix>
- <https://ledgernote.com/columns/mixing-mastering/fundamental-audio-mixing-tips-techniques/>
- <https://producelikeapro.com/blog/15-essential-mixing-tips/>
- <https://www.audio-issues.com/music-mixing/7-simple-mixing-steps/>
- <https://www.izotope.com/en/learn/10-beginner-mistakes-to-avoid-when-mixing-music.html>
- Acoustic Sound Treatment
 - <https://ehomerecordingstudio.com/acoustic-treatment-101/>
 - <https://www.soundonsound.com/techniques/studio-sos-guide-monitoring-acoustic-treatment>
 - <https://www.izotope.com/en/learn/acoustic-room-treatment-on-a-low-budget.html>
 - <http://arqen.com/acoustics-101/room-setup-acoustic-treatment/>
- Mic-ing techniques
 - Acoustic Guitar
 - <https://www.soundonsound.com/techniques/recording-acoustic-guitar>
 - <http://www.mxlmics.com/blog/7-critical-tips-on-how-to-mic-an-acoustic-guitar/>
 - <https://audient.com/tutorial/5-essential-tips-for-recording-acoustic-guitar/>
 - <https://www.uaudio.com/blog/stereo-miking-acoustic-guitar/>
 - Woodwinds/Brass
 - <https://recordingmag.com/resources/recording-info/mics-miking/miking-brass-and-winds/>
 - <https://www.soundonsound.com/sound-advice/q-how-do-mike-woodwind-instruments>
 - <https://www.dpamicrophones.com/mic-university/how-to-mic-woodwinds-and-brass>
 - <https://mikingdesign.com/mic-placements-for-recording-woodwind-instruments/>
 - Bass Amp
 - <https://www.musictech.net/tutorials/how-to-record-bass-guitar/>
 - <https://rangeofsounds.com/blog/how-to-mic-a-bass-amp/>
 - <https://musicianshq.com/how-to-mic-a-bass-amp-and-the-best-mic-for-the-job/>
 - <https://www.themusickitchen.com/mics/5-best-electric-bass-microphones/>
 - <https://www.calmfrogrecording.com/post/how-to-mic-a-bass-cabinet-5-quick-tips>
 - Guitar Amps
 - <https://www.sweetwater.com/insync/how-to-mic-a-guitar-amplifier/>
 - <https://www.musiciansfriend.com/thehub/how-to-mic-guitar-amps-and-cabs-in-the-studio>
 - <https://bobbyowsinskiblog.com/2019/03/06/guitar-amp-miking/>
 - <https://rockguitaruniverse.com/mic-a-guitar-amp/>
 - Drums
 - <https://www.sweetwater.com/insync/mic-drum-kit/>
 - <https://www.musicradar.com/tuition/drums/13-correct-ways-to-mic-up-a-drum-kit-209119>
 - <https://www.gearank.com/articles/drum-miking-techniques-for-recording>
 - <https://www.soundonsound.com/techniques/kick-snare-recording-techniques>
 - <https://www.soundpure.com/a/expert-advice/recording/4-mic-recorderman-setup-for-drum-kits/>