ADAM SILAS MILLER | AUDIO PRODUCTION

Building a Functional Project Studio on a Modest Budget

THE SHOPPING LIST

Computer: (Free?) I'm assuming you have one. Whether it's a PC (Windows 7 or newer) or Mac, you'll be fine either way. Although, a laptop or all-in-one provides the most flexibility.

- Worth noting: To keep your files safe, it's absolutely worthwhile to purchase an external hard-drive. Cheap USB 3.0 drives will do the trick and give you the peace of mind knowing you have backups of your music!

DAW/Production Software (Free): You don't need Pro Tools or Logic Pro, or anything expensive (though if you have them or want them, awesome)! Here are three *free* options to get you up and running in no time.

- ***PreSonus Studio One Prime:*** A light version of Studio One 3 with unlimited tracks and a ton of great plugins and loops included: https://shop.presonus.com/products/studio-one-prods/Studio-One-3-Prime
- ***Pro Tools First:*** a free, slimmed down version of the industry-standard Pro Tools with a 16 track maximum and ability to record 4 tracks at once: http://www.avid.com/pro-tools-first
- ***Cockos Reaper:*** This DAW has gained a lot of traction for being 100% customizable with a great workflow. It's free, unless you want to pay for the full license with more features (only $60)! http://www.reaper.fm/

Audio Interface: Focusrite Scarlett Solo ($85) This is what makes a microphone communicate with your computer. Focusrite is a great brand with high quality components and this model is perfect for you. It's got a microphone input, and a DI for your acoustic or electric guitar (for guitar scratch tracks).

- http://www.sweetwater.com/store/detail/ScarlettSolo

Microphone: Studio Projects B1 ($120) Basic, neutral sounding large diaphragm studio condenser microphone. This is a perfect match to capture the low tones in your voice and all of the detail you need for a pro recording.

- http://www.sweetwater.com/store/detail/B1Mic
- **If you want to spend a little more money for slightly better quality, i suggest the Rode NT1A or the Blue Spark**

Microphone Stand: On Stage Stands MS7701B Euro Boom Stand ($25) Obviously, you'll need a stand to hold your new microphone and place it near your source. I suggest a tripod boom stand for maximum flexibility and sturdiness.

- http://www.sweetwater.com/store/detail/MicStdFBoomL

Cabling: Instrument, XLR, and Headphone Extensions ($60) At the bare minimum, you're going to need three cables to record at home; a ¼" intsrument cable , an XLR, and a headphone extension/conversion cable. I suggest 20' length minimums to give you plenty of flexibility.

- Instrument: Pro Co 20' ¼" Instrument Cable ($15) - http://www.sweetwater.com/store/detail/QTR20
- XLR Microphone: Pro Co 20' XLR Cable ($17) - http://www.sweetwater.com/store/detail/XLR20
- Headphone Extension/Adapter: Pro Co 20' ¼-⅛ Headphone Cable ($25) - http://www.sweetwater.com/store/detail/BPBQMBF20

Acoustic Treatment: Auralex MudGuard ($90) You don't necessarily need a fully treated vocal booth. A MudGuard to shield the mic's immediate pickup area and some blankets hanging behind you will do just fine. These are incredibly beneficial for helping deliver a clean, isolated studio-quality signal at home.

- http://www.sweetwater.com/store/detail/MudGuard

Mic Treatment: Gator GM-POP Pop Filter ($20) When you use any studio mic to capture the human voice, you need one of these to tame the harsh consonant sounds and prevent moisture from the mouth from entering the mic capsule. This is a must. If you're recording an acoustic guitar, these are very helpful in taming the annoying pick noises, too!

- http://www.sweetwater.com/store/detail/GMPOPFILTER

Monitoring, Speakers/Headphones: (Price Varies) Anything will do! For speakers, either commercial computer speakers or studio monitors will work; tons of companies are making decent budget studio monitors now. For headphones, whether it's your favorite earbuds or Beats by Dre, as long as you purchase an ⅛" to ¼" adapter to plug them into your interface, any headphones will work. A couple of my personal (budget-conscious) picks, though...

- PreSonus Eris E5 Pair ($225): http://www.sweetwater.com/store/detail/ErisE5
- Sony MDR-7506 Closed-Back Studio Headphones ($100): http://www.sweetwater.com/store/detail/MDR7506

SETTING UP YOUR TRACKING SPACE

THE CONCEPTS

Choosing the Spot:

- Move away from the computer. Because of fan/monitor noise from the computer itself, if you can get a few feet away from your computer while recording with a live microphone, you'll be better off. With 20' XLR and headphone cables, this should be easy
- Room geography. Split your room into thirds and stay toward the middle. In less-than-ideal acoustic environments, being too close to walls and corners will be audibly noticeable. Stand near the middle or ⅔ toward one end of the room to avoid nasty frequency buildups and flutters.

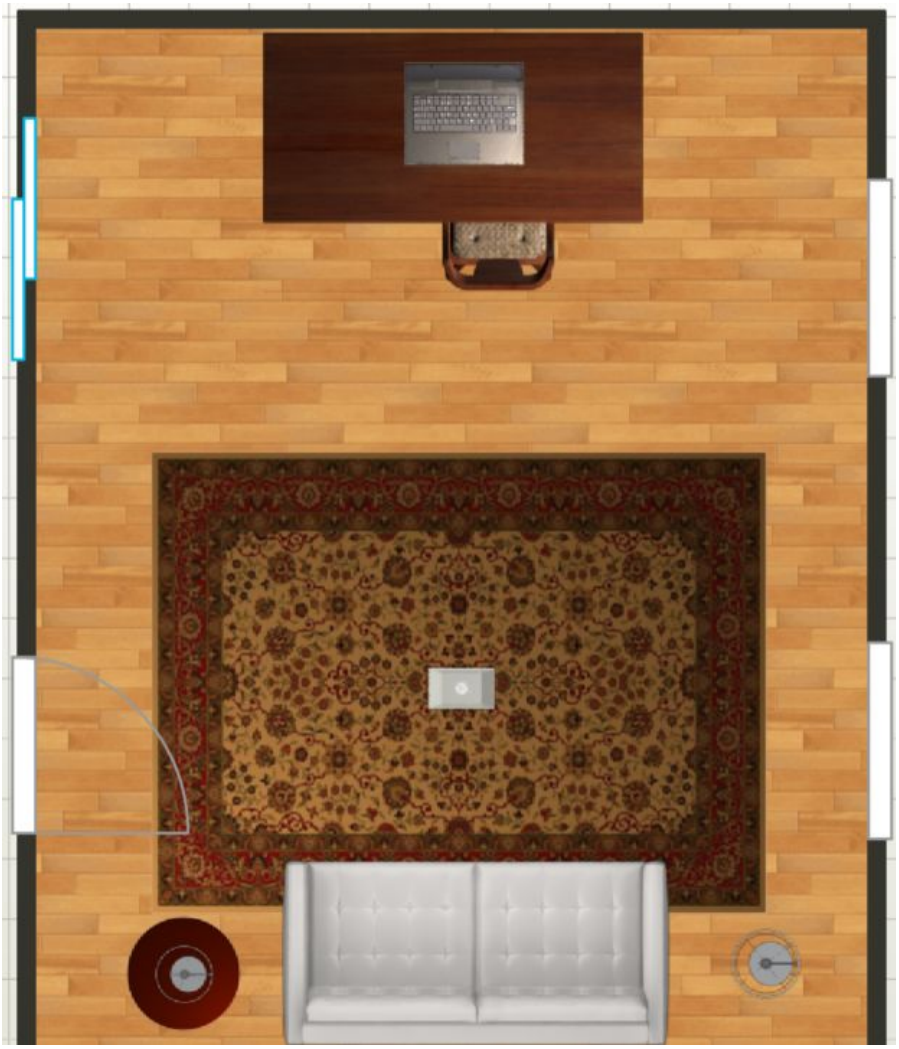
Soften the Area: Reflective surfaces in a small room can kill a recording. While you don't want your room to be 100% dead, maximizing the highly reflective areas around your work area will help tremendously.If you've got money to spend, acoustic foam kits from Auralex and similar companies can help tremendously with your room sound; however, blankets and temporary DIY problem solving can accomplish the same with a little trial and error.

- **Floors:** working in a carpeted room provides maximum absorption and prevents stomps/creaks, etc. That said, if you have hardwood or concrete floors, employing an area rug can will a long way.
- **Walls:** While you don't need to cover every inch of drywall, hanging heavy blankets near your microphone and behind you during your recording will cut down on unwanted noises from your points of first reflection.
- **Microphone Placement:** Making use of a MudGuard or similar mic shield prevents unwanted reflections from reaching the microphone capsule from the sides and rear. Set your mic and MudGuard up so that they're facing into the larger, more open ⅔ of your room, so that you sing out into the room, with your back toward the nearest wall, allowing the natural sound of your voice to project outward rather than build up in a small area.

Remove Computer Audio: While listening to external speakers is great for editing and mixing, you should be relying on headphones only during your recording. Keep the volume comfortable, but not too loud, so as to avoid headphone bleed into your microphone.

Set Safe, Reasonable Levels: In the age of high-resolution digital recording, we don't need to record at high levels to capture high fidelity tracks. As a general rule of thumb, you'll want your loudest peaks in your performance to hover between -16dB and -10dB on your DAW's volume meter. When you start to see anything yellow/orange/red, back your preamp gain level down a bit. A good mix engineer can always turn things up, we can't remove distortion or peaks.

EXAMPLE



Computer / DAW setup at one end of the room

Temporarily hanging blankets around windows and doors to cut down on early reflections

Accent rug to dampen stomps and room reflections

Microphone/stand placed near rear ⅔ of room, facing outward into the room to avoid frequency buildup.
**Hanging blankets behind the mic will help even more.*