

You Don't Have to be a Pro to Get Quality Sound



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Introduction

Let's say that you've been doing one-on-one coaching for a while, and you're starting to realize that you're still trading time for money. By creating audio classes, you suddenly transform your coaching from one-on-one to one-on-many and your whole business changes. The production of audio products can become an integral part of your revenue generation plans.

The introduction of built-in microphones on computers and free applications like Garage Band has really changed things. Now anyone can create nearly free audio content. There's a problem though. Most of what's readily available out there could stand some . . . um, improvement. Okay, I'll say it. Most audio content on the internet sucks.

But it doesn't have to.

It's not particularly difficult or time-consuming to learn some little things that can improve the quality of your sound radically.

That's what this little e-book is about. Improving the quality of your audio content. Specifically, improving the recorded sound you collect on the road to finished content. Oftentimes, you simply cannot fix bad recorded sound in the post production process.

No matter how good your content, if the quality of your audio files is rubbish, your potential audience will not suffer through them to hear what you have to say. Really. They won't.

My goal is to help you gather higher-quality sound from the start, making the post process easier, and your audience able to actually listen to what you have to say. I welcome your questions and feedback. Thanks for stopping by and downloading this e-book.

Catch The Wave

A brief lesson in the physics of sound is in order. I promise to not hurt your brain. Having even a very basic understanding of how sound works makes it easier to troubleshoot down the road.

At its most basic level, sound is a wave of excited atoms. It moves through the air and is received by the funnel that is your ear. Your brain processes and decodes the information transmitted by the wave, resulting in what we call “sound.”

Because sound moves like a wave, it has certain physical properties that we can see through an analogy.

It’s time to take a bath. A nice hot one. The temperature is actually immaterial to this little science experiment; it’s just that a hot bath is relaxing and you might as well have a side perk while conducting this lesson.

Make waves in your bath by whatever method amuses you most. What you’re doing is watching the waves as they travel across the surface of the water. What happens when they hit the side of the tub? Well, if you’ve created a wave of sufficient strength, the hard surface of your tub’s wall will reflect the wave back into the water. Now if you’re really good, and experiment with it long enough, you can probably create a wave across the narrow part of your tub that will reflect off one side with sufficient force to hit the other side, which will again be reflected back. In theory, if other factors didn’t come into play, that wave could keep reflecting back and forth across the tub forever. However, you’ll notice that the wave decreases in intensity each time it hits the hard surface, until it fades away entirely.

This property of a wave is known as reflection.

Now it's time for a trip to the ocean.

Either find a video online or head out to the nearest sandy beach and take a seat close enough to the shore to see what happens as the waves come crashing in. Unlike the bathtub, the sand absorbs the energy of the wave, rather than reflecting it. Sand is porous and when compared to the enamel of a tub, it's soft. So ocean waves are (for the most part) not reflected back out to sea.

Why does any of this matter?

As you'll see in the next section, there are three factors that matter most to the creation of quality sound. Foremost among them is your environment - the physical space in which you're recording. Everyone may understand that recording next to a busy street will mean that the trucks rumbling by will be present on the recording, but not everyone realizes that if you're in a room filled with parallel hard surfaces (think of the tub), you can set up a situation in which the waves of sound reflecting back and forth either cancel one another out - muffling and garbling the sound you create, causing you to sound like you're inside of a tiny box. The reflections can enhance one another creating echoes, or worse, feedback loops (think of that high-pitched screeching sound that is put into nearly every movie that contains a scene with a microphone).

Three Factors that Matter Most in Creating Quality Sound (In Order of Importance)



Your Physical Environment

In Your Office / Studio

Many of you are reading this seated at your computer in your home office or studio. Some of you may not have such a space, and instead work from the chaise lounge in your living room. Go to the place you most often work, wherever that may be.

Start by looking around. Do you have a hardwood floor, tile floor, or wall-to-wall carpeting? Do you have four walls, each parallel to one another? Is there stuff hanging on the walls? Is there a lot of furniture in the space? How many windows are there in this space?

Now close your eyes and listen. What do you hear? The hum of the computer fan? The buzz of a compact fluorescent light? Traffic outside? Your infant daughter downstairs screaming at the nanny?

Try this. Clap your hands together one time quite hard. You're trying to create a single, sharp Crack! sound. How long does it take the sound to die away? Did it echo?

Each of these observation exercises tells you something very important about this space. All of the noises you heard when you closed your eyes are liable to be picked up by the microphone. If, when you looked around, you noted a hard surfaced floor and bare walls that are parallel to one another, with little furniture to break up the waves of sound, I would be willing to bet that you heard an echo when you clapped your hands together.

The ideal environment - in fact the one that can be found in the million dollar professional recording studios - is cut off from outside noise interference, is more "dead" than "live" acoustically (meaning the sound does not reflect back and forth off of the surfaces around you), and is isolated

from buzzing from lights, computer fans, and electrical lines.

You honestly don't need a million dollar studio to create quality audio content, but you do need to pay attention to, and alter as necessary, your physical environment to create basic conditions that are friendly to creating recorded sound.

In the field

Let's say you're waiting for your flight to visit Auntie Mabel in Wichita. Across the waiting area, you see Guy Kawasawki closing up his laptop to gaze out the window at the winged hollow metal tubes. Because you've had an entirely platonic brain crush on him for years, you risk embarrassing yourself to go over and say hello. Because he's a nice guy and he's just as stuck as you are until boarding begins, a conversation gets going.

Now since you're not an idiot, you don't blurt out, "Guyl'msuchahugefan,caninterviewyou?" Instead, you let Guy ask what you do, giving you the opportunity to mention your blog and accompanying podcasts of technology and culture books. You read and review these books for your tribe. You also mention that you reviewed his latest book favorably and throw in a very honest compliment about it. Finally, you mention that you are expanding to include author interviews and that you'd love the opportunity to interview him.

Because you're both waiting on the boarding announcement, Guy suggests doing it right now, if you have a recorder handy.

Now here's your problem. Airports are not built to be acoustically friendly. Note the unintelligible

announcement system (it's not just the speakers; it's the space). There are people noises, the aforementioned Charlie-Brown-Adults-Sounding blaring speakers, the trash gatherer pounding on the polished chrome rubbish bins, and the fact that all of the surfaces are hard and reflective, thus messing with the resonance of the sound.

Very nearly the worst environment ever.

Still, you are prepared, and in this case, you have the right equipment to overcome the obstacles. (Windscreened directional mics, a digital recorder with plenty of charge, and headphones to ensure the background noise isn't killing the interview.)

If, however, you don't have the right equipment, you need to know enough to realize that interviewing Guy in this environment with the equipment you have in hand is a waste of his time (and yours). You graciously explain this, and he pulls out his iPhone and you schedule something for later.

Bad sound is worse than no sound at all. Knowing how your environment will benefit or harm your audio collection is more important than having lots of equipment. Sometimes there's no equipment that can adequately overcome the environment. In that case, it's more professional to reschedule. Imagine what would happen to your reputation in Guy's eyes if you posted an interview with him to your site that was impossible to understand? Your first interview would be your last.

Your Body

Just as you need to be mindful of the space in which you are recording, you also need to pay attention to what you're doing with your body as you create sound. Your voice sounds different when you're seated versus when you stand. The way you breathe matters, and the force with which you speak your words can change everything.

Ideally, you will create in your recording environment a way to record standing up. When you do this, you can take full advantage of the resonance chamber that is your body. Your breaths are fuller, and you are less likely to squash your chest into an elbows-on-the-desk slouch. Plus, if you're anything like me, you spend too much time sitting anyway and standing will be good for you.

If you are someone who naturally breathes through your mouth, you will need to unlearn this to improve your recording. Additionally, if you're the sort of person who tends to force your breath out of your nose as you exhale, similar unlearning (at least for the times you're recording) is a good idea. Unless you're creating a horror film or porn flick, recorded sounds of heavy breathing are unattractive and distracting to your listeners.

Next time you watch a sporting event on television, note the big foam-looking things on the microphones. They're called windscreens, and they're there to cut down on the sounds of wind in the field, but also heavy breathing from athletes who are being interviewed.

Not only is the position of your body important, the position of your body in relation to the microphone is something that many people struggle with. You do NOT need to position the microphone directly in front of your mouth. In fact, most of the time this is one of the least desirable positions for a microphone. (Yes, there are exceptions. There are always exceptions.)

Depending upon the type of microphone you are using (something we'll address next), the best microphone position is either just below or just above your mouth, about as far from your mouth as the distance between your index finger and thumb when you hold them apart from one another. The singers you see on stage who are more or less eating their microphones are often not even singing live; yes, you could be paying \$110 to listen to a CD on a really big sound system.

Last but not least, you must remember that the microphone is there to capture sound you create. It cannot capture sound it can't pick up. In other words, you have to project your voice. While this may apply more directly to those using a microphone in an in-person presentation (another subject entirely), it is important to speak clearly at a volume that does not ask the microphone to strain to pick up your muttering.

Your Equipment

Why do I put equipment last? Quite simply because sound equipment -- microphones, analogue-to-digital converters, editing software, mixers, limiters, and all of that other tech gear -- cannot overcome lousy environments or inappropriate use of your body in relation to recording.

It's just gear; it cannot actually work miracles.

There's an entire e-book to be written on equipment alone. And for every sound engineer you meet, you will receive an entirely different gear list of what you "must" have in order to record decent sound. But here's a secret you need to know: Use what works for you and sounds good to your ears and the rest will take care of itself.

You do not need to spend \$10,000 on a Sony C800GPAC Large Diaphragm Tube Condenser Microphone < <http://www.fullcompass.com/product/306779.html> > unless that mic captures the sound you like best. You do not need to use a mixer unless you have multiple sources coming into play and the mixer makes your life easier. There's no need to drop hundreds of dollars on a portable digital recorder if you never record sound outside your studio/office.

Take time to figure out what your goals are, and the equipment will be found. If you let the gear drive your choices, you'll likely spend more money than you should on equipment that may not do what you really want and/or need.

Here's some very basic gear information.

Microphones

There are two basic types of microphones; Dynamic and Condenser.

Dynamic mics use technology that's rugged and thus these are the sorts of microphones that are used by reporters and bands. In fact, I own an ElectroVoice ENG-style microphone that once was advertised as being so rugged that you could use it to hammer nails. Hammering nails is not advised, but hey, it's an option if ever you're in a MacGyver-like situation and still want to capture some sound afterwards.

Condenser mics use a technology that is more fragile, and is not friendly to being banged around. You will most often find these microphones in the million dollar recording studios, as well as radio station control rooms. The main advantage of a condenser mic is that it can record a wide range of tones, and are often thought to sound "warmer" and more realistic than sounds captured with a dynamic mic.

Typically, both types of mic are best connected to the input device through a connector called XLR. There are also mics that use a connector called RCA. More recently, a variety of mics have been built that use a direct USB connection going straight into your computer.

For a whole variety of reasons, I prefer the XLR-connected mics. This means a bit more hassle in connecting the mic to your computer, but if you're doing more than just chatting with friends on skype, the hassle can have a tangible effect on the quality of your sound. It is, however, undoubtedly true that there are emerging some high-quality USB mics. Perhaps I'm just old school, but other than the headset I use for Skype conversations I'm not recording, I always use XLR-connected mics. I can still hear the difference.

That said, I will remind you that the \$20 Skype headset you purchased may be exactly what you need. Decide what you want to do and then choose the gear; not the other way around.

Audio geeks will next want me to get into the pickup patterns of the various mics. What this refers to is the direction(s) from which the microphone is best able to physically pick up the sound waves headed to it. Some pick up only in one direction. Others pick up in all directions. Yet others have specialized patterns in which the best quality sound is captured. For the purposes of this little book, a full discussion on this point will need to wait. If it's just you recording in your home office, a "uni-directional" or "cardioid" microphone will likely serve you best.

Mixing and A/D Conversion

If you want to do a quick-and-dirty upgrade of your equipment, you can purchase a higher-quality microphone than the 50-cent built-in mic that is in your laptop. The new mic should have either a "headphone jack" connector on it or a USB connector. As long as you've seen to fixing your environment and make better use of your body, this may be the best solution for you. And if you do this, you don't need a mixer (unless you want to record from multiple sources) or an Analog-to-Digital (A/D) Converter. Don't be fooled into thinking that you have to spend tons of money to have better quality. You can have an excellent quality microphone for not a ton of money. And if you know you want to upgrade your entire system later, save up and do it right. Quick fixes aren't always the answer.

Back to mixers and A/D conversion. If you look at the inputs on your computer, you will not see one that looks like this:



Because of this, you will need an intermediary device to translate the analog sound (which is what your mic is picking up) and convert it to the 1s and 0s of a digital signal. USB mics use your built-in sound card to do this, though I personally do not feel they do the best job of it.

If you know you will use multiple sources (like a CD player for music, or a portable digital recorder for interviews) for your audio products, a mixer with built in A/D conversion might work well for you. If it's just you and your shadow, there are stand-alone A/D converters that may be useful for your setup. Like microphones, there are as many opinions as there are options.

Portable Digital Recorders

If you want to record interviews at next year's South By Southwest conference, you will need a mobile recording device. This is in addition to a mic. A mic only picks up the sound, it doesn't record it. Digital is the standard today, but as with all gear, there are plethora options.

The guidelines I give you here are simple.

1. Don't break the bank, because the most expensive ones are likely not what you really need.
2. Be sure to check for external inputs and find one that uses an input type that works with the dynamic mic you own or plan to buy. (You don't want to use a condenser mic in the field. They are easily damaged.)
3. Be sure that the file type the device generates works with your computer. Some create proprietary file types. I stay away from them on principle. There are also a few out there that create Windows-only file types. Yes, savvy Mac folks can overcome this handicap, but why would you want to go to the bother?
4. Scour the internet for reviews from folks who actually use the recorder in the field the same way you intend to use it. Let someone else tell you it stinks and save you the hassle of returning it.

Editing

GarageBand. Audacity. Levelator. Audio Hijack. Ardour. Adobe Audition. Sound Forge. Pro Tools.

Each of these pieces of software can be used to edit your clean audio. Some of them can help fix mildly bad source audio (if you know how). They range in price from free to hundreds of dollars. Do your research and find the software that will work best for you. The one with the most bells and whistles is very cool and may warrant bragging rights, but if you don't have a clue how to use it, or

it takes you a year to learn to use it correctly, it's useless.

Editing sound is as much art as it is science and technology. Yes, there is the basic removal of "um" and "ah" and "oh ^&\$%!". Starting out with learning to do that - which you can do quickly and easily in products like GarageBand and Audacity - is a good use of your time. As you go on, however, you might want to create a musical introduction. Or you realize that hanging those six velvet paintings of Elvis around your office didn't quite remove that ringing echo, and you want to pull that out electronically (because of course you've become quite attached to having The King watching you as you work).

All of these things are learned skills. But doing them well is where the art comes in. Finding the exact beat on which to edit someone you've interviewed takes learning to listen. Seeking out the exact frequency that will take out a background annoyance without taking anything from the vocal range requires time and patience.

Fiddling effectively with the interface of these tools is only the start. There's so much more to learn if you want to.

Now What?

This brief e-book is designed to give you some very basic information to help you improve your audio products. Sometimes the best thing is to experiment and push aside all need for immediate perfectionism. Also push aside the fear of failure.

Give yourself time and room to try different things. See if an area rug on the wood floor cuts down on the too-bright sound in your room. Go to a music store (the kind with equipment; not CDs) and talk with one of the sound techs about the mics they have and what you want to be able to do. And if they geek out and go over your head, ask them to dumb it down for you. When you're trying to learn it doesn't matter whose microphone is bigger; you need information you can understand.

Go out onto the internet and listen to stuff. Find some recordings that sound really good to your ears and ask the creator how she did it. What gear does he use? What mistakes did she make early on?

Finally, I'm here to help. The reason I started Online Sound Advice was to help people who I know have amazing content sound as good as their content. And to do it in ways which don't overwhelm them or make them feel as though they've fallen into the sound geek Pit of Despair.

Utilizing audio content in your online business can increase your passive income as well as your audience reach. Improving the quality of your just-for-fun podcast can improve your listener numbers. Learning how to create excellent sound will allow you to turn your e-book into an audiobook.

The possibilities are huge. How can I help you get there?

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