



Days To Better Recordings

by

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Welcome!!

If you're reading this eBook, that means you've subscribed to my newsletter over at HomeStudioCorner.com. Thank you!

Or...it's possible a friend sent you this eBook. Either way, I'm glad you're reading it, and I hope it helps you make much better recordings in your home studio. If you aren't already on my free newsletter list, you can join by [clicking here](#). I send out lots of good information on a weekly basis.

Let me take a step back. My name is Joe Gilder. I run the website HomeStudioCorner.com, where I teach thousands of home studio owners like yourself all about home recording. For more about me, [click here](#).

How to get the most out of this eBook.

This eBook is divided up into 31 sections. In each section, I deal with a specific aspect of the recording process. In addition to that, I also include a daily challenge with each section. The challenges are designed to help you think through that particular topic and *actually apply* the things you learn to your own home studio.

If you want to blow through all 31 days in an afternoon, be my guest. However, there's a lot of material here to digest. I'd suggest taking it one day at a time, or even longer, and **really focus** on trying out the things I teach you.

There are very few "right" or "wrong" answers in music and recording. The way I go about recording, editing, mixing, and mastering a song might be completely different from the way you do it. I learned my approach by absorbing techniques from other engineers and adapting some of them to my own workflow.

The tips I suggest in this eBook are just that -- tips. They may not all apply to you, but I challenge you to at least *try* each of the tips in this eBook.

The worst thing that can happen is your recordings start sounding better and better.

Happy reading!

Joe Gilder
HomeStudioCorner.com



Day 1 – Evaluate Your Rig

So you want better recordings, right? Or perhaps you're just getting started and you just want to be *able* to record.

First things first, you need to take a few minutes to *evaluate your current recording setup*. Before we can talk about mic techniques, signal flow, EQ, or compression, we need to make sure that you have a setup that is *capable* of producing great-sounding recordings.

The Good News

There has never been a better time to record music, especially for us home studio folks. Technology keeps advancing in leaps and bounds, which leads to *quality* equipment at *affordable* prices.

Years ago, you simply couldn't build a multi-track recording studio for less than *several* thousands of dollars. Those days are gone. Today, you can have a quality recording rig for a couple hundred dollars.

The Bad News

With the onset of affordable recording technology comes the endless array of **choices**. There's not a single best way to build a studio. Every category – computer, audio interface, microphone, preamp, etc. – has dozens, maybe hundreds, of choices.

With all these choices comes a lot of confusion. Hopefully I can help ease that a bit. Whatever you do, *don't freeze*. Even though there are a bajillion options out there, nearly all of them are capable of giving you great results. Decide on a few and **get busy**.

Here are a few steps to help you.

1. 12 Home Studio Necessities

I wrote a series of articles when I first launched Home Studio Corner called "[12 Home Studio Necessities](#)," where I outline the basic components of a home studio. (You can read the articles by clicking on that link, or you can read the eBook version [here](#).)



If you're just starting out, and you don't even know where to begin, this is a must-read. Even if you've been recording for a while, I'd recommend that you read it, too. It'll help you evaluate your rig, and might help determine any missing pieces.

2. Identify Wants vs. Needs

Almost everything I list in *12 Home Studio Necessities* is something you *need* to make good recordings. But there are plenty of things you may *want* to add to your studio.

There's nothing wrong with that. **But**, you should probably make a list of things you want vs. things you need.

If you're really itching to buy a new plug-in bundle when you're still recording everything through the 1/8" mic input on the back of your computer...you should probably reconsider. The plug-in bundle would be a *want*, whereas an audio interface would be a *need*.

3. Create a Game-Plan/Budget

Once you've identified the things you need, make it a priority. Devise a plan for exactly how you're going to get them, how much they're going to cost, and how long it's going to take.

In the meantime, don't put off recording. Make the most of what you have, no matter how minimal, and **practice**. If you've only got a cheap \$20 microphone, while you're saving up for a new one, record as much as you can with the mic you have. Learn to make it sound as good as possible.

Better gear won't always guarantee better recordings. You have to know **how to use it**. (More on that another day.)

Day 1 Challenge

On a piece of paper, quickly inventory your setup (what you have), identify wants and needs, and jot down what you're game plan is.



Day 2 – Avoid G.A.S.

On Day 1 we looked at how to evaluate your gear and identify any needs you may have. However, I would be doing you a great disservice if I didn't follow up that discussion with a discussion about G.A.S., or Gear Acquisition Syndrome.

One of the most popular articles on Home Studio Corner is the one I wrote on [Gear Acquisition Syndrome](#). If you haven't read it, I'd recommend it.

G.A.S. is simply an ongoing state of discontentment with your studio equipment. While I **love** to buy a new shiny piece of gear, that love for something new can quickly turn into an obsession.

As we talked about yesterday, it's easy to confuse *wants* with *needs*. If left unchecked, G.A.S. can lead to months, even years of studio upgrades...but no music.

It would be like a painter who is constantly buying new brushes, paints, canvases, etc., but never actually *paints a painting*. Remember, the gear is simply a set of tools. If you're not using your tools to create anything, you're missing the point.

The end goal isn't to have a really killer studio setup; it's to create really killer **recordings**.

My buddy [Ben Gortmaker](#) recorded his entire album using *GarageBand*, the free recording software that comes pre-installed on Apple computers. His album sounds amazing. Yes, you should use good equipment, but never assume that you *must* have top-of-the-line equipment to produce quality music. (Hear it for yourself, listen to the [Ben Gortmaker Podcast](#).)

I'm not condemning you if you want to buy new gear. I've got a studio full of lots of cool stuff. However, if you're procrastinating creativity in order to acquire a few new pieces of gear, I think you need to re-evaluate things.

Day 2 Challenge

Answer these two questions:

1. What single piece of gear are you really excited about getting next?



2. What creative endeavors are you actively working on **right now**, rather than waiting until you have that piece of gear? (If you don't have any, come up with one and write it down.)

Day 3 – One Good Microphone

In the *12 Home Studio Necessities* series, I talked about [microphones](#). Regardless of the style of music you're recording/producing, you'll need to use a microphone from time to time.

If you're like me, you use a mic for almost everything you record.

There are **hundreds** of mics to choose from. It can easily become overwhelming. You could buy microphone after microphone, in search of the perfect combination.

Just One Microphone

Ever heard the phrase "less is more"? It really applies to home studios, *especially* if you're starting out.

It's easy to hop on some of the popular forums and hear a hundred different engineers recommend a hundred different microphones. Before you know it, you're starting to think you need a whole closet full of microphones to have any hope of making good recordings.

That's not necessarily true. Having all of those microphones doesn't guarantee you'll make better recordings.

I'm not against a big mic locker. In fact, I wholeheartedly believe that a good engineer will give himself several microphone choices for any given recording scenario. (For example, one mic may sound better on a particular vocalist than another.)

Re-read that last paragraph. The key phrase there is "good engineer." My buddy Slau (of the [Sessions with Slau Podcast](#)) is a full-time professional engineer in New York. He *loves* to talk about (and buy) new microphones. He has a lot of microphones.

The difference? *He knows how to use them.*



If you're just starting out in the recording world, you need to first learn how to use a single microphone effectively. Once you've mastered that one, move on to a second, then a third, and so on.

I'd suggest starting off with a large-diaphragm condenser mic, but you can start with something as simple as a Shure SM57 or SM58. There are no rules. (See Graham Cochrane's article about [\\$100 microphones](#).) Whatever you choose, commit to becoming an expert in using *that* microphone.

Find out how to best record acoustic guitar, male vocals, female vocals, piano, guitar amps, etc. with that *one mic*. Once you've mastered it, get another mic and repeat.

Imagine owning three or four different microphones that you are *intimately* familiar with rather than a dozen mics you don't know how to use. That's a **huge** way to start getting better recordings.

For more on mics, check out [Intro to Microphones](#).

Day 3 Challenge

Write down your answers to these questions: What is *your* one microphone? What are you going to do to start learning it inside-out.

Day 4 – Acoustic Treatment

It would be a grave injustice for me to talk about getting better recordings and **not** dedicate a day to acoustic treatment.

Acoustic treatment is probably one of the least “fun” items you'll add to your studio, but the benefits FAR outweigh any potential inconveniences. Whether you decide to buy or build your acoustic treatment, this is absolutely one of those *must-have* items.

I've talked about acoustic treatment a *lot* on HSC. ([Click here to see all the acoustic treatment articles.](#))

What IS acoustic treatment?

I'd guess that 98% of you have home studios in some sort of spare room in your house. In other words, the room wasn't built specifically to be a studio.



Chances are there are a lot of bare walls and parallel surfaces and right angles. While very common in houses, these things can wreak havoc on the *sound* of the room.

This isn't some evil myth created by acoustic treatment companies to get you to buy acoustic treatment. The problems are real. It's physics.

Ever wonder why your recordings sound *nothing* like the professional recordings you listen to? Ever wonder why your mixes sound great in your studio, then sound horribly bass-heavy in the car? Ever wonder why your vocals don't cut through the mix?

Acoustic treatment can address **all** of these issues.

Hear it for Yourself

I explained this in more detail in my review of the [Auralex Roominators Project Kit](#). I highly recommend reading that and listening to the before and after sound samples. It paints a pretty convincing picture of what you could be missing if you ignore acoustic treatment.

Acoustic treatment doesn't have to be expensive. Even if you just hang up some packing blankets and sleeping bags, you could still reap some big benefits. Experiment. Take a chance. I've found it's extremely difficult to get excited about acoustic treatment, but once you hear the difference, you'll be glad you took the plunge.

Day 4 Challenge

Write down what you plan to do (or are already doing) to acoustically treat your studio. Does it make a huge difference?

Day 5 – One Good Preamp

On Day 3 we talked about getting to know one good microphone, but what about a preamp for that mic?



What is a microphone preamp?

A preamp is simply an amplifier that boosts the level of a microphone's signal to a usable level. Microphones and guitars put out a very quiet signal. Without some sort of amplification, these signals are virtually unusable.

If you've ever tried to plug a microphone into a line input on a mixer, you know what I'm talking about. There's little-to-no signal there. That's why a microphone always needs to be plugged into a preamp before anything else. (See [Intro to Preamps](#).)

So...what's the deal with preamps?

Preamps can have a *huge* impact on the sound of the microphone. A really nice, \$3,000 microphone won't sound very good through a \$30 preamp. Conversely, an \$80 microphone can sound *much* better through a nice preamp versus a cheap one.

Preamps come in lots of flavors. Some of them sound very clean, some add a lot of color and harmonic distortion to the signal.

If you're a beginner, I would suggest simply using the built-in preamps that come with your [audio interface](#). For example, my 003 has four built-in preamps. They're not *amazing* preamps, but they are of sufficient quality to produce good recordings.

If you've been using the stock preamps for a while, and you feel like you've "outgrown" them, then it may be time to venture into the world of standalone preamps. Standalone pre's, for the most part, are built with better components than the ones that are included with an audio interface.

They tend to have less noise and greater amount of gain (amplification). A lot of them have extra goodies, too, like EQ and compression, which allow you to further sculpt the sound before it gets recorded.

When you're using an external preamp, you want to run the output of the preamp into a **line input** on your audio interface. Running it into a mic input is unnecessary, since the signal has already been amplified, and it will likely result in distortion.



The “One” Rule

As I mentioned with microphones, stick to just one preamp until you master it, *then* move on to the next.

Really commit to *learning how to use the gear that you own* before you go dropping your hard-earned cash on another shiny toy.

For most home studio folks, one or two preamps may be all you ever need. I currently have two external preamps, a [Focusrite Trakmaster Pro](#) and a [Presonus Eureka](#).

Obviously, if you’re tracking full bands or a drum kit, you’ll need more preamps. However, most home studio owners I know use only one or two mics at a time. If you think about it, if you use one preamp on every track in your song, upgrading that *one* preamp can have a dramatic effect on the overall quality of your recordings.

Day 5 Challenge

Do you have an external preamp? If so, write down what it is and what you like about it. If not, write down what you like / dislike about the “stock” preamps that you’re using now.

Day 6 – Think Outside the Box

As you’re [evaluating your rig](#), you may find yourself neck-deep in a [Sweetwater](#) catalog. With thousands of items vying for your attention, it’s easy to develop tunnel vision.

You need to occasionally break free and think outside the box. There are so many creative ways to add on to your studio, but sometimes you’ve got to look for them.

Here are a few places to start.

1. IKEA

Do you know about [IKEA](#)? I thought it was a household name, but then I recently met several people who hadn’t heard of it.



Basically, IKEA is this huge warehouse store. They produce anything and everything you could want to decorate your home. Furniture, lighting, all sorts of stuff.

The great thing is that they produce everything in bulk, and it's all *really* inexpensive.

It may not seem immediately obvious, but a lot of the items sold at IKEA can be easily converted for studio use. For example, if you watch my latest [studio tour](#), you'll see that I used their \$15 [Rast nightstand](#) to make an 8-space wooden equipment rack.

Jon over at [Audio Geek Zine](#) is actually the first person to turn me on to a lot of IKEA studio "hacks." Check out his [article on how IKEA makes great studio furniture](#). (The article may be missing pictures. Jon's site recently fell victim to a server crash...bummer.)

2. Cinder Block Monitor Stands

Here's an odd one I came across over on velvetron.com.

So you've got your [studio monitors](#), but you're running out of room on your studio desk. Or perhaps you want your monitors to be a little bit higher, more ear-level.

There are lots of monitor stands out there (I own these [On-Stage stands](#)), but they can be a bit expensive, starting at around \$100 for a pair. When you're using \$300 studio monitors, that math simply doesn't add up.

But you still need something, so why not use four [cinder blocks as monitor stands](#)?

I was surprised at how well they seemed to work. Something to consider...

3. Guitar Pedals

Looking for effects for your mixes? Not convinced you want to buy a rack-mount reverb or effects unit? That's understandable. Those can get fairly pricey. But what about guitar pedals?

Do a quick search for guitar pedals on Craigslist, and you'll quickly find a whole host of cheap, used guitar pedals. Not a guitarist? No problem, you can run any



sort of signal through a guitar pedal, and this can be a *great* way to change things up in the studio and capture new, exciting sounds.

Listen to this podcast I did on [using hardware inserts in Pro Tools](#). I talk about how I used the delay pedal in my guitar pedalboard to add a nice slap-back delay to a lead vocal on a song I mixed.

4. Toys and more...

The guys over at the Home Recording Show podcast know all about thinking outside the box. They always give me great ideas for cool ways to get new sounds. For example, check out [Show #75 – Homemade Effects and Demos](#).

Jon also has created a sample library of sounds he recorded while *breaking* a bunch of toys. It's called [Toys Breaking](#).

Day 6 Challenge

Write down something new you're going to try in your studio that you've never done before.

Day 7 – Set Limitations

All this talk about gear. It's fun, right? You daydream of a studio filled from floor to ceiling with **gear**.

Awesome, right?

Well...maybe not.

While it's fun to have a lot of equipment, it only makes sense if you're actually **using** that equipment to regularly create good music.

My advice? **LIMIT YOURSELF.**

Whether you're a beginner or a seasoned veteran, you can benefit from limiting your options in the studio.



For the Beginner

This might be fairly easy for you. You may only have one microphone and no extra plug-ins or hardware equipment.

Don't freak out!! In a lot of ways, you're better off than the guy with hundreds of pieces of gear to choose from. Rather than spending all of your time AB-ing different combinations of gear, you've only got one choice. This means you spend more time **making music** than playing with gear.

Don't be in such a hurry to amass a big 'ol pile of gear. It may be the *last* thing you need. Graham Cochrane has a great free eBook on this very topic over at theRecordingRevolution.com. Check it out.

For the Seasoned Veteran

Maybe you've got an **incredible** collection of microphones, preamps, converters, EQs, compressors, plug-ins, monitors, headphones, and bobble-head dolls.

On your next project, limit yourself as much as possible. Perhaps you mix your next song using *only* the plug-ins that come with your DAW.

Or perhaps you record an entire song using *only* and SM57. You'd be surprised how much these strict limitations will get your creative juices flowing. You'll be forced to think outside the box and do things *differently*.

Don't get me wrong. I'm not saying you should *always* limit yourself. Great gear is awesome. But I do recommend occasionally limiting yourself. It'll help keep yourself sharp. You'll learn to rely on your skills rather than the gear.

Day 7 Challenge

Write down how you're going to limit yourself on an upcoming project.



Day 8 – Get the Most Out of Your Studio Monitors

Once you get all these amazing tracks recorded, you’ve got to mix ‘em right?

Right.

Recently I was hosting a live Q&A session. One of the attendees asked, “What’s the point of mixing? Once you have everything recorded, you just blend them together and you’re done, right?”

While mixing IS a fairly simple concept (combining multiple tracks down to a single stereo track), it takes a **lifetime** to master. Mixes I’m doing today sound a lot better than mixes I did a few years ago. Three years from now my mixes will sound even better (I hope).

So, we can agree that mixing is important. If that’s true, then your [studio monitors](#) are **equally** as important, since you’re listening to *everything* through them.

You need to make sure you’re using decent studio monitors. Obviously. If you’re using \$20 computer speakers from Walmart, you’re probably not hearing things very accurately.

That said, even if you only have “okay” studio monitors, there are things you can do to make them sound as good as possible.

1. Mopads

A while back I did a [review of Auralex Mopads](#). Check out that review for complete details.

In short, mopads are *monitor isolation pads*. They’re designed to go between your monitors and the surface on which they’re resting. This helps to *decouple* the speakers from, for example, your desk.

When the speaker produces sound, those vibrations can travel from the speaker to the desk, and cause the desk to resonate at a particular frequency. This causes the low frequency response of the speaker to seem undefined, or perhaps even a little thin.



Placing a \$40 set of Mopads under your monitors will create a **night-and-day** difference in how they sound. I know, I know. I was skeptical at first, too, but then I tried it. Great stuff. Suddenly the speakers had a deep low end and sounded very tight.

2. Acoustic Treatment

I've talked about acoustic treatment already (on Day 4), but it deserves another shout-out whenever talking about monitoring.

In addition to Mopads, proper acoustic treatment is a HUGE factor in how accurately your speakers (and your room) reproduce your recordings. Great speakers in an untreated room will only yield mediocre results.

Why? Because the room **lies**. It takes the sound that comes out of your speakers and changes it before it gets to your ears. Acoustic treatment helps minimize this.

Even if you can't spend a lot on acoustic treatment, even a \$100 box of foam will make a noticeable improvement.

Some recommended reading:

- [Low End Woes](#)
- [Acoustic Treatment vs. Digital Room Correction](#)

Day 8 Challenge

Today's challenge is to carve out an hour of time in the next day or so to sit down in front of your monitors and **listen to one of your favorite albums in its entirety**. Take notes on what you hear. Make a mental note of what these songs sound like through your monitors.

Oftentimes, we get so caught up in trying to make our mixes sound great that we forget to remind ourselves what **good** mixes sound like through our monitors. Regularly listening to professionally-produced material will help combat this.



Day 9 – Get the Most Out of Your Headphones

Yesterday we took a look at [studio monitors](#), but what if you don't **have** studio monitors?

Or perhaps you're like so many home studio owners; your prime time to work is when the wife/kids/pets are all sleeping. Gotta keep things quiet, so you reach for your trusty headphones.

Can you get a good-sounding mix with headphones?

There are two trains of thought here. Some people will tell you that the only way to get great mixes is to use studio monitors. They'll refer you to the hundreds of great-sounding albums out there, which were all mixed on monitors, not headphones.

Other people will tell you that headphones are wonderful for mixing. They'll tell you that since they fit directly on your ears, you don't have to worry about all the pesky acoustic issues in your room. And they'll argue that most people listen to music on earbuds these days anyway.

I think **both** groups are right. Yes, most professionals mix on studio monitors. Yes, it's possible to get a good mix on headphones.

The key is to **learn** how to mix on both.

For example, panning a guitar hard left won't sound nearly as dramatic on monitors as it does on headphones. On headphones, you're only hearing the guitar in your left ear. On monitors, you still hear it a little bit in the right ear.

Also, balancing levels is very different from headphones to monitors. I've found that if I mix a lead vocal on headphones exclusively, nine times out of ten it's too loud when I listen on monitors.

There are a thousand other little inconsistencies between the two. The key is to spend time with both. Listen to your favorite album on both your headphones *and* your monitors.



There will be subtle differences. Knowing these differences will be the key to mastering the art of mixing on both headphones and studio monitors.

For more, read this article I wrote called [Headphones: To Mix or Not To Mix](#). I spell out in a bit more detail the pros and cons between monitors and headphones.

Day 9 Challenge

Your challenge for today is to repeat your Day 8 Challenge **on headphones**. Listen to the same album, and leave a comment on what differences you noticed. How will this change your approach to mixing?

Day 10 – Cables: The Weakest Link

I worked for a few years as a salesman for [Sweetwater Sound](#). (Check out my [insider's review here](#).) I was always fascinated by customers who would buy a really nice \$1,500 microphone, then they would run it through a \$6 cable.

I would constantly remind people that **cables are the weakest link in your studio**. Your system is only as good as its weakest link.

A whole rack of ridiculously expensive studio equipment isn't nearly as effective with cheap cables.

I'm not here to sell you cables. Don't worry. But I do want you to think about cabling, and make sure you're not shooting yourself in the foot by using sub-par cabling.

Think about it.

Virtually everything in your studio connects to something else via a cable. Your entire mix (that mix you've been working on for hours) is traveling to your speakers on two little cables. Doesn't make sense to ensure that these cables aren't harming the signal at all?

That's what you get with cheap cables.



The Cons

Here are the cons of using cheap cables:

- **Noise** – Cheaper cables usually aren't shielded very well, which makes them more prone to allowing noise into the audio signal.
- **Broken Connectors** – The cheaper cables I've used tend to have weak connectors that break over time. For example, the cable starts to break away from the XLR connector on a mic cable.
- **Replacement Cost** – While you may save a few bucks buying cheap cables, chances are you'll have to replace those cables in a year or two. Then again in another year or two...then again...and again. Those costs can add up.
- **Cable Failure** – Obviously, ALL cables are capable of failing, but if you've got cheaper cables, they'll be more likely to fail...and more likely to fail in the middle of an important session.
- **Degraded Audio Quality** – Some cheaper cables can actually take away a lot of the high and low end of your audio signals. Sometimes, simply switching cables causes everything to sound so much warmer and brighter.

The Pros

And here are some pros for getting good cables:

- **Low Noise** – Better cables reduce the amount of noise that gets added to the recorded signal.
- **Stable Connectors** – Good cables will usually have metal connectors rather than molded plastic, which tend to last a LOT longer.
- **Lifetime Warranty** – Good cables (like ProCo and Monster) include a lifetime warranty. If the cable fails tomorrow or 10 years from now, they'll replace it. **You only have to buy the cable once.** Once you stock your studio with a good batch of cables, you'll never have to buy them again. That's awesome.
- **Thicker Wire** – Good cables are usually a good bit thicker than their cheaper counterparts. This keeps them from bending, kinking, and helps them last longer, especially if you're constantly wrapping/unwrapping them.

Day 10 Challenge

Your challenge today is to take a look at your cables. Are you cutting corners? If you **are**, write down what you're going to do about it.



Day 11 – Pre-Production

It's day 11 of *31 Days to Better Recordings*, and it's time to change gears a bit. Now that we've talked about recording equipment, we're going to dive into *technique*. This should be fun.

Pre-Production

If you've hung around Home Studio Corner for any length of time, you've probably heard me talk about **pre-production** from time to time. I think it's probably one of **the most important** steps of the **entire** recording process.

In fact, in the [Production Club](#), my 12-week training course, we spend the entire first week dealing with pre-production.

Pre-production is the planning phase of the recording process. It's where you determine things like arrangement, instrumentation, tempo, etc. Seems simple enough, but you can save yourself a LOT of time and wasted takes by knocking these details out **at the beginning**.

Recommended reading:

- [The Importance of Pre-Production](#)
- [Pre-Production Tip \[Video\]](#)
- [Why Pre-Production is So Important \(and Fun\)](#)

Make Sure the Song is Good...FIRST!

All the pre-production and planning in the world can't make a terrible song better. Live with a song for a few days or weeks. Record a quick demo, listen to it in your car. Let the song work itself out in your mind before committing things to tape. You may find that the song needs some *major* overhauling before it's ready for recording.

Day 11 Challenge

Do you have a pre-production process? If you don't, come up with one and write it down.



Day 12 – Overdubs: Keep it Simple

We've all seen the pictures of those **huge** tracking sessions.

The drum kit has 16 mics on it. Both guitar amps have two mics on each of them. The acoustic guitar has two mics. The vocalist has a mic. The bass player is playing both direct AND they're recording his amp with two mics. The keyboardist has 3 different keyboards, each with a pair of outputs.

Don't even get me started on the orchestra in the next room.

As much fun as these sessions can be, they're not very realistic for us home recording folks.

If you have dreams of one day owning enough mics and preamps to do a big 'ol tracking session, GREAT!

In the meantime, though, **keep it simple**.

Up to this point, any project I record in my studio, including my own [album](#), I've taken the overdub approach.

The Overdub Approach

Rather than trying to put together a full band and recording everything at once, I recorded everything one instrument at a time. Rarely do I use more than two inputs simultaneously.

If you're starting out in the world of recording, I'd suggest using your [one good microphone](#) that we talked about on Day 3 and recording your projects one instrument at a time. **One instrument. One mic.**

"What about drums?" you may ask. Great questions. Until you have the capabilities to adequately record a drum kit (or rent out a studio for a drum session), use something like [EZ Drummer](#) to create your drum tracks.

Again, when you're taking the overdub approach, the idea is to keep things as simple as possible. When you're only recording one instrument at a time, you're allowing your mind to really focus on that *one* instrument, that *one* mic, that *one* task. Instead of keeping up with 12 mics and 12 different mic techniques, you're



simply trying to get the **best possible sound** you can get with just one microphone.

Once you master the use of one microphone, graduate yourself to two, then even more as needed.

The goal here is to learn to crawl before you walk.

Most hobbies are fairly simple. I like to play basketball, for example. In high school, did we focus exclusively on complex trick plays on the first day of practice? No, we worked on the **fundamentals**.

It's the same idea with recording, don't jump in too deep until you've gotten a good handle on the fundamentals. Hopefully *31 Days to Better Recordings* will help you with that.

Day 12 Challenge

List an area of your "recording life" that you're letting become too complex. What can you do to simplify it and *get better* at it?

Day 13 – LISTEN Before you Commit

Setting up for a recording session takes time. You've got to deal with mics, stands, cables, etc. It's normal to want to jump in as soon as possible and start recording.

I can't tell you how many times I've done this. Three hours later...I've recorded a lot of material, THEN I listen. If it sounds bad, then I've wasted three hours of my life.

Front-Load Your Sessions

It's understandable to want to rush through the setup process to get to the "good stuff." If that sounds like you, I want you to try something.

Next time you have a session, make a conscious effort to spend **twice as much** time setting up the microphones as you normally would.

Spending just a few extra minutes on mic placement can save you *exponentially* more time during recording **AND** mixing. I wrote about this in [7 Things I Wish I](#)



Had Done Differently on my Album. I rushed through recording the acoustic guitars. Granted, I recorded them quickly, but I had to spend a **lot** of time EQ-ing them during mixing to get them to sound right.

All that extra work could've been avoided if I had spent more time making sure the microphones were set up properly.

Listen

It should be obvious to us that we need to listen to our recordings, right? You'd think so, but it's fairly common to go several minutes, even *hours*, without really listening to what you're recording.

So here are the steps you should take to make sure you're getting the best possible sound **before** committing anything "to tape." ("To tape" is just a fun way of saying "to hard drive"...or simply "recorded.")

1. **Know the source.** Before setting up the microphone, simply stand in front of the instrument/vocalist and just...wait for it...**listen**. You need to become familiar with what the actual instrument sounds like *in person*. You'd be surprised how many recording engineers will listen to the instrument *for the first time* through the monitors in the control room. How can you *possibly* know if your recording sounds accurate if you don't even know what the instrument *actually* sounds like?
2. **Take your time setting up the microphone.** Find a "sweet spot," a place where the mic sounds especially good.
3. **Listen to it in the control room.** Does it sound bad? Go back and move the microphone(s). Does it sound good? Great! Record a minute or so of the musician playing.
4. **Stop recording!** Don't get ahead of yourself.
5. **Listen to what you just recorded.** Before you jump in and start recording 5 guitar takes, listen to the recording you just captured. Listen to it in context of the mix. Listen to it solo'd. Does everything sound as good as you want it to sound? Are there any changes you would make? If so, **now is the time to do it**. Don't wait until it's too late to notice that there's too much low end, or that one of the microphones has a buzz in it.
6. **Once you're content, then (and ONLY then) you should start recording.**

Follow these steps, and you'll save yourself hours of wasted time.



Day 13 Challenge

We've all wasted time in the studio. We've all been in such a hurry our recordings suffered. Think about one of these such occasions that *you* have encountered. Hopefully we can learn from our mistakes.

Day 14 – Setting Levels for Recording

A lot of people ask me about setting levels for recording. It seems simple enough, but people tend to be a little nervous about it.

What if I record it too loud? What if it clips?

What if I record it too quietly, and it's never loud enough?

These are legitimate concerns, but I would say that it doesn't matter **nearly** as much as you think it does. Yes, proper gain staging is important, especially when using outboard gear, but when setting levels coming *into* your recording platform, it's not as tricky as it may seem.

24 Bits to the Rescue

I wrote an article entitled [24-bit vs 16-bit](#) that might be helpful for you. In it, I explain the differences between 16-bit and 24-bit recording, and why **you should always record at 24-bit**.

In summary, 24-bit recording allows for a **huge** amount of dynamic range.

In the past (back when we were recording to analog tape), things were a bit tricky. If you recorded the signal too quietly, it would be covered up by tape noise (tape hiss). If you recorded it too hot, there would be a lot of tape saturation (which could be either a good or a bad thing, depending on your goals for that track).

In both digital and analog systems, you certainly want to prevent clipping, but the way they each handle recording levels is important to know.

With analog tape, the actual *sound* of the signal would change the harder you hit the tape (i.e. the louder the signal was). There is a fine line between getting that nice tape saturation and getting distortion and clipping.



With a digital system, however, the signal stays exactly the same. It doesn't get "warmer" if you record it at a louder level. And the noise floor of a digital system (the inherent noise of the system itself) is *much* lower than the hiss of analog tape. Even if you record at a low volume, there's not much chance of the signal being very close to the noise floor.

But Joe, what does it mean?

At one point, early in my recording career, I would try to *peg* the meters every time I recorded. I would try to get that little dancing light to hit as close as possible to clipping without going over. I thought I was maximizing the sound. I wasn't.

Since the signal is going to sound *exactly the same* at -10 dB as it will at -2 dB, don't bother trying to get really hot recordings. Let the lights dance between 1/2 and 3/4 of the way up the meter. That'll leave *plenty* of room for louder sections (like a particularly loud snare hit), and you're not in danger of losing out to noise.

All I'm saying is don't add more stress to a recording session by trying to get really, *really* high levels. It'll sound just as good (and you'll be much more comfortable) if you just turn everything down a little bit.

Recommended reading: [Setting Levels for Recording](#)

Day 14 Challenge

Your challenge today is to try easing up on the gain next time you have a recording session. Does it sound just as good? Were there a lot less clipped signals and wasted takes?

Day 15 – Get a Handle on the Proximity Effect

One of the biggest challenges we face as home recording engineers — or is it recordists? Heck, I don't know — is **low-mids**.

Initially, when you're recording everything, you want a really rich, full sound. You want everything to sound...wait for it...**warm**.



Once everything is recorded, you start mixing, you want to blend everything together and have it sound amazing, but you find that no matter what you do, everything sounds **muddy**.

When you solo the guitar, it sounds great. When you solo the drums, they sound great. When you solo the vocal, it sounds great. But for some reason when you play everything together it's a big mush-ball of low-mids. There are certainly things you can do during mixing to help (and even eliminate) this problem. But what if there was something you could do during recording to minimize this low-mid buildup? Wouldn't that be better? Wouldn't it be better for your tracks to blend together naturally **before** you start adding EQ, compression, etc. during mixing? Absolutely.

As you've heard a bajillion times, **get it right at the source**.

"Don't stand so close to me."

Have you ever heard of **proximity effect**? It's one of those recording school glossary terms. Most of those terms won't help you get better recordings. This one is an exception. Knowing and understanding proximity effect could be your saving grace.

So what is it? Proximity effect is this phenomenon that happens with directional microphones, particularly cardioid mics. (I'm not sure if *phenomenon* is an appropriate description, but...I can't tell you why it happens, so...phenomenon it is.)

Chances are you're using a cardioid (unidirectional) mic. Whether it's an SM58 or a Rode NT1A, most studio microphones are cardioid.

When you place a cardioid microphone closer to the source, it tends to pick up more low frequencies. *This is the proximity effect.*

You've probably seen this all the time. Radio announcers, bass singers in a gospel quartet, voiceover artists — they all tend to "eat" the microphone. This is a smart move, because the proximity effect causes their voices to sound deeper and fuller.

If you place a cardioid mic 3 inches from the 12th fret on an acoustic guitar, it's most likely going to sound very boomy. If you move it back to 6 inches, or 12 inches, it progressively captures less and less low end.



Moving the microphone from 3 inches to 6 inches won't really change how the mids and highs sound, but the lows will be reduced.

How This Can Hurt Your Recordings

Let's say you're recording 20 tracks for a song you're working on. And let's say you close-mic **every** one of them — acoustic guitars, guitar amps, bass amps, piano, vocals...everything.

While the proximity effect can really help a voiceover artist, it oftentimes does more harm than good for us recording folks. Why? Because each of those 20 tracks you recorded has a **lot** of low end. The proximity effect has essentially exaggerated how much low end was actually there.

While the individual tracks may sound nice and full, it can be nearly impossible to mix them all together without whipping out some pretty serious EQ ninja tricks.

As I mentioned in [7 Things I Wish I Had Done Differently on My Album](#), I recorded the acoustic guitars with the microphones **way** too close. I was able to make them sound okay, but it would've been a **lot** easier if I had paid more attention to the proximity effect during the recording session.

Some Final Points

As you might have guessed, the proximity effect only occurs in cardioid mics. Omnidirectional microphones have *no* proximity effect, which means you can mic things closer, but they also pick up *everything* in the room. (Catch 22.)

The proximity effect isn't necessarily a bad thing. Too much of it can be problematic, but you can also use it to your advantage. Need more "umph" out of your bass track? Move the mic closer to the speaker cabinet. Vocal sounding a little thin? Have them sing closer to the mic.

Just be careful.

Day 15 Challenge

Your challenge for today is to write down one instrument you're going to mic up *differently* on your next session after reading this.



Day 16 – Using EQ and Compression On the Way In

Here's a question I get a lot from people:

Should I be using EQ and/or compression on the signal **before** it gets recorded?

This is usually followed by an "[Is that wrong?](#)" type of question.

It's NOT Wrong!

There are no rules when it comes to recording, except for maybe "*Make it sound good.*"

Otherwise, you should **always** be experimenting and trying new things, unless the technique has the potential to physically harm an innocent bystander.

If you're not sure what I mean by using EQ or compression "on the way in," I'm referring to using a physical outboard EQ or compressor, and actually running the signal **from** the preamp **through** the outboard gear **before** recording it. This can be done with individual components (preamp, EQ, compressor) or it can be done with a [channel strip](#) (a preamp with EQ and/or compression built in).

Okay, here are a few tips to think about when using EQ or compression on the way in.

1. Be careful. It's permanent.

When you use EQ and compression on your incoming signal, you're adding an extra level of complexity. In other words, you're giving yourself even **more** ways to mess things up. That's part of the fun.

Keep in mind, though, that if you overdo it with EQ or compression, that's something that can't really be undone. You can try to compensate for it during mixing, but the damage is done. When you're first experimenting with outboard EQ and compression, err on the conservative side.

Rather than compressing with a 10:1 ratio and creating 25 dB of gain reduction, try a 2:1 ratio with just a *few* dB of gain reduction.



Rather than boosting 60 Hz and 12 kHz by 7 dB each, try cutting 250-500 Hz by 1 or 2 dB.

As you become more confident, try more things, but take it easy at first, or you might regret it. There are few things worse than when the musician plays a *perfect* take, but you ruined it by compressing it too much. Not cool.

2. Don't Use EQ/Compression for Effect

This ties in to the first point. I would encourage you to use EQ and compression to **enhance** the signal rather than **alter** it.

If you find yourself trying to drastically change the tone of the instrument you're recording, perhaps try recording a different instrument. (For example, rather than using EQ and compression to make a MusicMan bass sound like a Fender jazz bass, just use a jazz bass.)

If you really **want** to do some over-the-top compression or EQ, do it **after** you've recorded a clean signal, either by using plug-ins or routing the recorded signal out of your DAW and back through your gear a second time. (See podcast on [using hardware inserts in Pro Tools](#).)

3. Go for it.

While it's lame to ruin a take by being too aggressive with outboard gear, don't let it scare you stiff. Perhaps experiment with outboard gear on your less-important sessions.

That way you'll be experienced and ready to go the next time you're hired by a major recording artist to engineer their next hit.

Either way, you should definitely **go for it** if you get the chance.

Day 16 Challenge

Write down your answer to one of these questions:

1. Do you own any outboard EQ or compression? If so, how are you going to use it differently in the future? What are you going to try?
2. If you don't own any outboard EQ or compression, is it something that's on your wishlist? Why or why not?



Day 17 – Using Multiple Mics

On Day 12 we talked about [keeping it simple](#), and only using one microphone for each instrument. These limitations can force you to be more efficient and creative.

There are certainly situations, though, where it's a good idea to use multiple microphones on a single source. I almost always use two microphones when I record acoustic guitar, for example.

Flashlight Mics

Some instruments are large (acoustic guitar, piano, drum kit); others are small (human voice, harmonica, kazoo). It can be helpful to imagine that your microphones are flashlights. Wherever the light shines, that's where the microphone is picking up sound. For larger instruments, you may need more "light," so multiple microphones might be necessary.

If you place a flashlight 2 inches from the 12th fret on an acoustic guitar, it will illuminate a tiny little area...it will hardly light up the entire guitar. When your microphone is that close, the recorded signal will sound a lot like that little section of the guitar rather than the entire instrument.

Most instruments are designed to be heard in their entirety. Imagine if your acoustic guitar didn't have a wooden body, and only had a REALLY nice, 3-inch area of wood around the 12th fret. That would obviously sound horrible.

There's a reason the guitar is created the way it is. If you shine your microphone on such a small area, you might be missing out on the overall tone of the instrument. (Not to mention you'll have a heck of a time dealing with the [proximity effect](#).)

The moral of the story? Most of the time, you want to record the instrument as accurately and naturally as possible, and sometimes this means using multiple microphones.

For more on this idea of stereo-miking acoustic guitar, read these two articles (FYI – "stereo miking" simply means to use two microphones on a source and pan them left and right to create a wide, natural sound, much like the way the human ears hear):



- [3 Reasons to Stereo Mic Acoustic Guitar \(with audio examples\)](#)
- [3 Reasons NOT to Stereo Mic Acoustic Guitar](#)

Mo' Mics Mo' Problems

As you might guess, if using one microphone makes things simple, using multiple microphones makes things more complicated.

You've got to worry about mic placement and preamp gain for EVERY mic that you use. That's not a big deal, but with every mic you use, that's one more thing you have to mentally keep track of.

It's easy to set up a bunch of mics and just start recording. "We'll figure it all out later," you say to yourself. This can be a dangerous approach. Why? Because of **phase issues**.

Whenever you use multiple microphones, you need to make sure the microphones are **in phase** with each other. If the sound reaches one microphone a few milliseconds before the second microphone, when you play both tracks back, the recording begins to sound thin.

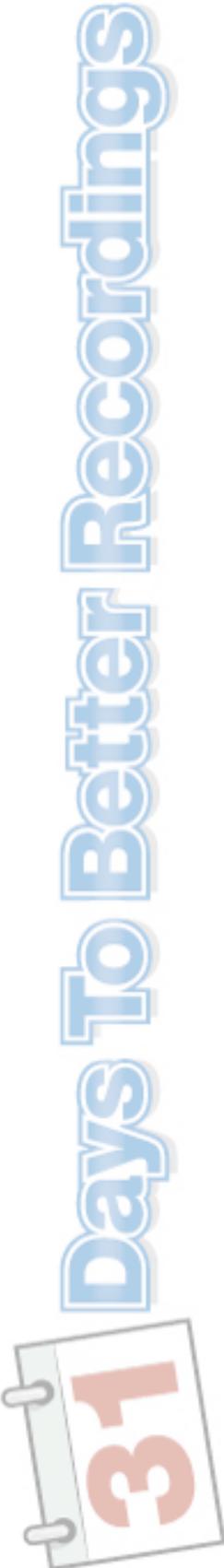
Why? Because this tiny delay between the two tracks causes phase cancellation. In other words, some frequencies are removed, so you don't hear them.

Still confused? That's okay. Have you ever heard a guitarist play through a phaser pedal? A phaser pedal *intentionally* takes the guitar signal, duplicates it, and puts the second signal out of phase with the original signal. It delays it by a few milliseconds, resulting in that classic, thin, "phasey" sound.

That thin sound can happen to your recordings when you use multiple mics.

My 2 pieces of advice?

1. **Listen, listen, listen.** Spend a lot of time listening to the mics *together* before you commit anything to tape. Adjusting one microphone by just a half-inch can make a huge difference.
2. **Observe the [3:1 Rule](#).** (I highly recommend reading that article.)



Day 17 Challenge

Your challenge for today is to try using two or more microphones on your next recording session. How did you like it. Do things sound better or worse?

If you have used multiple mics before, tell us what you think. Do you like it? Why or why not?

Day 18 – Take Advantage of MIDI

We've talked about recording instruments with microphones quite a bit, but what about *virtual* instruments?

What if your song needs a piano, and you don't own one?

What if you need an orchestra, but you don't have the cash to hire the Nashville Symphony?

Then it's time to take a trip to MIDI Town.

I Know What You're Thinking...

Are you a recording snob? "MIDI is lame and sounds fake."

I know. I kinda used to be a recording snob, too. Then I just tried out some of the virtual instruments out there. The truth is...a lot of them sound **amazing**.

If you mix them right, and if you factor in the cost of finding/hiring that weird instrument you're looking for, virtual instruments make a *lot* of sense for most home studio folks.

The Benefits

Not too familiar with MIDI? Never really tried it? You should. Check out my [Intro to MIDI](#) video. That'll get you moving in the right direction.

MIDI has some obvious benefits. Here are just a few:

- Access to instruments/sounds that you would otherwise be unable to find/create.



- The ability to edit the *performance* **after the fact**. This is HUGE. Play a wrong note? Play the wrong chord? Just go back and change those notes. You can't do that with audio recordings.
- The ability to change the *sound* after the fact. Recorded a piano part, but want to know what it sounds like as a Wurlitzer? Click...click...done.
- The ability to **quantize**, i.e. automatically align the timing of notes to a grid. (Watch my video on [How to Quantize MIDI](#).)

Do I use MIDI on my songs? Heck yes. ALL of the drums from my album [Out of Indiana](#) were created using EZDrummer (a MIDI drum module). I'm a fan.

The Downsides

As with most things, there are some downsides to using MIDI. Here are a few:

- The patches sound fake. Yep, sometimes that's the case.
- The sounds are too perfect. Believe it or not, a pristine, crystal clear piano may NOT fit into your recordings. Sometimes you need something a little...dirtier.
- You can waste a lot of time just **finding** the right sound for your song.
- The ability to change/tweak the sounds and performance can lead to endless adjusting, never being satisfied, never being *finished*.

Needless to say, MIDI is a language we should all be able to speak. As a recording engineer, it can only help you to have a good, working knowledge of MIDI.

Day 18 Challenge

Write down your answers to these one of these questions:

Do you like MIDI? Do you use it when you should perhaps be using a microphone and actually recording something? Explain.

Do you hate MIDI? Don't you think you should give it a chance, and learn how to use it to make your tracks sound awesome? Explain.



Day 19 – Recording Takes

Whether you're recording audio or MIDI, if you're using some sort of DAW (Digital Audio Workstation), then you should have the ability to record **takes**.

What are takes? Takes are simply multiple attempts at recording the same part.

3-5 Full Takes

Whenever I record a lead vocal, I almost always record 5 takes. That means I have the singer sing through the entire song five times. At that point, as long as the singer is comfortable and singing well, I'll be able to piece together one awesome take from those five takes.

When I record acoustic guitar, I usually record at least 3 takes.

Somewhere from 3-5 seems to be the magic number for me.

If the musician is comfortable with doing full takes (meaning he/she knows the song well and is comfortable with playing it in its entirety several times), then I would default to this approach to recording takes every time.

Recording full takes of the song is just a natural way to do it. It causes the musician to focus on the song as a whole, rather than focusing *too* hard on a specific section of the song. It removes a lot of pressure and lets the musician just...play.

If you can capture 3-5 confident, high-energy, passionate takes, then you're well on your way to a great-sounding recording.

If, after recording 5 takes, there's one section that he/she never really "nailed," then it's fine to go back and punch in a few takes of just that one section. Again, I would do several of these as well, so there's no pressure on the musician to get it done in one take. (Don't underestimate how much [psychology goes into the recording process](#).)

The Section-by-Section Approach

There's another way you can approach recording takes. Rather than recording multiple full takes, simply record one section until you get it right, then move on to the next section.



This approach is particularly helpful if:

- The musician doesn't know the song very well.
- The musician is getting frustrated with having to do full takes.
- You're in a hurry.

The musician doesn't know the song very well.

This is what I did with my bass player/brother-in-law [Joel](#) on my album [Out of Indiana](#). I hadn't played my songs for him much before our tracking sessions. He would just show up, I'd write up a chord chart, and we'd plug through the song.

We'd basically go through section by section. Record the intro...good? Good. Record the verse. Good? Eh...let's change this note. Okay. Record the verse again...good? Good.

This doesn't work very well if the musician isn't very consistent, since each section will sound fairly different. Joel, however, is a stellar bass player, so I didn't have to worry about that. (And he came up with some SICK bass parts.)

The musician is getting frustrated with having to do full takes.

Sometimes recording full takes can be exhausting, particularly if the musician just isn't "feeling it." Trying to go section by section can be really helpful. Record 3 takes of the first verse, then move on. It's worth a shot.

You're in a hurry.

This is never a really good idea, to record in a hurry, but it happens. Depending on the song/ musician, it may be faster to go section by section (like I did with Joel), rather than spending time recording lots of full takes.

Day 19 Challenge

Which approach to recording takes do *you* use? Why? Your challenge is to try the other approach.



Day 20 – Don't Forget to Edit!

On Days 1-10 we talked about gear. On Days 11-19 we looked into recording techniques. For the remainder of *31 Days to Better Recordings*, we're going to look at what do to *with* those tracks once they've been recorded, things like **editing, mixing, and mastering**.

Today, let's take a look at **editing**.

What is Editing?

That's a fair question. You may be new to recording, or maybe you've just never bothered to think about editing. Either way, I think it's worth your while to give it some thought. It might be a key factor in making better recordings.

So, what exactly IS editing? I've talked about it a lot here on Home Studio Corner (see [Intro to Editing](#)), but let's review.

Have you ever read a book and found a typo? (For some reason it always makes me happy.) The reason these typos stand out in our minds is because they rarely happen.

Do you think an author writes his book, emails the text to the publisher, and then they promptly print thousands of copies and start selling them? Wrong. In the book publishing world, **editors** are hugely important. They're responsible for finding errors and typos, even rearranging (or possibly removing) sections of the book in order to make it flow more smoothly.

We've come to accept the editing process when we read books. If you were to buy a book that has tons of errors in it, you'd probably feel like you didn't get your money's worth, right? There's something about a polished, finished product that just seem right.

Well, if you expect your *books* to be professionally "polished," wouldn't it makes sense to expect the same quality from your recordings as well? I think so.

So...**what is editing?** Editing is simply using the tools in your DAW to alter the recorded signal, to change it for the better. This can involve any of the following:



- **Pocketing** – Moving out-of-time sections of a performance to make them sound more “in time” with the rest of the song. (This is probably what most people are referring to when they say they’re “editing” a song.)
- **Noise Removal** – Recording in a home studio lends itself to lots of noise. Whether it’s simply the singer smacking his lips between phrases, or some random spikes in the audio due to a glitch in your converter. These all can be fixed with editing.
- **Comping** – Copying and pasting from several different [takes](#) to make one final “comp track” of a performance.

[Is editing cheating?](#) Some think it is. They think that if you dare to touch the audio after it’s recorded, you’re hurting the music and killing the performance. I disagree.

First things first, you can ALWAYS have too much of a good thing. Editing, just like EQ, compression, reverb, delay, etc., can easily be taken too far. But just because you **can** go overboard with editing doesn’t mean you **shouldn’t** edit.

A lot of mixes I hear from beginner engineers have **tons** of reverb...we’re talking TONS. Does that mean reverb is a bad thing and they shouldn’t use it? Not at all. Like all things, it needs to be used **in moderation**.

Another Part of the Creative Process

I approach editing just like I would playing a guitar part or singing a lead vocal. In my opinion, editing is just another key part of the creative process. There is a musical way to edit things. If you edit a track properly, you won’t be able to HEAR the edit, you’ll simply be impressed with such a great-sounding track.

That’s the point. We’re not *fixing* a crappy performance. We’re *enhancing* a good performance. Want to hear the difference? Check out this post: [Audio Editing: Hear it for Yourself](#).

Just like a good author utilizes an editor to put the final polish on his book, we as audio engineers should use editing to put the finishing touch on the songs we’re working on.

If you want in-depth training on editing (including practice tracks), check out [Understanding Editing](#). There’s a lot of good info there.



Day 20 Challenge

If you're a fan of editing, write down **why** exactly you edit. What difference does it make?

If you're skeptical of editing, or if you've never done it before, write down **why**. Your challenge is to give it a shot.

Day 21 – Mixing: Identify the Focus

Mixing, mixing, mixing.

I love to mix. I really do. There's something deeply satisfying about taking a bunch of tracks and making them blend together nicely into one cohesive, rock-solid mix.

Over the next several days, I'm going to share some mixing tips as a part of this last "trimester" of *31 Days to Better Recordings*.

But before we jump in and start talking EQ, compression, reverb, and the like, we need to take a few minutes to set the stage for the mix.

What's your process for starting a mix? Do you just dive in and start EQ-ing the kick drum? Do you default by putting your favorite EQ and compressor on every channel?

Easy there, turbo.

Just like we talked about going through the pre-production process before you start recording, it's important to take some time before a mix session to **identify the focus**.

Whatchoo mean, focus?

When you start mixing a song, it's easy to just start EQ-ing the first instrument you hear, then work from there. Or perhaps you work on the drums, then bass, then guitars, then keys...and save vocals for last.

There's nothing wrong with any of these approaches (I usually start with drums), but what I want you to do is to **have a reason** for why you use your particular approach to mixing.



Every song you mix should have a focus, a single track (or group of tracks) that demand the most attention. Once you identify the focal element, you should figure out what you want IT to sound like, then build your mix around that element.

Try mixing instruments in order of importance.

For example, if you're producing a simple singer-songwriter song with only 7 tracks, the focus will most likely be the vocals (since the singer wants his/her lyrics to be heard). In that instance, I would start by mixing the vocal...by itself... solo'd. Once I've got the vocal sounding like I want it to sound, I'll bring in the guitar, etc.

On the flip-side, if you're working on a heavy rock mix, chances are the vocals aren't nearly as important as the guitars, so start with the guitars, then drums and bass, then vocals.

What's the point?

This may sound a bit odd to you. *Why does it matter what order I mix my tracks?* I'll tell you.

Let's say you want the vocal to be the focal point of your mix, but you mix **all** of the instruments first, and save the vocal for last. Well, you're going to have a heck of a time trying to get that vocal to sit well in the mix.

Chances are you'll have to remove a lot of low-mids to keep it from interfering with the rhythm instruments and sounding boomy. The result? That nice, full vocal you were looking for gets lost in EQ.

However, if you **started** with the vocal, you would then be forced to build the rest of the mix **around** the vocal, rather than trying to force the vocal to fit in an almost-finished mix.

Day 21 Challenge

What is your normal mixing order? Are you thinking about switching things around? I challenge you to give it a shot.



Day 22 – Setting Levels for Mixing

Have you ever played the red light game?

No, not “red light, green light.” I’m referring to the game you play while you’re mixing a song. You’re *so close* to being finished...you can taste it. You make a little tweak here, a little fader move there, then BAM.

The red clip light goes off.

You hunt down the light, click on it to make it go away, then adjust the level of that track down a bit. Okay, crisis averted, back to mixing.

But wait, now the mix doesn’t sound quite as good as before. Since you had to turn that one track down (because it was clipping), you need to turn down all the other tracks a little bit to make everything balanced again.

20 minutes later...the mix is starting to sound good again. Rock on!

“Hmm...that bass part should cut through a little more,” you say to yourself. So you adjust the compressor for a few minutes. It starts to sound awesome, then? BAM!

Another clip light. You click the light off, then turn down the bass. Now it sounds too quiet, so you have to go turn everything else down *again*.

20 minutes later, it sounds *okay*, but not as good as it was sounding before. You’re feeling a bit cranky. It feels like you take two steps forward, then the stupid clip light makes you take three steps back. You spend more time recovering from clipping than you do actually *mixing* the song.

Time to call it quits and go watch *Seinfeld*.

How to Set Levels for Mixing

The problem here, obviously, is that you’ve set the levels of your tracks *way too high*. In your excitement to get started on the mix, you didn’t give any thought to the levels. You just brought everything up until it sounded nice and loud to you, and you never looked back.



I've written about [setting levels for mixing before](#), and I recommend you read that article. Everyone wants mixes that are loud and full, but you won't get there by running your levels too hot. On the contrary, actually. You'll end up simply frustrating yourself to no end. Perhaps you'll never even finish the mix, because it becomes more of a chore than anything.

The Key to Good Mixing Levels

There are no rules or formulas I can give you. I can't say, "Set the kick drum to -9 dB on the meter, and the snare drum to -5 dB." Strict rules like that **never** work in the audio world. You simply can't create a formula for a great mix.

Most of us learned how to set levels for mixing by playing the red light game...a **LOT**. Over time (for me it was several years), we eventually learn our lesson and adjust our mixing habits.

I'd love to save you a few years of playing the red light game. I'd love it if you could skip over all that frustration and start getting better mixes.

The key to good levels is so simple it almost seems silly to even talk about it, but this single task has improved my mixes tremendously.

What is it?

TURN UP YOUR MONITORS!!!

See? I told you it was simple.

Rather than turning up the individual tracks in your session, before you start mixing ANYTHING, turn up the volume knob on your monitors (or headphones). If the knob is normally at 9:00, turn it up to 2:00.

The louder your monitors are, the less likely you are to turn up your tracks to an inappropriate level.

I'm certainly not advocating listening at ridiculously loud volumes. That's not the case at all. What I **am** encouraging you to do is to set to turn up the volume so that you can hear things clearly without cranking up the individual tracks.

This will force you to keep the individual fader levels of your tracks **much** lower than you would have before...and you'll find that you're hardly *ever* playing the red light game anymore.

Quick Thought on Mastering

You may think that having such dramatically lower levels in your mix will make your mixes *too* quiet, and that it will be too difficult to accommodate for this in mastering. I found it to be completely the opposite.

All of the mixes from my album *Out of Indiana*, were mixed using this approach, so the mixes themselves weren't terribly loud. When I sent them to my mastering engineer, he had *plenty* of dynamic range to work with, and he was able to make them sound nice and loud without making them sound squashed and over-compressed.

Keep that in mind when you mix.

Day 22 Challenge

Today's challenge is obvious: **turn up your monitors!**

Day 23 – Use Subgroups

Any time I'm mixing a song, I almost always use **subgroups**.

Unless I'm mixing a very small session with only two tracks, you can bet I'll be using subgroups.

If you don't use subgroups, or if you're not exactly sure *what* they are or *why* you should use them, read on.

Subgroups Defined

Subgroups are really very simple. You're simply routing (or bussing) several tracks through a single aux track.

For example, whenever I'm mixing drums, I will route ALL of the drum tracks to a stereo bus (let's say *Bus 11-12*), then I will create an aux track, name it "Drums," and set the *input* of that track to *Bus 11-12*, then set the output of that track to the normal main outputs.

So...the signal flow is

Drum tracks —> Drums aux track —> Mix Bus (main outputs)



If you're not quite up-to-date on various track types available in your DAW, I recommend reading these two articles:

- [Pro Tools Track Types Part 1](#)
- [Pro Tools Track Types Part 2 – The Master Fader \[Video\]](#)

(While these articles deal specifically with Pro Tools, just about every DAW I've ever used has the same basic types of tracks.)

Why Use Subgroups?

At this point you may already be thinking of a few ways to utilize subgroups in your mixes, but let me share three ways that I use subgroups in almost every song I mix.

1. One Fader

This is the most obvious use of subgroups. Let's say you're mixing a song, and halfway through the mix you decide the drums need to be a little bit louder. Well, you *could* try to turn up *each* of the drum tracks by the same amount, but this can be tedious.

The solution? Run them all through a stereo aux track, then you have **one fader** to control the volume of the entire drum kit.

This works for drums, guitars, background vocals...anything really.

2. Efficient Processing

I talked about this in my series on [preserving processing](#). Using subgroups can be a fantastic way to save both time and CPU power.

Let's say you have 8 background vocal tracks, and you know you want to EQ and compress them all in roughly the same way. You *could* instantiate 8 EQs and 8 compressors, one on each track, but that can take up a lot of computer processing, AND it takes a lot of time to set up and tweak.

The solution? You guessed it. Bus them all through an aux track, and place the EQ and compressor plug-ins on *that* track only. Now a single EQ plug-in controls the sound of the background vocals, rather than **eight** different plug-ins. Much better.



3. Parallel Processing

If you want to get *really* fancy, you could bus a set of tracks through **two aux tracks**, and process each of these tracks differently. This is known as **parallel processing**, and it can be used to produce some very interesting sounds.

For more on parallel processing, check out these two videos:

- [Parallel Processing – Drums](#)
- [Parallel Processing – Bass](#)

Day 23 Challenge

Do you use subgroups? Why or why not? How are you going to use subgroups on your next mix session? (That's your challenge.)

Day 24 – Wield the HPF

This just might be the most important mixing tip I can give you.

It's something I talk about in-depth in [Understanding EQ](#), but I couldn't possibly go through *31 Days to Better Recordings* without dedicating one day to the **High-Pass Filter**.

A high-pass filter (HPF) is also known as a low-cut filter. It's a very simple tool that simply removes all frequency *below* a certain frequency. For example, setting a high-pass filter to 100 Hz essentially removes all frequencies below 100 Hz.

<Nerd-Moment>A HPF is actually a sloping curve. When you set the HPF to 100 Hz, then the volume of the signal at 100 Hz is at roughly -3dB. The volume at 50 Hz is roughly -9dB, etc. etc. It usually doesn't technically remove EVERYTHING below 100 Hz. </Nerd-Moment>

So, why is a HPF so useful?

I will answer your question with a question. What is the biggest problem with your mixes? Are they too muddy? Too boomy? Too bass-heavy?

A HPF can be a **huge** tool to help solve those problems. Everything you record has low-frequency information. Acoustic guitar, for example, produces a **lot** of



information in the 50-100 Hz range. These low frequencies don't really help things; they simply muddy up your mix...but you may not even realize it.

My solution?

My best advice for your mix?

Use a HPF on EVERYTHING but kick drum and bass.

In most mixes, the kick drum and the bass guitar are the only two instruments that are even **supposed** to occupy the low end. By removing the low frequencies from the other drum tracks, guitars, vocals, keys, etc., you're creating a space for these low frequency instruments to live and thrive.

Where should you place the HPF on each track? That's up to you, but I usually start around 100-150 Hz.

Trust me on this. It's not a magic pill, and it won't instantly make you millions of dollars, but it WILL make your job as a mix engineer **much** easier.

Day 24 Challenge

This one's obvious. Your challenge today is to use a HPF on every track but kick and bass in your next mix, then report back here and let us know what you thought.

If you've already "seen the light," share with the rest of us how much of an improvement this technique makes on your mixes.

And finally, if you're wanting in-depth training on HPF and EQ, check out [Understanding EQ](#).



Day 25 – Carve Out Space For Each Instrument

If you hang around recording circles for very long, you'll inevitably hear someone talking about "carving out a place in the mix for each instrument."

Sounds really smart and artsy, right?

But what does it MEAN?! That's a fair question.

When you're mixing a song, whether you're dealing with a few tracks or several dozen, you are assigned with the task of somehow combining all of those tracks into a pretty, cohesive, smooth-sounding mix.

Consider baking a cake. Just because you throw flour, eggs, sugar, etc. into a bowl **doesn't** mean you're going to end up with a cake. You've got to know what *proportions* to use, or you'll end up with something gross.

It's the same way with mixing. Just because the song has drums, bass, guitar, and vocals does NOT mean it's going to automatically sound good. You've got to find a way to combine ALL of this information in such a way that emphasizes each part without creating overwhelm.

It's not as easy as it sounds. If you simply turn up all the tracks and click "Bounce," you'll likely have a mix that sounds like a train wreck. You've got to learn how to make each instrument sit in the mix and **blend** with all of the other instruments.

I sang in a few choirs in college. One of the most difficult (and also most rewarding) duties of a choral director is to make this group of individual vocalists sound like **one cohesive voice**. Everyone can't just belt out the notes as loudly as possible. They need to blend together.

As a mix engineer, you're "blending" together several sounds. Your job is to give each sound a "space" in the mix, place where it can be heard and yet still blend in with the rest of the tracks.

That's what we mean when we say "carve out a place in the mix for each instrument."



3 Ways to Carve Space:

1. EQ

I talk about this a LOT in [Understanding EQ](#). EQ is a tool that, when used properly, can remove unnecessary frequencies from your tracks, in order to *make room* for the other instruments. For example, I'll do an EQ cut in the guitars around 250-500 Hz to make room for the lead vocal, which sits in that range.

2. Panning

You'd be amazed what a little panning can do. When you're mixing, [close your eyes](#) and imagine you're listening to the band playing live at a gig. Where is the drummer? Where are the guitarists? Pan the various instruments to unique places in the stereo field, and you'll find that your mixes will open up and sound less cluttered.

3. Volume

Simply adjusting the fader levels of each track can be a huge way to create space. Don't have the B3 cranked as loud as the lead vocals.

When in doubt, turn something down. Can't hear the lead vocal? Try turning down the guitars and bass a little bit, RATHER than turning UP the lead vocal. The idea here is to **remove** unwanted elements, **NOT** to add new things.

Day 25 Challenge

Have a mix that's giving you fits? Try one of the 3 suggestions above. Sometimes the simplest changes can be the most helpful.

Day 26 – Don't Compress by Default

Alright, so you're neck deep into mixing a song. You've [carved out space in the mix for each instrument](#) by adjusting EQ, panning, and levels.

At this point, though, you may have certain tracks that are too loud in sections and too quiet in others. The lead vocal, for example, might be at the perfect volume during the verses, but it stands out too much at the chorus. You try



bringing the volume down, but it loses its presence and...for lack of a better word...*oomph*.

At this point it makes sense to reach for the compressor.

2 Types of Compression Users

If you're new to recording and mixing, you fall into one of two categories. You are either **too scared of or confused by compression** that you don't bother using it. Or you're **really excited about compression**, and you use it **by default** on every track in your session.

If you are in the first group, you have a lot to gain by learning how to use compression. It could very well be the missing piece to your mixes. It can help glue things together, tame peaks, even out the volume of your tracks, etc. It's an extremely useful tool, especially when mixing more modern, pop music.

If you fall into the second category, and you compress everything in site. You, unfortunately, need an intervention. Compression is kinda like alcohol. When used in moderation it can be a very pleasant, healthy thing. But if you overdo it, you'll end up with a mess and ruin things for everybody.

If you find yourself using compression by default, take a second to think about *why* you put compression on every channel. Is it because someone told you to? Is it because you *think* you need it?

Or do you know *exactly* why you're using compression?

That's the point I want to make. **Compress on purpose**. Before you open up a compressor on a track, know **why** you're adding compression. If you can't think of a good reason, you need to either a. learn more about compression or b. NOT use a compressor on that track.

Common Uses for Compression

Here are some common uses for compression. This is by no means an exhaustive list, but this will give you an idea of **when** it's appropriate to use compression.

- **Make loud parts quieter.** If certain sections of the lead vocal or bass guitar are jumping out and too loud in sections, compression can help tame those peaks.



- **Make quiet parts louder.** If the lead vocal is getting lost in the mix, or you can't make out exactly what the singer is singing, compression can bring out the consonant sounds in the vocal, making it more understandable.
- **"Tighten" up the sound.** Compression can oftentimes be helpful to make a performance more consistent, and give it a "tighter" feel.

There are plenty of additional uses for compression, but this should get you started.

Day 26 Challenge

Your challenge today is to *identify* which category you fall into.

Do you avoid compression? If so, take the plunge and start learning how to use it.

Do you use compression too much? Start compressing **on purpose** rather than **by default**.

Day 27 – Use Automation (Secret Weapon)

Once you've set the levels and panning for your mix, and you've dialed in the EQ and compression to *just* the right amount, you're done, right?

Not quite.

What you have right now is what's called a "static mix."

There's a "secret weapon" that you should know about. It's called **automation**.

Most of you probably know what automation is, but do you use it in your mixes? Or is it something you think doesn't matter? Well, I have a few reasons **why you SHOULD use automation in your mixes**.

But first...

What IS automation?

Automation is simply the process of recording fader movements (volume adjustments) that are then executed *automatically* by your recording software.



Back in the analog days, people paid BIG bucks to have consoles that featured automation. It was a HUGE undertaking to install a computer, motorized faders, etc. into these analog consoles. Prior to automation, engineers had to *manually* move all the faders in *real-time* as they printed their final mix. (Eddie Kramer talks about doing this with Jimi Hendrix. He actually had Jimi manning a few faders during mixdowns.)

Nowadays you can automate everything from fader levels to EQ settings, but for the purposes of this article, I'm simply referring to *volume automation*.

Why automate?

Good question. I'll give you three reasons:

Sometimes Compression Isn't Enough

The reason you automate is to "bring out" certain instruments during the mix. You may not want the violin to be really loud throughout the entire song, but during certain sections (between vocal phrases, for example) you'd like it to stand out for a moment.

You might try compression to control the volume of the violin, but automation is really the better choice. It preserves the sound of the audio and brings out the violin in exactly the right places, without squashing it to death with automation.

Your Mix Needs to "Breathe"

With a static mix, everything is at a set volume for the entire song. While this *could* still provide a nice-sounding mix, chances are this mix needs to breathe a little bit.

By writing in some automation, you're allowing elements to come in and out of the mix, you're drawing the listener's attention from one element to another. You're keeping it interesting.

The More "Musical" Approach

If you're like me, and you record mostly with overdubs (rather than all the instruments live at one time), you **really** need automation.



When a band plays together, each member learns when to get louder and quieter. They learn to play off of each other rather than fighting to be the center of attention. A good band makes automation less necessary.

If you're overdubbing everything, though, there's a much smaller chance that the musician was able to really develop that "live" feel, since you recorded everything one instrument at a time.

By using automation, you can recapture some of that live feel and make your mixes sound much more musical.

Day 27 Challenge

Use automation on a mix you're currently working on.

Day 28 – Compress the Master Fader?

When I'm working on a mix, once I have the basic sounds and levels I want, I reach for a compressor on my master fader.

I've talked about this before on HSC (see [Using Compression on Your Master Fader](#)), but it deserves to be repeated here on *31 Days to Better Recordings*.

Do you compress your entire mix? Have you ever thought about it? Do you [compress by default](#)? Or do you shy away from compressing the master bus?

I'm not here to convince you to start compressing your master bus, but I do think there are some benefits. Read over these and decide for yourself.

It's Like "Pre-Mastering"

In a couple of days (Day 31) we're going to take a look at mastering. Several years ago, when I first started mixing, I was under the impression that it was *wrong* to compress the mix. Compressing the mix was the mastering engineer's job. Period.

Well, as with most things, there really are no rules when it comes to audio. In fact, I've read interviews with mastering engineers who say they actually prefer it if the mix comes to them with a little bit of compression on it.



If a mix has 30 dB of dynamic range, that means the mastering engineer (depending on the style of music) probably needs to knock 20-22 dB off of that mix to make it loud enough for general listening. If the mix engineer had applied some compression to his mix **before** sending it to the mastering engineer, there wouldn't be quite as much dynamic range to mess with.

See, the problem with compressing in one fatal swoop is that it can harm the sound. Using a little bit of compression along the way, in stages, can sound much more natural.

The Glue that Holds Your Mix Together

I've said this before. Compression can sometimes be the glue that holds your mix together. There's something about light compression on an entire mix that makes everything play a little more nicely together.

It makes the bass tighter, the mid-range more present, and the highs sparkle.

A Few Tips/Warnings

While compressing the master fader can yield some great results, **DON'T OVERDO IT**. A little bit of compression can go a long way. Here are a few quick tips:

- Don't compress by more than 2-4 dB.
- Use a slow attack. Let all the peaks come through, leave them for your mastering engineer to deal with.
- Use a fairly low ratio. I rarely use more than 2:1 on the master.
- Mix everything **through** the compressor. Don't just slap a compressor on the master at the end of the session. It will completely change the sound of the mix. Make sure you're mixing and making all of your decisions while listening *through* the compressor. Trust me.

Day 28 Challenge

Your challenge today is to spend some time adding compression to the master fader on a few of your mixes. Notice how it changes the sound.



Day 29 – Revise Your Mixes

Have you ever heard the following phrase?

Songs aren't written, they're re-written.

I was listening to a Nashville music business radio program the other night, and one of the hosts was berating songwriters who are too proud to make changes to their songs. He claimed that all successful professional songwriters **almost never** write a hit song on the first attempt.

They write the song, then they listen to it, get opinions from others, re-write it, get more opinions, re-write it, get more opinions, etc. The “wannabe” songwriters, according to this guy on the radio, will never stand a chance of being successful if they don't let go of their pride and admit that their songs probably aren't perfect without some revisions. What does this have to do with us recording engineers? I would suggest that:

Recordings aren't mixed, they're re-mixed.

Am I talking about doing a dance club remix of your song? No, silly.

I'm talking about working a **revision process** into your mixing schedule. You need to give yourself time to make valuable changes to your mix. Otherwise, you'll listen to your final mix 3 months from now and kick yourself because of some of the issues you failed to address.

My Approach

Here's how I go about doing this. (I used this approach to mix my latest album.) Take my approach and modify it to suit your workflow.

1. Three-Hour Mix Session

First things first. I mix the song. I try not to take more than four hours **total** to mix an entire song. If you don't set time constraints on yourself, you'll let yourself go 8, 12, even 20 hours mixing one songs. At some point, the mix isn't getting any better.

Download a timer app and stick to it. You'd be surprised how efficient it makes you.



2. Email the mix to a few friends.

At this point, I take my mix and send it to several friends, asking for criticisms/ feedback. Tell them to be honest. It's in your best interest.

3. Check your mix EVERYWHERE.

While you're waiting for a reply from your friends, listen to the mix **everywhere you can** – iPod earbuds, headphones, car stereo, home theater system, live PA setup...whatever you can, do it.

The key here is to **listen for the differences**. Do the vocals stand out too much when you listen in your car? Make a mental note and adjust that when you go back to revise your mix. Does the bass sound too muddy? Make a note to adjust that later.

This is a **HUGE** part of the process. Don't be lazy here.

4. Take a break.

Once you've listened everywhere and gotten feedback from friends, **don't** go back and revise the mix. You're too close to it. Your ears aren't really in "objective mode" anymore. Take a few days off. Work on a different song, *then* come back and finish the mix.

You'd be surprised how a fresh set of ears will allow you to hear things you never would have heard before.

5. One-Hour Revision

You've got your mental notes (or actual written notes perhaps) of what changes need to be made. Set your timer again, and give yourself one hour to make it happen.

Adjust to Taste

Perhaps four hours isn't realistic for you. That's fine. Go for 6 or 8, but if you follow these steps, I promise your mixes will get better. It may be painful to listen to the feedback from friends at times, but it's **TOTALLY** worth it.



Day 29 Challenge

Write down what you're going to do on your next mix session...then go do it.

Day 30 – Be Good With People

Wait a second...what?!

I know. I know. This may seem like an odd topic for one of the last posts of *31 Days to Better Recordings*, but I think this is **hugely** important, and it's something that a lot of audio engineers simply ignore.

If we could rewind 30 days, and I asked you to give me 31 tips for better recordings, what would you say? Chances are you'd list off a lot of the same things I've talked about here on 31DBR. You would have had some tips about gear, technique, practice, etc. etc. But would you have mentioned anything about how you deal with people?

Hmm...

I talked about this in [The Psychology of Recording](#), and I'll reiterate it here.

Who are you recording? Robots? Animals? Space aliens? For most of you, I'd venture to say the answer is **people**. You're bringing in artists and musicians to record. [Quick side-note: You may only record yourself, and that's fine, but you really need to start branching out and recording other people. It's a valuable skill.]

The "Typical" Audio Engineer

Remember back when your favorite albums would have "Produced by:" and "Engineered by:" in the liner notes? Have you ever wondered why the producer and engineer weren't the same person? Could the producer have also engineered the recording? Yep. Could the engineer have also produced the recording? Yep.

Then why two people?

One good reason: **Audio engineers aren't good with people.**

Okay, before you break out the tar and feathers, let me explain. I'm not saying ALL engineers aren't good with people, but **a lot** of them aren't. They get so



focused on “nerding out” on gear and mic techniques and preamps and compressors and patchbays and phase and Fletcher-Munson Curves...that they fail to realize that they’re recording a *person*.

That’s a big reason why albums had producers. The producer was good with people, knew how to deal with the *musician*, how to bring out a fantastic performance. He was less concerned with how the recording was technically accomplished. His job was to simply create (or produce) a great product: a record.

Nowadays, most of us are recording in our spare bedrooms. We [wear many hats](#), including both producer **and** engineer. Keep that in mind on your next session. If you get so wrapped up in the technical side of recording that you ignore this creative person sitting in front of the microphone, you’re not going to be happy with the results.

Your number one job is to [make the musician comfortable](#). And this applies to more than just the tracking sessions. If you’re working on a mix, and the musician really doesn’t like the creative direction you’re taking the song, [listen](#) to her. Don’t let your arrogance cause you to burn bridges. You may find that musicians aren’t idiots after all , and that they can bring a lot of value to the table.

Day 30 Challenge

Your challenge today is to email a musician friend of yours and schedule a session. It can be a simple guitar/vocal session. That’s fine. But focus on making the musician happy and comfortable. You’ll be surprised how good it will still sound.

Day 31 – Mastering

For this final day of 31 Days to Better Recordings, I called in the big guns. This is a guest post by [Ian Shepherd](#) of the blogs [Mastering Media](#) and [Production Advice](#). He is a professional mastering engineer in the UK.

Mastering is probably one of the most widely misunderstood aspects of audio production. So let’s start by getting this straight – what is mastering ? Well, here’s one answer:

[Mastering is Photoshop for audio](#)



And here's another, more detailed attempt to answer the same question:

[What is mastering ?](#)

Great mastering can make all the difference to your music – as Tom Volpicelli said recently, it's like finishing a painting – it isn't ready to be viewed until it's been framed.

Great mastering turns a collection of songs into an album – it balances songs against each other, creates a “line” through their sequence, paces and contrasts them perfectly – I like to think of it as finding their “centre of gravity”.

One of my favourite things is starting out with an album where you think – “this is almost perfect” to begin with – but after four or six hours of detailed listening and tweaking, the whole suddenly sounds far greater than the sum of the parts. Listening to each of the individual changes they might sound hardly any different, but as a whole, the effect is transformed.

On the other hand, there are plenty of projects where the difference is like night and day !

Now, I've been a professional mastering engineer for over fifteen years now, so it probably won't come as a surprise to hear that if you want your music mastered, my best advice is – go to a full-time mastering engineer

So, why has Joe asked me to post here, then !?!

Well, I'm also a realist, and I recognise that most of us with home studios simply don't have the budget to get our music professionally mastered, and I'm passionate enough about what I do to hope that if people do decide to master their own material, they should do the best job they can, and at least avoid doing any damage without realising it. There's a huge amount of poor advice out there, and I want to help put that right.

So, here are some suggestions to help you get the best out of mastering your own music. It's too huge a subject to cover in one post, so I'm just going to throw some ideas out there with links to some posts with much more detail, if you'd like to read more:



Know What You're Listening To

Mastering is very different from mixing, and ideally you need a whole different room and set of monitors to do it in. Obviously we can't all have dedicated mastering studios though; it's hard enough getting space for a home studio in the first place !

But if you have a decent hi-fi, how about using that, instead of the studio speakers ? It might sound insane, but one of the most important things about mastering is to know how things "should" sound when they're right, and where better than in the place you normally listen to music ?

If that isn't possible, the next best thing is – wherever you master – learn what music should sound like on them. Here's post that tells you how – I wrote it about mixing, but it applies equally to mastering too:

[Learn your listening environment](#)

If you ARE lucky enough to have a space to use just for mastering, here are some pointers on what makes a good mastering monitor:

[Choosing speakers for mastering](#)

Balance, Don't Match

I see lots of talk about "matching" the sound in mastering, and even plugins designed to do it for you, but that misses the point. You don't *want* all the songs to sound the same, you want them to sound "right" next to each other – you want the loud stuff to kick, and the soft stuff to sound gentle without getting lost – the bassy tunes to sound big and warm, and the aggressive guitar stuff to bite.

So, find the "centre of gravity" as I mentioned above, and then balance the songs around it – don't try to match them all with each other.

Less is More

I've seen so many posts talking about mastering that suggest throwing the kitchen sink at it, but the truth is that at it's core, mastering is just [EQ](#), [compression](#) and limiting. So, use as little processing as you can to get the results you need. If a single-band EQ will do what you need, use that. If you can get away without extra compression, all the better.



Know your Sh*t

To get this minimalist approach right, you need to *really* understand EQ and compression – here are a couple of posts to get you thinking about this from a mastering perspective:

[7 crucial EQ bands to help balance your mix](#)

(This is written about mixing, but the hints and tips apply equally to mastering too)

[Mastering Techniques – Using a compressor](#)

And, again less is more – rather than chopping and changing EQ and compressors all the time, pick one of each that you like and take time to learn how to use them really well.

Don't Become a Victim of the Loudness Wars

No post on mastering can avoid the loudness issue, and this one is no exception. The best advice I can give is here:

[How to avoid over-compressing your mix](#)

(Bear in mind that the suggested levels are for mixing, though – when mastering, a dynamic range of 8dB on the loudest moments can sound great)

And the key point is – keep it dynamic. [Without quiet, there can be no loud.](#)

If you really *must* squeeze every last ounce of level out of your tunes though, here's my guide on how to do it without killing them stone dead:

[How to make your music loud](#)

Just remember – less is more ;)

Be Objective, Trust Your Instincts

One of the best things about having your music mastered by someone else is getting an objective, outside opinion. If you've performed, recorded and mixed your own music, the chances are you're very close to it, and making good, clear decisions about it will be really hard – but you need to try !



So imagine you're a mastering engineer, listening to the tunes for the first time. Work fast, be bold and trust your instincts. This is another reason mastering on a different system to your mixing rig can be a good idea – just to get a different perspective. It's also a reason some people find it helpful to listen in the car and on earbuds, although this can be a two-edged sword – too many perspectives can be confusing !

Stand on the Shoulders of Giants

The chances are if you're a musician or engineer you have idols – people whose work you love and aspire to copy. Well, find some reference points in mastering, too. Find some records you love, and play them alongside your own masters to get an idea how they should sound.

Use the [TT Loudness Meter](#) to avoid anything that's too heavily compressed, though – and, be realistic. Choose something in a similar genre to what you're working for, and think of the bigger picture – remember you're not trying to match this stuff, just get in the right ballpark.

Day 31 Challenge

So, Joe has been setting challenges for you, so I will, too ! There are two stages:

Start thinking like a mastering engineer

Don't try to actually do any mastering, right away – just start getting into the right place. Hit “shuffle” on your iPod and listen to a bunch of tunes and think about the mastering choices. How loud are they ? Do they have a balanced EQ ? Do they have a wide or narrow stereo image ? Most importantly, how do they sit next to other tracks on the album, or in your music collection ?

Start practicing – on other people's material

This is crucial – don't use your own stuff ! Pick two or three tunes you think will work well together but don't sound right yet as a group, and imagine you're releasing them as an EP. Pick the one you like the sound of most, and adjust it's level so it's not too loud – tweak the EQ if necessary. Then try balancing the other tracks against each other, *using as little processing as possible*. Just enough, but not too much.



This is an invaluable exercise, and will soon get you focusing on the things that really count. Using other people's tunes will give you the perspective you need – all you need to do now is apply it to your own music !

One final challenge, if you want to learn more about multi-band compression (one of the keys to a good mastering session), check out www.multibandcompression.com for a free video.

Congratulations!

You made it through all 31 days. If you really applied the things you read in this eBook, I bet your recordings are getting much better. Keep working at it, and don't forget to have fun in the process.

If you want more in-depth training from me, check out all of my tutorial products here: www.homestudiocorner.com/products

I can teach you things like how to use [EQ](#) and [compression](#), how to [edit your tracks](#), how to use [Pro Tools](#), how to [make your room sound as good as possible](#).

[Click here for more.](#)

Thanks again for reading this eBook. I hope it was tremendously helpful for you.

To better recordings,

Joe Gilder
HomeStudioCorner.com

