Why Do My Headphones Suck?

By Nathaniel Kunkel

In my opinion, few things are as important in the studio as performers' headphones. I can overcome a buzz in the system, and I can overcome bad converters. I cannot overcome how much a performance will suffer if the musicians can't hear themselves.

Hardly any studio I go to record anymore has a cue system worth a damn. The headphones are always blown up, the mixers rarely work, there is almost always a buzz, and no one seems to care. (There are, of course, exceptions.)

I have booked rooms for several thousands of dollars a day that don't have—and will not provide me with—working headphones. I kid you not. I have actually sent my assistant to a music store with my credit card to buy headphones for the artist because the studio cannot provide me with *one* working set. I am not talking about some tiny home studio. I am talking about major facilities.

Just in case you are one of the few who actually care about the musicians' ability to really perform for you, I wanted to let you know it's time to raise the bar: it's time to start checking headphones before a session; it's time to get enough talkback microphones; it's time to no longer accept a huge buzz in a cue; it's time to provide consistent, quality audio to the people who need it most. I'm not talking about just ensuring that audio comes out of the headphones; I'm talking about ensuring that high-quality, balanced, gratifying audio comes out of them—inspiring audio that elevates the performances from the people who depend on it.

Here is a news flash for everyone: headphones don't last forever. I know, how can that be? Seems amazing. I mean, cars last forever, and strawberries last forever, right? Wrong. Drummers' headphones on a major tracking date will last a shorter period of time than a banana in a basket. If you think that using headphones on a tracking date for several weeks will not render them unusable, then you are mistaken. We need to think of headphones like any other expendable studio item. The new toilet paper, if you will. Just build it into your operating expenses. Every six months you need a new case of headphones.

"But that will cost me thousands of dollars," you say. Yeah, so what?

You can buy a networkable cue system for around $3,000 and a new set of good headphones for around $100 a pair. Hello? Do you think that might be more useful than a $9,000 plug-in package? Or would you rather edit for three weeks because your musicians couldn't get an inspiring cue mix? Remember, the richest man in the world can't buy a minute.

The most amazing thing to me is that when I complain to my studio-provided assistant about the horrible condition of the cue system, they always say the same thing: "Yeah, I know, everyone has problems with it." That, of course, makes me feel fantastic. I am getting reamed by the players and my producer, and all the while they knew that the cue system sucked on the last session.

So what do you think? Now that we can record 96 tracks at 96 kHz, tune it all, quantize it all, and send it across the world in an hour, do you think, just maybe, you can make my headphones not suck? **em**

Nathaniel Kunkel is a Grammy and Emmy Award–winning producer, engineer, and mixer who has worked with Sting, James Taylor, B.B. King, Insane Clown Posse, Lyle Lovett, and comedian Robin Williams.

MR. BONZAI

Gosh, I Sound Great!

By Nathaniel Kunkel

(This is an excerpt from a longer article, available at emusician.com. —Ed.)

Auto-Tune and Melodyne: if you ask a well-respected singer, they are four-letter words. If you ask a not-so-good singer, and they answer you honestly, they will probably tell you that it is the only reason they have a chance of being on the radio at all. More important, if you ask the record-listening public, they have no idea what you mean. Well, that is changing.

I recently got an email from Antares (the makers of Auto-Tune) telling me about all the exposure that Auto-Tune has been getting in the press. I know why they are happy about it. I just don't know if it's a good thing. One of the keys to Auto-Tune's original success was that no one knew about it—in some cases, not even the singer it was used on.

This public airing of the music business's dirty little secret started with a *New Yorker* article by Sasha Frere-Jones. When most people are able to grasp what Auto-Tune does, they get disheartened, if not disgusted. Not one person I have asked thinks that this trend of "Tune everything" is cool. While record executives were thinking that all listeners wanted was a hot young artist singing a hit song, they forgot about one important issue: they were lying to their customers. Most people who buy that hot new twenty-something's release actually think the person can really sing like that. No offense, but no one sings like that. Remember how much everyone loved Milli Vanilli before it was exposed that they did not sing on their own album? How fast was their fall from grace? Is there a difference between Milli Vanilli and a singer who has every word rephrased and tuned? If a tuned vocal is credited solely to the singer, should the keyboard player who uses *Vienna Symphonic Library* string samples credit the Vienna Orchestra exclusively?

While many artists can make a record without using Auto-Tune, almost every new release currently on popular radio is tuned, even if only a little bit. (Sometimes more than you could ever imagine.) One observation I have made is that some singers have been getting tuned for so long that they actually think they sound that way. I have worked with singers who issue a "Never tune me" order and then reject every comp until they are tuned and phrased clandestinely. The denial is spectacular. . . .

There is another dynamic. Some singers not only know about Auto-Tune and Melodyne, but they also insist that the software be used on their vocals before hearing them. They consider their instrument incomplete without tuning and processing. I don't think that's a bad thing—it's the natural evolution of a generation of people who grew up with the combination of listening to tuning all the time and not being afraid of embracing technology.

Here is an interesting question: before we give a Grammy Award for a vocal performance, shouldn't the nominee need to be able to prove that they actually sang the performance that was nominated? Should we give the Pro Tools engineer a vocal Grammy, too? It sure would be telling who opposes that idea.

Anyone who has seen a deal that labels are signing these days has noticed that they are 360 deals (that is, they take a part of the entire earning potential of the artist—album sales, publishing, performance fees, all of it). Being able to perform live (without a net) might soon be as important as it was in the '70s and '80s, because all of your live revenue will be up for grabs, be it ticket or merchandise income. It could soon be that if a singer cannot perform adequately without being tuned, they might not look as attractive to a label anymore.

So what's it going to be? The perfect stuff we are used to, or the organic stuff human beings can actually make? Because we are going to have to make a choice now that we are being forced to acknowledge tuning as the facet of popular culture it has become. Until now, we have all been blissfully ignorant of the fact that those two choices are mutually exclusive.

Perhaps we will soon think of older projects with untuned vocals and imperfect tracks just like we think of albums made before we could punch in on a multitrack. Cool in a nostalgic kind of way, but not anything we would ever want to do again. Would that be the loss of an art form, or would that be progress? Or both? Because it seems the current reality is that those two choices are not mutually exclusive.

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Who Said That?

By Nathaniel Kunkel

Many years ago, George Massenburg and I were having lunch and I asked him what facet of the engineering and production gig was his favorite. He told me that he loved to be in the studio: he loved the hang. He loved being around musicians and people who worked on music. Of course he loves music, too, but his love of the personal interaction in the recording studio was a great motivator for him. I feel the same way.

Some of the by-products of my own studio experience are the great things I have heard people say. This month I thought it would be fun to share some of their quotes with you.

I remember once blowing up a rack of Dolby SR on an Ed Cherney session at the Complex. (It's a long story.) The response from Ed was very forgiving, but also memorable. "Aw jeez, Nate. It's okay if you blow stuff up once in a while. Just try not to do it on your friend's session."

So noted, sir.

George Massenburg once told me during a severe chew-out that "excuses will only make *you* feel better." That certainly made an impression. It didn't make me feel any better.

No matter how memorable those quotes are, they're from situations that we hope to avoid repeating. However, the quotes that make me laugh every time are the ones I love the most.

My friend Edd Kolakowski, during a particularly troublesome session, likened our progress to that of "a herd of turtles in a bucket of peanut butter." A similar sentiment was expressed by my friend Steve Croes, who compared working with a particular artist to "painting a school bus with a toothbrush." He was right about that guy, too.

I've heard many a great quote as performers chided one another, such as "How long have you been on this gig, not including tomorrow?" Or the brilliant question, "How do you compare your work with what people are, you know, doing today?"

The great Don Grolnick had a vast collection of things you could tell an artist right after witnessing a performance of theirs that sucked, such as "Wow, that was timeless" or "You must be really proud of yourself" or "I don't know how you do it." Those still find use. It's sad how often, really.

If any of you have a funny quote or phrase that you use or have heard someone else use in the studio, email it to me at npk@studiowithoutwalls.com. If I get enough submissions, I will author a follow-up article to this and credit you. Think of it as our audio tribute to George Carlin. You game? **em**

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Technology Equals Clarity?

By Nathaniel Kunkel

I've got to tell you, one of the most interesting things we discuss in the studio is the reality that even though all this great technology was intended to make our lives easier, we end up working harder. I know I've written about this before, but after reading Gino Robair's recent blog (The Robair Report: "Running On Empty? Never!" available at emusician.com), where he talked about what you can gain from careful listening, I decided he was on to something.

So I am giving myself an assignment.

For the next two weeks, I'm going to use gear to save me time, but not to allow me to change my job description. I'm going to try to use my ears, not a glance at the session grid, to determine if the drums need fixing. I'm only going to tune vocals that sound out of tune, not look out of tune. I'm going to live with a mix overnight before I peak-limit the bejeezus out of it. In short, I am going to abandon precedent and standard practices as methods for musical judgment. I am going to—get ready—listen.

There's a good argument to be made that we hear material better when we are fresh, and that is also the best time to make artistic decisions. And because I'm sure that I hear music differently when I am not looking at a Pro Tools screen, I am also coming to the conclusion that laboring over decisions does not make better music, it just makes me get home late.

A good friend of mine recently likened music-production tools to advancements in meat-slicing technology. I was amazed at the correlation. I mean if you need to slice a turkey breast for sandwiches, you could use a knife, or you could use an electric deli slicer. Either way, if you only need three slices, would you cut more on the electric slicer because you could? And if you did, would it make a difference to the quality of the sandwich? The reality is that you needed some sliced meat, and while you can tell the difference between hand-carved and machine-sliced, would either option satisfy your hunger differently?

Is a hit song really not a hit song without Auto-Tune? Would Led Zeppelin have sold more records if Elastic Audio came out 30 years ago?

The answer, of course, is no. A hit song is a hit song, a great arrangement is a great arrangement, and as accustomed to the quantized conformity as we have become, it is not the only frame music can be viewed in. I worry that we are getting so good at conforming a song to sound like a hit, we might not be paying enough attention to whether or not it actually is a hit.

> I'm only going to tune vocals that sound out of tune, not look out of tune.

We need to be careful how we use our tools and apply our skills, or we run the risk of creating the audio version of a turducken. Yuck! **em**

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What Are We Going to Do?

Reflections on the changes in the music industry.

By Nathaniel Kunkel

MR. BONZAI

It's a new year, and with it come new music, new opportunities, and new uncertainties. Whether you make electronic music or record only acoustic instruments, the instability of our business has never been greater. I just finished spending a week sitting in on classes at Berklee College of Music, and when I spoke with the students, we talked about the same things that I talk about with my friends. "What are we going to do? The music business is changing so much." I hear it from a lot of people—students, engineers, and producers. The rub is that there isn't much we can do about the state of the business except continue to try to make the best music we can. I love to make music, I love to be in the studio, and I love to hear new songs. If I didn't work in the music business, I would still come home every night and woodshed in a small home studio. It's in my blood. So in the end, though I would like to make tons of money creating only hit records that I love, I don't need that to stay in the music business. People who make music are, in my opinion, some of the coolest people in the world, and I wouldn't want to work in any other industry no matter how dubious this one seems to be at the moment. So now what? We know we like to make music, so how do we deal with the uncertainty that we will survive while we do? In my opinion, the first thing to do is to lower our expectations of the business for a while. The music business used to be very lucrative, and with the influx of new talent and producers, there has been an expectation that it will remain that way. It will not. The way records are sold has changed forever, and it will continue to change. This fact makes some people worried and upset, but it doesn't need to.

We should focus on all the new and amazing ways there are to get our music out to people. It's also time to create and exploit some new business models.

One thing that basic engineering jobs will require is a diverse set of technical skills. As engineers and producers, we need to learn about computer networking, power distribution, electronics troubleshooting, data retention, and other related disciplines just to get our jobs done the right way. In the end, we need to remember that if music is our path, then we must pursue it with all of our effort, work as hard as we can, follow what we know to be quality, and retain our individuality. People will always listen to music, they will always need people to make it and record it, and there will always be money for it. The people who are in it for their ego or for money alone will get weeded out, and that's fine. For the people with the conviction to be here, there will always be a place. What will make the music business work for you is that your sense of success will come from within yourself, not anyone else. That is what will keep you going until you find your niche. It just takes patience and a lot of hard work. **em**

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Why I Don't Want to Record Alison Krauss. But Don't Quote Me on It.

By Nathaniel Kunkel

Okay, don't flip out. I have a good reason for being the only one in the music business who feels that way, I promise. Perhaps I should start at the beginning.

I love music. I always have, and I've spent the better part of my career seeking to work with the artists I love the most. I've been pretty lucky, too; I've gotten to work with most of them. (Truth be told, I have already worked with Alison as well, but more on that in a moment.)

Here is the problem: making music is a complicated process. Stuff happens—it's impossible to avoid that reality. Even if it's a great experience, we take memories away from every project we do. Sometimes the memories are bad—like the artist is a total jerk, or their manager is a tool and I get stiffed for my work. Other times it is all good except the A&R guy gets into a huge row with the producer. Or maybe everyone is cool, but my gear gets damaged in shipping and insurance will not cover it. My point is that there is always some experience that you will remember long after the project is finished.

You are probably saying, "Well, of course." But the thing is, it is almost impossible to listen to that artist again without thinking about your experiences—good or bad—with them. And no matter what the experiences are, they change your ability to hear their music the same way. Even stuff they did before you worked with them. When you hear that voice, you see that person, and all the feelings you had when working with them come back. That experience has the ability to make music an anchor of emotion as opposed to offering unlimited possibilities. It seems that when we fall in love with an artist's work, it's because of what their work means to us, not who they are or what they believe.

So why Alison? I have been listening to her quite a bit lately, and, well, I think she is the best singer I have ever heard—as close to an angel as can be found on this earth. She could sing the phone book to me.

I was able to work with her on a Trio album once, as well as on a Lyle Lovett project. But I was really young during the first one, and the second one was quick and I had little responsibility. I escaped unscathed.

Well, I think I want to keep it that way. In my opinion, there is no working experience that would be satisfying enough to risk tainting the enjoyment I get from listening to her voice. Not one.

So there you have it—my totally bizarre justification for never wanting to record with my favorite singer. Now of course this is kind of a moot point, as she has never expressed any interest in working with me. But for the first time in my life, that might be just fine.

(Oh, who am I kidding? If I got that call, I would be there in a hot minute. Damn it. What's a music lover to do? In the end, saying no would be like keeping myself from air.) **em**

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The Big Squeeze
By Nathaniel Kunkel

Here in early 2010, I am in some ways more optimistic about music than I have ever been, but at the same time I'm dubious at best about the economic prospects for the industry.

I am excited about where technology is taking us, not because we can now edit anything, but because we can now get our music out there without anyone else. We have a cyber playground where if you write a smash song and post it on YouTube, you can get heard by millions of people. If you are great, you can go viral. But I'm concerned that the mechanisms to pay artists, musicians and producers—even those making music heard by millions of people—are antiquated and becoming more dysfunctional by the day. As the artists get squeezed, they squeeze back. Hence the growing disconnect between what production services actually cost and what people want to pay. These chasms need to be bridged, but it is getting harder to do so. I have clients that range from those who spend lots of money to those who spend little; many of you have probably experienced this as well. The spread between the two extremes is getting larger, and as it does, so do the problems.

I can't pay my bills if I don't serve my best clients; the situation is identical for my lower-paying clients. I can't afford to say no to anybody. But is that fair to my clients who pay the full rate? Why should they pay three times as much for the same service?

Until recently, the answer was: It's not the same. Or we would get compensated in other ways. Perhaps some participation or publishing; there were options. The idea was that as engineer/producers, we understood that budgets were smaller and we were willing to gamble along with the artist that we could make a hit. Less pay now, bigger potential payoff later. It created an environment of mutual investment.

But now, people are expecting the same or lower rates than ever, with the same services and no sharing of future income. If they do agree to share profits, they often want to sunset it so that that the revenue sharing expires after a couple of years. So now we do exactly the same job for everyone, and we get paid different amounts by everyone.

Putting aside how fundamentally unfair that is, it creates another nasty issue. It's not going to take long for the full-rate clients to realize they're getting the short end of the stick and demand that we charge them less, too. And to be honest, can you blame them? How would you feel if you went to a deli and the dude in front of you paid $3 for the identical sandwich that you paid $9 for? That would tick me off.

And when artists ask for favored-nations billing, what happens next is obvious: We close up shop—we can't afford not to. If we don't get paid a living wage on the front end and are cut out of any participation on the back end, how do we pay our bills?

Maybe we should try the old-school approach of compensating the people that make art for us with what they are worth, not just what they will take. It is in the best interest of the artist anyway; if you take care of your team, they will take care of you. And besides, how smart is it to low-ball the person who backs up your work every night? ⊂m

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Compression Is Like Salt

By Nathaniel Kunkel

The holiday season is in full swing, which means it's time to start cooking. I love to cook, and I have the same passion for cooking as I have for mixing. I've noticed that the two passions have many correlations. But I'm not alone in this finding.

Doug Sax once said to me that mixers were like chefs. Some use lots of salt, some use none, and many cover the vast ground in between. Each of these practices can result in fabulous food. But what if you are used to eating food with no salt and all of a sudden you eat something really salty? Gross, right? It's similar with audio. When you are used to hearing recordings with plenty of dynamics and you hear one that is really compressed, it sounds broken. Unless, of course, it's part of the sound you're looking for—and it works.

Then you're a genius.

It's all context. Take blackened fish, for instance. The proper way to blacken a fish is to partially burn it, which is not a normal thing. But in the context of the spice and the meat, it works like a charm. Much like tremendous distortion and/or ridiculous compression—contrasted against other textures, these flavors can be very powerful.

Simple can also be powerful. A slice of fresh tomato, some fresh basil, and a pinch of good sea salt: very different, simple ingredients, and a very good combination. Just like how a Wurlitzer organ, a jazz drum kit, and a thrilling vocal performance can be as compelling as a big band.

Complex is also wonderful. Compare a fruit salad to an orchestra: the ingredients are so much greater than the sum of their parts, offering limitless combinations and massive differences in the compositions as you move each element around. On the other hand, one can clearly see that an 80-piece orchestra consisting only of Wurlitzers might not be that appealing.

(I am still searching my soul for the musical equivalent of suspending fruit salad in Jell-O molds. I am sure it relates to '80s reverbs, but the exact correlation eludes me.)

Perspective—and the loss of it—is much the same in cooking as it is in mixing. I can be cooking a pasta sauce for hours and not be happy with it. My wife will breeze through the room, taste it, and add a pinch of one ingredient, and the whole thing will be perfect. Ugh, that kills me. I do all the work, she is the genius.

Just like when your producer walks in to a mix you have been struggling with for hours and tells you to turn up the vocal 1.5 dB and print it. Then he turns out to be completely right and the mix fixes itself right in front of your eyes.

We can get into a rut just as easily when we mix as when we cook, making the same three breakfasts, the same four lunches, and the same ten dinners that we always make. It is so easy to do. The hungry part of you overpowers the artist, and before you know it, you are a Top Ramen eating machine. It's much like the mixers who never touch their outboard gear, or the arrangers who always load the same keyboard sample and drum-loop library. When you are good at your gig, you can get away with simply doing what you always do and never challenge yourself to go further.

But in my opinion, that makes for boring music and boring eating.

For me, the new frontier is phyllo dough. I have to figure out how to make that stuff rock without using butter. So far it seems an impossible task. I'm going to try some desserts with it tonight—right after I finish this mix. ⟨em⟩

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Why Red?

By Nathaniel Kunkel

When digital workstations first came on the scene, there was so much effort put into using the methodologies and nomenclature of the historical recording arts. I mean, if you can do anything with a computer, why not make a digital corollary of the analog tool? People could understand and adapt to it quickly that way. But Studer/Neve combinations and Digidesign Pro Tools are very different under the hood. You can do so much more with DAWs than you ever could with their analog counterparts that we are seeing the move away from the interface conventions of yore. For instance, ever since the sequencer Vision was released by Opcode, the concept of a single linear recording of multiple tracks has been on its way out. They were playing multiple independent sequences simultaneously in the late '80s!

But now we are a generation of users into these new methodologies, and as Opcode found, the old nomenclatures of professional audio are no longer helping the user to migrate to the latest technologies. In fact, they can limit the scope of what we can do. In those areas where DAW manufacturers have abandoned the old terminology and assumptions, they've created options we can't live without. For instance, unlike analog mixers, DAWs are not limited to multing a signal three or four times before it gets loaded down and sounds bad. As a result, we never have to worry about being able to send a signal to 500 places at the same time.

But some of the old workflows are still with us, constricting our options. For example, why do faders only go up to +12 dB? Why is there not an option for the channel mute to also mute pre sends? Why is there not a global sync control that quantizes all play stop commands, so that when you are working the song always starts, stops and restarts on a predetermined interval of time, like a quarter-note? You would never need to find your pocket again before you dropped in.

And why is the record button red? In the old days it was because if you pressed it by accident, you were screwed. What does it matter now? (You know what should be red? The combination of command-period that aborts your recording in Pro Tools.) You can always do it again, or undo it if it never gets better.

All that being said, the new ways of working are not completely beneficial. Way back in the steam-engine days of audio, when the record button was red for a reason, we got good at doing one thing: being able to tell if something that was just played was good or not. We had to; if we tried it again and it sucked, we lost the first one. Our auditing ability was paramount to our success. If the first solo was great, we moved on. It wasn't worth the risk of losing the great one. The end result was that we were always honing that production skill. Now that muscle only gets exercised when we comp, and that is having an impact on our product. I've watched younger engineers go right past great stuff with great players because they don't have the proper reverence for what was just done. They haven't needed to yet.

You know why most kids are probably still listening to Led Zeppelin? Because those records were produced by what may have been the last generation to actually listen to what they were making while they were making it. I submit that it might make a difference. **em**

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So You're Graduating?

By Nathaniel Kunkel

I know quite a few of you graduating folk—and as you finish music or engineering school, you probably have a few ideas about what's going to happen in your career. Most likely, however, you don't really know.

I can dig it. As I pondered your predicament, I was reminded of all the things I thought about the business when I was 18, heading for my first studio gig. I'll tell you, I was wrong about so much stuff. But I was right about some things, too. The problem is, you go through those first few years thinking everything you think is right. So it's tough to tell when you're the one who's out to lunch, or when it's really your boss or your coworker who's a tool and just doesn't get it.

So I wondered, "If I knew then what I know now, what would I tell myself?" Here's my list to myself at age 18 of the things I wish I could tell myself then, now:

....

Dear Me,

Overall, things are going to work out fine for you. Really—you're going to have a great career. However, if you could keep the following things in mind this time around, it should make our life a lot easier.

1. Don't take stuff personally in the music business. It's hard not to, but don't do it. You will have outcomes to situations that are not what you were expecting. Don't sweat it; things all happen for a reason. If you handle all those situations with grace, it will come back good for you. I promise.

2. Work as hard as you want to, but don't let it get to you when others don't want to work so hard. Take what you do seriously, but don't let others derail your focus. Find different help, or do it yourself—but don't let the lack of enthusiasm of others diminish yours.

3. You can get anything you need to get done in a business meeting if you remove emotion from your argument.

4. Do not be a jerk and try to be fun to be around. A reputation for being an ass gets around so much faster than a reputation for being a great guy. People like to tell stories about jerks. Stories about nice guys are boring. But nice guys work more.

5. Never forget how hard it is to be on the other side of the glass, looking at someone behind a console making judgments about your work. It can be either the best experience in the world or the worst. Do all in your power to make it the former. This really matters.

6. If you have a great experience with a vocalist in the studio, ask to have your picture taken with them. This goes for players, too. I wish I had a picture of myself with Jeff Porcaro right now. Work that out for me, okay?

7. Become proficient at piano and guitar. Now.

8. Learn Linux.

9. Never, ever, ever, date the singer.

10. Save money (this could be No. 1—it's a toss-up).

Have fun—this is going to be a wonderful ride. Just don't worry too much!

Best regards,

You

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Well, there you have it. I'm sure some of you will think that reading this was a waste of ten minutes. It certainly would have been for me; I didn't have it then. But on the off chance that there was something here you needed to read, then cheers. And, of course, congratulations and best wishes. **em**

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What to Buy
By Nathaniel Kunkel

This magazine is so full of suggestions on how to spend money on recording gear that I wanted to throw my two cents in, too. It's just my nature, what can I say?

If there is any advice I can give you dear reader, it would be to try to make your purchases last. Buy things you will use for a long time. Throwing away old gear that cost $10,000 sucks. It truly does. Trust me. If you know you are going to have to buy something again in three years, buy the cheapest one you can get away with. Spend your big money on the stuff that furthers the goal of building your perfect room. Know what your ultimate gear goal is and work toward that.

For me, that mainly means investing in microphones and preamplifiers. Here's why: The major hardware systems in the studio of the future are most likely going to comprise:

1. An assortment of microphones
2. An assortment of external microphone preamplifiers
3. Analog-to-digital converters
4. A digital work surface/DAW combination
5. Monitoring systems.

The preamplifiers, microphones, boutique converters and monitoring systems won't change often, but the computer and "desk" will. That is what has been happening for the past 10 years. One scenario I see evolving into reality is high-end rooms providing around 40 channels of Neve, API or something like that in racks on the wall, and a work surface in the middle of the room. It will be a "Neve" room, with a huge Digidesign ICON in it. Ironic, no?

And boy will I love it. You see, in my experience, it's the best of both worlds. Once you go digital, it is a drag getting back out to analog in a Hi-Fi way, and audio becomes harder to route. In digital, you can always add another track, provide resettable cue mixes, and there are no noisy switches. That stuff makes such a difference when you are tracking a band—in the same way having a rack of API or Neve or GML preamplifiers significantly elevates the quality of your recording. You need the right tool for the right job. Right?

And when the new Pro Tools or Nuendo system comes out, you can upgrade the rig and possibly the desk, but your recording chain stays the same, as does your analog infrastructure. And that stuff can cost real money. So it seems likely to me that microphones and preamplifiers will be where analog equipment budgets really accumulate in the future. They will be the only analog recording investments that will be used in perpetuity.

Even if you aren't ready to buy high-dollar microphones and preamps and stuff, don't fret: There are plenty of low-priced keepers you can acquire. For instance, never buy a crappy music stand; you are going to use it forever. The same goes for mic stands and mic cables. I still have some mic cables from high school—it's spooky.

So buy a good cue system, own good speaker stands and don't skimp on your hand tools or your soldering iron. *They* last a really long time, and you will use them every time you upgrade your work surface. em

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Nathaniel Kunkel (studiowithoutwalls.com) is a Grammy- and Emmy Award–winning producer, engineer and mixer who has worked with Sting, James Taylor, B.B. King, Insane Clown Posse, Lyle Lovett, I-Nine and comedian Robin Williams.

Is Surround Music Dead?

By Nathaniel Kunkel

Okay, I get it. Surround music is on life support. Why won't listeners embrace this technology?

For me, surround provides a more compelling way to hear music, but perhaps its immersive characteristics are not important to many listeners. It seems the x factor that drives music lovers to buy or stream a song is not significantly enhanced by the added experience of surround playback. They're playing a song because they woke up with it in their head, or it helps them get over the sadness of losing their lover, or something like that. And an MP3 will do just fine.

The areas where surround *is* taking off are the places that people go to with the intention of being immersed. Movies and gaming are the most successful surround markets, because people want to be enveloped by the experience.

What are our options? When CDs were popular, some people would play them in a crappy boombox (an MP3 equivalent, if you will), while others would listen on a quality system. But it was the same piece of media holding the songs that made the boombox listener just as happy as the guy with Magneplanar electrostatic speakers. We need to return to that scenario.

As long as we are selling physical media, it should have the best possible audio quality, with the option of surround. Currently, the obvious choice would be Blu-ray or regular old DVD-V. If the average listener decides that they want to take their listening experience to the next level with surround, it's already on the disc—along with the stereo files.

Why isn't everything released in surround on DVD-V now? The technology is here, and it's cheap. It seems that record companies have forgotten that they are selling art. Their business model for distributing music seems indistinguishable from that for selling hog jowls. When you sell art, you have a responsibility to honor it. Otherwise, you should get into another industry.

Which brings us to the big dilemma for record labels: who is going to pay for the surround mixes? And for that matter, who is going to put decent artwork into releases, with no promise of extra returns? The record company, of course. Why? Because it is the right thing to do. No other reason.

I understand that record companies need to make money. But I bet we'd end up with better stuff to listen to—in both stereo and surround—if they weren't looking for such astronomically high profit margins. Remember when selling 150,000 records didn't get you dropped from the label? Such sales used to mean you got to make another record.

There are two things I think we can all agree on: the current major-label model isn't working, and surround music seems to be dead in the water, which is a damn shame. It's time to give the buying public the best of all possible media even though some people may not appreciate it at the beginning. And we'd better hurry, because if no value is put into physical music packaging soon, that type of distribution will disappear entirely as the buyer's apathy grows.

Perhaps this will be a moot point when our Internet pipes are big enough to allow us to download surround files. Until then, we should be doing a better job for all the artists who spend their lives giving us beautiful music. We should try and save surround for the few who will get it. Would that be a waste of time? ⟨em⟩

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Why Not Give it Up?

By Nathaniel Kunkel

During the last couple of months, I've had the good luck to mix a bunch of different projects. They varied tremendously in genre, but many shared a unique attribute: When I finished and I presented my client with their hard drive containing my mix sessions and printed deliverables, I was met with amazement. Why? Because I returned my mix sessions to the client.

I thought I was supposed to do that. They pay me, I give them their work. How is giving my client my Pro Tools session data any different than giving them an SSL 9000J automation disk and a documentation package? The session data has always been the client's property. But from what I have been hearing, many mixers won't give it to their clients.

I cannot for the life of me understand it. I know what people say when they are justifying it. I just don't get what is so special about your EQ settings or signal path? Weren't the EQ, limiter, and plug-in settings derived from your analysis of the source material anyway? Don't clients pay mixers to mix *their* material?

I can honestly say I have never used the same EQ setting twice. Isn't that true for everyone? Isn't using the same setting on a piece of gear or plug-in, and never changing it, kind of like saying, "I don't know enough to make this thing sound good more than once?"

The truth is that if you have my session settings, you won't mix like me. And if I have your session settings, I won't mix like you. Our mixes and our settings are the logical output of our artistic vision for the song. But without ownership of the vision, the settings have no value.

There is a reason that photographer Greg Gorman gives his students access to his Adobe Lightroom image settings. It's not because they will take work from him if they have the settings. It's most likely because his color-mixing and contrast data represent only a sliver of the skill that makes him who he is.

And we haven't even addressed the obvious: When was the last time you opened a session of yours on another rig and all the plug-ins you needed were there? Has that *ever* happened to you?

Another reason I like to give back all my data is actually quite selfish. I don't want to be responsible for the migration and retention of it. For instance, presumably mixers hold back session files so that the client will have no choice but to return if they want changes. What if the changes are requested two years later? Why do you want to be on the hook for that data? There is something nice about being able to say, "Hey, man, I gave you everything. I have no idea where it is now." Your clients should return because they like you, not because you're holding their data hostage.

Another justification I have heard for not giving back the session files is that mixers worry that clients will change the mix without their approval and then leave their name on it. Okay, let's pretend that has happened, the record is a huge hit, and you get all the credit. Do you care? Now pretend that it's a huge flop and no one ever hears it. Do you care then?

So let's relax a little about all these "proprietary" session files. If someone can take your plug-in settings and do your job better, you probably need to step up your game anyway. **em**

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Convenience vs. Quality

Thoughts on bringing back high-resolution audio.

By Nathaniel Kunkel

I was recently at the CES show in Las Vegas participating in a panel titled "Convenience vs. Quality." Panel moderator Bob Ludwig opened the discussion by reading an excerpt from an article by Michael Fremer, who noted that while there is widespread appreciation for fine food and wine, it is difficult to garner similar support for quality audio. In addition, there was an article in *Rolling Stone* titled "The Death of High Fidelity" by Robert Levine that stirred my thoughts on the subject.

Sadly, the mainstream media seems to have little interest in our deviation from quality audio delivery. While we can all agree that we seem to be going backward, knowing how we got here is a key component in figuring out how to get back to the beautiful.

When we talk about the degradation of commercial audio quality, we are principally talking about two things: overall loudness and a diminishing of dynamic range; and data compression schemes, such as MP3 or AAC encoding.

I remember when CD levels started getting elevated. The reason artists gave for the level increase was simple: when their CD was in a carousel changer, it was quieter than another disc. Admittedly, it was quieter than an overcompressed disc, but it was quieter nonetheless. That was not an upside for the artist. On the other hand, LPs did not let you switch quickly between programs, and listeners usually played a record side from beginning to end, so such level comparisons were uncommon. Level does not seem to matter so much on the radio, because broadcasters compress the music again anyway.

Data compression was a matter of convenience. When MP3s came on the scene, I was as horrified as I was excited. Although the first MP3s sounded dreadful, a typical song was only 3 MB in size. Small files made it easier to move audio across slow, 28.8 Kbps modems to the Internet. And, if you remember, the first iPod was only 5 GB. But things have changed. Cable modems or DSL with upwards of 5 Mbps are common, and soon we will have the bandwidth and storage to easily deliver and retain large quantities of CD-resolution files.

Consequently, some of the reasons we elevated levels and use data compression are less important to consumers today. Unfortunately, people are used to the sound of small, compressed files. In fact, most A&R departments won't approve a CD release that is dynamic and open. They seem to equate the sound of compression with the sound of a hit. It's not that they hate dynamic records, but rather that they've gotten used to compressed ones.

Let's revisit the food-and-wine analogy. People go to a good restaurant for the food, they buy a good wine for its taste, and they buy music because they like the song. They don't go to a restaurant because the waiter is always nice, or buy wine for a cool label, or purchase a song because it was mixed well. They might appreciate it when those things accompany the items they buy, but that is not why they put their money on the table.

Sometimes songs and audio quality are mutually exclusive. But they needn't be. Maybe it is time for all of us to start making dynamic records again, not only because we can, but because they sound really good. It certainly would be different from most of the stuff released today, and isn't that what makes something a hit? ⟨em⟩

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Now That We Can Do Anything, What Are You Going to Do?

By Nathaniel Kunkel

Some of the greatest audio inventions were born out of frustration. Dean Jenson was as frustrated with grounding issues on a location recording as George Massenburg was with equalization technology, and as a result, we got the isolating microphone transformer and the parametric equalizer, respectively. Even a relatively new invention such as Antares Auto-Tune had a frustrating early equivalent: two tape machines, a strobe tuner, and an Eventide H3000. The arrivals of these little godsends were like rays from heaven.

I remember when Auto-Tune came out. It was like, "Yes! Tuning won't take a week." Auto-Tune was precise and near instantaneous. The reaction was the same about DAW editors: we were able to do limited editing before, but with their creation, editing the other outro onto the master take took only a couple of seconds instead of minutes. Implementing our wishes became a nonissue, and boy, did our wish list grow. Little did we know what a slippery slope we were on.

Cut to present day.

Now there is a whole generation of producers and engineers who are using this technology without understanding the frustration that was the impetus for its creation. They don't know how things used to be done, and they don't care. They don't approach making a record like we used to because they don't have to; they don't have the limitations that we did. They can do things in any order, in any key, at any tempo, and if they can dream it up, it will work.

On one hand, that's cool because we get to hear Kanye West generate a performance like "Heartless." I, myself, love the freedom to move between tasks at will, thanks to recall ability. It keeps me fresh, and therefore I make better decisions.

On the other hand, people are using so much technology that the magic—the intangible interaction between musicians—that made a performance more than the sum of its parts is no longer heard very often.

Not long ago, the inability to edit minutiae meant that real musicians needed to play the music. And with the limited editing capabilities available, they needed to really play together because you couldn't tweak the arrangement after you recorded it. Our work flows were designed around just such limitations.

Now there are no limitations, and there are limitless work-flow options.

But more often than not, the grid, not the drummer, is the law, and the vocal will be tuned and phrased no matter what is sung. Everything is manipulated to be "correct." That is our collective work-flow choice. It's cool and it's perfect, but sometimes I feel like I am hearing a presentation of the song more than I am hearing the song itself. I just hear the production; I don't feel the emotion.

Maybe it sounds crazy, but I really did believe that Buddy Holly loved Peggy Sue. That doesn't happen much to me anymore.

So, because the current trend on pop and urban radio is for every production to be tuned and time-corrected, I have a question. Is the reason for that because

A. people dislike human-sounding performances?

B. it's just a habit we got into?

C. many people don't have the skills to produce an album with instruments unless the instruments are all corrected? (This is not necessarily a bad thing.)

If the answer is A, how long will it take for C to come true? And if the answer is B, how do we break the habit? How do we use the tools at our disposal to enhance our product without them becoming a crutch that limits us?

No matter what the answer is, we can now do anything we want to do to audio. And currently, we make it perfect. *em*

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Avatar This
By Nathaniel Kunkel

Wow, could the music business be any more challenging right now? Everyone I talk to, and I mean everyone, has a new horror story. What's going on? People have not stopped listening to music. Sony still has a building at 550 Madison. The sky is still up. Right?

Well, I have a hypothesis. And you don't have to look much farther than the movie business to find it. Moviemakers increase resolution and improve viewer experience regularly. Whether it's IMAX, 3D, or both, it's constantly more and better. And guess what? They are making money hand over fist.

The music business is all about how many corners can be cut. Compress it more, don't master it, use the fake drums—just get it done. All good ideas to save money, but often bad ideas from a quality standpoint.

So without oversimplifying this, the people who focus on resolution in entertainment are making record profits, and the people who aren't are going out of business. Coincidence?

And vinyl is now right in the middle of Best Buy. It could be because is it large and has large artwork. It could be because it is cooler to hold onto and feels like a more tangible purchase. Maybe it makes music playback feel more special because, unlike an MP3, it will wear out and sound worse every time you play it. You better dig it when it's playing because it will never be better than it is right now. Or maybe it is because it has more resolution than most of what people can get their hands on.

You know one thing you can't do with vinyl? Take it with you. You need to sit down and decide to enjoy it. You don't skip songs; that damages your new record. You listen to a side front to back. The art of sequencing matters. There is a direct correlation between how long the side is and how good it sounds. Vinyl is reverence. Reverence for the music as well as your time. When you decide to put on a record and listen to it, you have made a commitment. You have just given up the only thing you can't get back: your time. Music is no longer your audio wallpaper. It is the focus of your moment. Maybe people hear more out of vinyl because it's the only time they are really listening that closely.

I don't know about you, but making a decision to sit in a room and enjoy a piece of art for 40 minutes sounds a lot more like going to a movie than jogging with an iPod does. Perhaps the best thing you could do if you were a successful artist would be to release your album only in a high-resolution format, digital or analog. People will buy and listen to it anyway; you're already a star. All that you would be ensuring is that they will sit down and actually focus on what you have produced. They have to—they need to stop their day to set it up.

And for those of you who think that the people out there buying music don't have the time, patience, or reverence for the art to make that kind of effort, I have a whole bunch of 3D-glasses-wearing, vinyl-record-playing, resolution-loving people I would like to introduce you to. They spend money on live concerts, they go see movies, and they have demanded the return of vinyl!

The people have spoken. If we treat our art with the reverence it deserves, the public will respect it and do the same because they expect from us exactly what we expect from them. Can you really blame them? em

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My Goodness, I Have Been Here 15 Hours

By Nathaniel Kunkel

Why is it that we work longer hours with fewer breaks than we used to five years ago? Computers were supposed to make our jobs easier and quicker, so we had more time to live life. Whether you were working on a spreadsheet or comping a vocal, the computer was intended to provide speed and elegance to your gig.

Cut to 2008. We stare at a screen all day, play music less, and don't even get 20 seconds of rewind time to relax between takes. It seems that we are working even harder than before. The music business looked way cushier in high school, I'll tell you that.

So what the hell happened? It would seem that expectations grew with capability. We expect perfection—right now.

Here's the rub. With music, tools are meant to facilitate, not inspire. They *can* inspire, to be sure, but in my opinion, inspiration for a mix or a song comes from life. Not a new guitar or a new compressor. So while the expectations from content providers are skyrocketing, the time we all have to experience life outside of work is shrinking. Our time to dream is getting the short end of the stick.

Work has become life. The proliferation of live/work loft construction is proof of that.

So when are we supposed to get the good ideas? I myself always have different and fresh ideas about work when I get away from it for a minute or two.

In the short term, survival has required a new skill set for the producer-engineer. We must learn to do our jobs without much experimentation. There is just never any time, it seems. It's a shame, too, because experimenting with new sounds was one of my favorite parts of the gig.

If you're like me and audio is a passion, you experiment in your own time. You have to. But that requires even more of that fleeting commodity. It's time I still find, but with more difficulty every day.

Don't get me wrong; I am happy to be working, and I am blessed with an amazing client base. But I can't help but notice how much less time I spend in front of a person playing an instrument and how much more time I spend editing alone. Perhaps that's a product of the fact that I am mixing more than tracking these days. Or maybe it's a product of the fact that people are tracking less. Either way, these are new music-making processes that are here to stay. Though that is not necessarily a bad thing, I just wonder sometimes if we could get back to the charming imperfection of people playing in a room. I miss that aspect of production.

What does seem clear to me is that when someone does decide to spend the time exploring their craft, they usually make something new and very credible—in every medium. I guess, in the end, it is going to take some real discipline in this blazingly paced world to find the calm to inspire. I should probably meditate more.

That's all I have to say about that. I'm tired, it's 1:35 in the morning, and I have been here for 15 hours. Editing. **em**

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Save As...Archive

By Nathaniel Kunkel

One of the unfortunate chores at the end of any DAW-based music project is the creation of the archive files. I adhere to the NARAS delivery protocol (http://content.grammy.com/PDFs/Recording_Academy/Producers_And_Engineers/DeliveryRecommendations.pdf).

While some might deviate from that standard, most people have similar tasks in front of them between the final mix and long-term storage.

I cannot stress how important it is to create archive files. Without making our files platform agnostic, we cannot guarantee that they will survive and be supported in future wares from DAW manufacturers. That is just a fact.

I don't want to get too much into what the possible delivery standards are and what will work for you. You can do that research yourself, beginning with the link above. What I want to do here is plead with the DAW manufacturers of the world: make this process easier, whatever our ultimate archive scheme is.

Give us a Save As Archive function. It takes days to create an archive file set, and what we want is pretty consistent. We need the files to be consolidated from the top to the tail, we need them to be the same length, and we need options on plug-ins and automation rendering. Even if it's not perfect, give us something.

It could have a preferences pane like other functions do, and the command would output a folder with a session file and an audio directory full of files of identical length. The preferences pane could look something like what is shown here.

It would also be great if there were a way to batch process this function. That

way, I could drag a bunch of sessions into a queue and go to bed while the computer does all the work. Then I could write an AppleScript that automatically makes a Zip file that gets uploaded to my servers. Hello, productivity; good-bye, I-have-been-making-archives-for-12-hours errors.

The other thing that this option would provide is a more streamlined stem-print work flow. If you mix in the box and render all your automation and plug-ins to stereo files, you'll have individual track stems, with one menu selection.

I know that this may seem like a lot to ask for, but it is one of the few features that a DAW manufacturer could provide us with that would streamline the processes we dislike, as opposed to streamlining the ones we enjoy. I mean, if I have to sit in front of a machine for 6 hours, I would rather be comping a vocal than making an archive delivery. **em**

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An Open Letter to Steve Jobs

By Nathaniel Kunkel

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Dear Steve,

Word has it that you are extremely into music (and that you even have a pretty cool stereo setup). You must have noticed one of the most troublesome trends we music lovers are dealing with: the current practice of compressing the living daylights out of our music. The justification used to come from a combination of our competitive nature and the multidisc CD changer, but now it seems it is just a bad habit. Apple has even implemented a feature in iTunes called Sound Check to address the vast average-dynamic-range window of most users' libraries. The feature is almost a necessity given today's musical landscape. Indeed, I use it all the time.

However, the method that is implemented with the current version of iTunes penalizes the dynamic recordings by adding gain and limiting them to match the overly compressed ones. In other words, it normalizes them.

I have an idea that would level the playing field in a super-hi-fi way and end these level wars once and for all. I think you should have iTunes turn down the loud tracks to match the average level of the dynamic ones. I also think the average output level of the application should be dictated by the average level of the quietest song in the library, and that louder recordings should be turned down to match. It should be a suboption of Sound Check and have a maximum adjustment amount. It could be implemented as shown here.

I do not think it should be a compressor/expander like Dolby AC3 can implement. Rather, it should be a straight level offset, more akin to a DTS dialog normalization parameter. The level information of individual songs is already stored in the iTunes library, so it would be really easy to implement, and the software could be dynamically tailored for each user. For instance, if you had a lot of classical music in your library, the level of a compressed rock record could be dropped by as much as 20 dB. Conversely, a user with nothing but speed metal in their library would notice no difference. Either way, the music's dynamic range would be unaltered.

It would be such a service to all of us who love to listen to—and make—big, dynamic albums. With the Apple Lossless Audio Codec and more storage, an iPod is now a high-fidelity music-playback solution. I, for one, sure would love the convenience of Sound Check with an unaltered presentation of my dynamic catalog.

I hope this letter finds you well.

Respectfully,

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A Little Bit IT, a Little Bit Rock 'n' Roll

By Nathaniel Kunkel

Okay, it's happened. Knowing about network protocols and their implementations is now as important as mic placement. "Crazy fool!" you say. Not this time, not this time.

My TC Electronic System 6000 will only run on a 192.168.1.x subnet. My Drobo hard drive connects with iSCSI to the second port on the Mac Pro tower, and I am running that network without any DHCP leasing. I need to forward UDP Ports 6000 through 6002 and TCP Ports 80 and 5222 to the machine that hosts my Source-Live broadcast. My Aviom uses a form of POE, and I regularly run my computer remotely from mastering sessions to print and deliver file changes to myself while I'm more than 100 miles away.

Does that sound much like dialing in a guitar tone on a Fairchild or getting a slamming drum sound? Not to me either, but without knowing how to do that other stuff, my sessions might not ever get off the ground in the first place. And I think we can all agree that some of the first luxuries to go during these hard times are unlimited tech visits.

In truth, it's not enough to just be able to navigate this boatload of new stuff in music production. You really need to excel at it. How many times do sessions come to a grinding halt because of computer problems? Maybe you need an update. Maybe your monitor card died and you need to get the files off the machine to your spare CPU. If you're working with a player or a singer, you can't spend two hours getting your system working; it needs to work in 10 minutes. That, believe it or not, is one of the things that will separate the pros from everyone else: They will actually get the take.

Even if you are just a songwriter doing your craft on a computer, that's your rig, and you have to know how to run your rig. We all work on computers in music—heck, the name of this magazine is *Electronic Musician*—yet networking seems to make people run for the hills. Akin to a root canal as it may seem, it's time to get conversant.

A computer's main function for us in society (as well as in music) is communicating, and it does that with a network. It's a pretty logical extrapolation. If we know how to use a computer and we know how to communicate with a computer, knowing how computers do that might be helpful—at least in a fundamental sense.

I know it sucks, but network design, security and maintenance should now be considered part of advanced recording theory. But wait, don't despair, because here's the good news: It's not really that hard. A little DHCP, a little NAT, a little LDAP, some coffee, and you're dancing. Jump in; it's not a bit cold.

Another big upside is that this kind of knowledge has the potential to make you more money all on its own. You can use YouSendIt, which works well. But how much more pro do you look with a secure, verified and branded FTP site that costs you nothing? Remember, perception is reality. em

Happy reading.

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Why Can't I Stop Listening to This?

By Nathaniel Kunkel

I have just spent a couple of weeks mixing a show I recorded last year of Guy Clark, Joe Ely, John Hiatt, and Lyle Lovett. They do the Songwriters Tour together once in a while, and I was lucky enough to be asked to record their Redwood City performances in Northern California. It's really an amazing show: they are all onstage at the same time, each one performs a song, and then he passes the baton to the next guy. One of the benefits of this arrangement is that there is no setlist. They play what they feel like playing after the previous guy has played. They might play a solo on another performer's song, and they usually talk to each other about their respective performances and/or what the song was about. It is amazing to watch and very educational.

After I mixed the show, however, I learned some amazing stuff.

Lyle, who spearheads the project, is one of the greatest champions of integrity I have ever met. So when I was mixing the show, I decided to leave in all the talking, all the tuning, all the audience chatter, everything. It was long, but it was the performance in its entirety. I figured that approach would be the most beneficial for the performers to evaluate the show before release.

The other thing that differed in my normal approach to mixing on this project was my abandonment of an elevated-level master. I am so over it (no pun intended). This product was going to have dynamic range.

So I printed my mixes of real performances with dynamic range (which should not be the anomaly that it is). Then I burned a couple of discs to reference in my car. However, I was not prepared for my reaction: I was fully engaged and unable to pull myself away from listening to this concert. That was unusual—I normally want to get as far away from a project as possible after listening to it for weeks. But this was different. There was flow. There were dynamics. There was humanity. There were jokes and discussions. There was, right there, something I don't hear much anymore: people entertaining me. Not machines. Not reverb. Not Auto-Tune. *People.*

It was also a complete listening experience—the dialog was as important as the songs. These are not just amazing songwriters; these are amazing people, with a story and a reason for everything they do. And they were sharing it with me.

I was floored. It was captivating, and my desire to keep listening over and over was unrelenting. Like a man who has come out of the desert and found water, I could not get enough.

So that got me thinking about some of the music by musicians I love—Buddy Holly, Arlo Guthrie, James Taylor, Led Zeppelin, David Bowie, Eric Taylor, Karla Bonoff, Sting, Stevie Ray Vaughn, Nat King Cole, and Frank Zappa. You know, the good stuff. The stuff that could, and still does, enthrall me.

I also thought about the first time I recorded James Taylor. I was so worried. Would I be able to record his voice right? It's one of the most recognizable voices in popular music. Then I heard him sing right in front of me, and my worries evaporated. Not because I was unnecessarily confident or thought I had the right mic. My worries evaporated because you could put a $49 Realistic mic from Radio Shack in front of him and he would still sound like James Taylor. You would have to try to bung it up. Really, you would.

Why am I telling you this?

Because like this show with Guy, Joe, John, and Lyle, and like my experience with James, when you have a truly great performance of a truly great song, sometimes you just need to get out of the way.

If you are in front of an artist and they don't floor you, I'm not sure adding a loop is going to make them a star. We should stop trying to make hit records for any artist and start making good records for hit artists. Not only is it easier, but if I were to judge an artwork's success by the enjoyment of the person experiencing it over time, I think it's more likely that a good record from a talented artist will result in great art. Only time will tell. ᴇm

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Nathaniel Kunkel (studiowithoutwalls.com) is a Grammy and Emmy Award–winning producer, engineer, and mixer who has worked with Sting, B.B. King, Insane Clown Posse, I-Nine, and comedian Robin Williams.

Memories and Fortune Telling

By Nathaniel Kunkel

It's AES time in New York City (the annual Audio Engineering Society convention), and while things are surely changing for the future, thinking about where we are for AES 2009 makes me realize how far we've come.

I remember my first AES show. It was the 79th convention in New York, in 1985 I believe. As soon as I walked through the doors, I saw a huge Gauss bin duplicator running at full speed and a Mitsubishi woofer, which seemed as tall as I was, blowing tissue paper across the room. They had me from the start.

Since then, I have rarely missed a U.S. show. I remember the 1999 AES convention in New York, where Rodger Lagadec gave the inaugural Richard C. Heyser Memorial Lecture, which was entitled "Digital Audio and the Challenge of the Internet." (Lagadec received his Ph.D. in digital signal processing for telecommunications and is an AES Fellow, among many other accomplishments.) I remember my friend John Hurst gave me a copy of the lecture after the fact, and said, "Read this." I did, and I still reread it periodically. Let me briefly quote and discuss some of the prescient ideas Lagadec put forth in that lecture. (You can read the entire lecture at www.aes.org/technical/heyser/aes107.cfm.)

Just to help set the picture, remember this was in 1999. "A good notebook computer," he said, "may have 6 GB of hard disk space," and computers are communicating "at 56k and 128k." But Lagadec was still able to illustrate the problem that Apple would eventually solve in 2001 with the iPod. "Today's Internet is, in consumer audio terms, in the wrong room," he said. He addressed what independent labels would learn quickly, which was that, "the threatening potential of the Internet to challenge the existing business system by enabling large-scale bypassing of both the existing distribution systems and their protection of copyrights" would be the major labels' albatross.

Most importantly, for the artists and self-promoters out there, he identified the great migration that we are now witnessing: "All this must mean that all the songs on a CD will cost less than a physical CD," Lagadec said. "Somewhere in the near future, though, there will be the full CD's true successor—the full CD, with its subscription, with information services, gossip [and] online forums for those who are interested in buying more than just sound files, tailored to the user's needs and profile. Co-branded, co-marketed, profile generating, interactive, customer-driven, partly customer-defined." It's hard to imagine nailing it more on the head than he did right there.

My intention here is not to get you to print out that lecture and find an answer to all your business-model questions of 2009. Instead, I want to shed light on the fact that the professional audio community combines technological zeal with art in a way that is wholly its own. And if you're an engineer (or a recording musician), AES is your organization. There are people who are every bit as visionary as Lagadec at every AES show, and they are asking the right questions.

Go read the lecture and join the AES. It's a bunch of people you want to be associated with, and how easy is that to find these days? em

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Good Times, Bad Times

By Nathaniel Kunkel

Wow, things are just crazy these days. Banks are failing and people are losing their money, with lines around the block and everything. (Unnecessary lines, as the FDIC is properly funded, but lines nonetheless.)

Even more amazing is that engineers and producers are willing to admit they aren't working. That wasn't the case two years ago. You would go to an industry mixer and it seemed everyone was working. In reality, of course, we were not. It's been tough for a while, but we felt that looking busy was the best way to *be* busy. However, it seems that it's too grim to lie about it anymore. Way too grim to feel happy about how cool Melodyne is. (Actually, that's not true: I am so digging Melodyne. I just cannot believe what that program can do. And when Direct Note Access comes out, it's all over but the crying.)

Okay, so things could be worse, but they sure could be better. So just in case no one else has the cojones to say it: it's hard for everyone in the music business right now. If you're struggling, you're not alone. If you're working, you might want to keep that to yourself. Man, times *have* changed.

"Don't despair," my friends tell me, "even in the Great Depression, people wanted to be entertained."

"Yeah, but back then, they didn't have as much stored media at home," I counter. I also think the fact that people weren't buying music before the economy tanked isn't a good sign.

This is where I would usually present the silver lining. Not this time. I think it's going to suck for a little while longer.

Remember that the problem with the music business is the same as with the housing market: it's a broken model and it needs to be restructured. It's a drag when that comes after a failure. It's cooler when you catch it early.

Maybe the music industry's problems are a huge blessing. I mean, there has been some cool stuff released, but for the most part, while the proliferation of Pro Tools has put the power of production in everyone's hands, it doesn't make them instant songwriters.

Like I've said before, maybe if the music business weren't so lucrative, all the people who are only in it for the money would go away and leave it for those of us who would do it for free anyway. We could then make a higher concentration of good art and, hopefully, some money again.

Hey, there's the silver lining. Yeah, that's the ticket: we'll work for free but the majority of music that people are exposed to won't suck anymore. Wait—is that better? Ugh, maybe we should all start lying again.

You see, the record business has always been cyclical. Major record companies get huge, lose track of the art, and fail. Indies get bigger, make more profit than a major, then get bought by major record companies that ride for a bit on the coattails of the people who actually knew what they were doing, but then fail because they weren't responsible for the success in the first place. Sound familiar?

So don't despair. Although it's not getting better right now, it is going to get better.

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Louder, But Softer

By Nathaniel Kunkel

Have you ever noticed how much more fun it is to turn up old recordings than new ones? I know we all talk about the level wars that the CD medium ushered in, and it seems most people who voice an opinion about the subject are in opposition to excessive levels. Me? I'm on the fence. In truth, I must admit that there are aspects of squashed recordings that I really like. I can get rock tracks to grind with bus compression in a way that makes the mix a lot more powerful. It also affects the bottom end in a very cool way. Conversely, there are times when squashing a mix does not work. It gets hard-sounding and two-dimensional. Both approaches have their place, but it is choosing when to apply each one that's the tough part.

When I know an album needs to be loud, I make it loud in the mix. The idea that you can mix an album with big dynamics and then let the mastering engineer bring the level up is flawed. When you mix for dynamics and then squash all the peaks, the drums disappear, the vocals get thick and the guitars get dark. Extremely high-level recordings need to be mixed differently so that the intended balances translate.

Additionally, loud-level CDs almost always have superaggressive midrange to compensate for the closing up of the mix that results from drastic peak-limiting. When you turn it up loud, it hurts. Not like an old Fleetwood Mac record, which just gets better when you turn it up. So what does that mean? Well for me, it means that if a CD is mixed or mastered too loud, it's less enjoyable to turn it up on a stereo. One could even say that the louder a CD is mixed, the quieter the listener might listen. So if the intention is to provide a robust and loud listening experience, perhaps the best bet is a low-level CD.

I think it's also important to mention that the analog electronics in the players we use don't always like dealing with such high-level signals. They often are prone to clipping, and when they do it's not pleasant.

So when does a loud CD translate better? A restaurant is one example, and perhaps also a shopping mall. If we plan our music to be audio wallpaper, we should make it loud. In addition, if you are mixing a type of music that is supposed to be loud and squashed-sounding, then by all means make it loud. Would a super-dynamic Slipknot album really be better?

But if your target is radio or iTunes, you really needn't worry about smashing it unless you want that sound. Both of those formats will competitively level your song for you. Radio uses broadcast compression to do it, and iTunes has the Sound Check feature. You can make it loud if you want to, but I'm not sure of the benefit.

Neither approach is right or wrong. They are just different. The only dilemma that comes up for me sometimes is that it's not always easy to tell at the beginning of a mix which approach is the correct one for that particular song. Sometimes either method can produce good results.

Is it better to provide a positive experience for a passive audience that puts no effort into hearing your music, or for the people who actually go out and buy your record? Will they still buy it if they don't have a good passive experience first? Should I use an approach purely because its result is the one my client is most used to? Will they reject my mix if it's not louder than dude mixer X's? Is it better to be safe or evolve? Should I just do what I think sounds best?

I know these seem like stupid questions, but as George Massenburg used to say to me, "The only stupid question is the one you don't ask." em

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