

The Killers | Bob Ludwig | The Hives on Tour

WWW.MIXONLINE.COM | DECEMBER 2008

MIX[®]

PROFESSIONAL AUDIO AND MUSIC PRODUCTION

Mastering

Focus on Formats
From LP to MP3

Plug-In Packages
Specialty Tools

Compression
When to Say When

Bond Is Back!

Sound for 'Quantum of Solace'



Hit Factory Criteria

50 Years and Counting

Lil Wayne, EVP/COO Bob Lanier, Iggy Pop, VP/GM Trevor Fletcher
and Birdman in Hit Factory Criteria Studio A, Miami

A PENTON MEDIA PUBLICATION



The Limits of Compression

A MASTERING ENGINEER'S TAKE ON MAKING THE MOST OF DYNAMIC RANGE

BY GAVIN LURSSSEN

I recently traveled to San Francisco to attend the AES Convention and 2008 TEC Awards. If you were there, you know that T Bone Burnett delivered an inspired speech accepting his Hall of Fame award. Among other things, he challenged all of us in this industry to produce albums that re-think the ways we use the tools available to us. And he challenged us to embrace new ways of presenting music to consumers who, over recent years, have become used to a vast array of options when it comes to experiencing audio at home and on the move.

While in the Bay Area I also ducked out for a few hours to see my brother and his young family. Witnessing his two small children make their way through the world, something obvious occurred to me. I realized that, from the earliest stages of life, we are taught limits by our parents—also by relatives, teachers, friends. Over a lifetime, the lessons of our limits (and how to push them) are always with us.

This is not especially profound, just something that occurred to me when a subject important to all of us—compression and its place in our work—was on my mind.

The funny thing about limits: We also spend a lot of time testing them. Whenever my brother tells his 5-year-old daughter not to do something, she immediately does it. She pushes to see if it really is the edge—and what happens when she crosses it.

But here's the interesting thing. I asked my brother how he deals with this. He said that he doesn't sweat the small stuff and, at times that really matter, he holds the limit. He sees his job as providing his daughter what she needs to succeed, and that includes setting limits.

What in the world does this have to do with

compression? A lot, I think.

Recorded music has boundaries, too. This is why we find ourselves again and again talking about compression and the "loud" CD, download or MP3—the pushing of limits that seems to define production and consumption of music in the Digital Age.

But I think an important lesson lies in my brother's approach as a parent. As he steers his daughter through her world, he sets limits because he knows he must. But what he really does is this: He responds to the entire range of her experience. He focuses on his daughter as a whole person. And in this way, he brings out the best in her.

Call it the parenting equivalent of working with dynamic range. The limits are meaningless by themselves. What matters is the range and depth between the limits. True of parenting, true of mastering music, true of most things, probably. If you're with me, this is how I think we should approach mastering for these new times.

Mastering is not just about pushing the limits, although that is what it has become. Even at its most conservative, mastering today requires a certain amount of pushing the limits to provide sound that fits the mainstream, visceral expectations of most average consumers of music. The "whole" of the sound requires a push to complete the picture—and, frankly, all too often this means the loss of any real dynamic range. In my mastering projects, I find myself using more equipment in my chain and just applying a little of each, working very hard to sound like I was never there. The more I push a device, the more it presents a veil between the fan and the artist on a recording.



Last year, I had the honor of being included on Bob Ludwig's Platinum Mastering panel at AES. I mentioned in front of hundreds of people—all there to learn about the current trends in mastering—that I often get a request to make sure that the album I am working on is “not the loudest thing in the world.” I went on to say that I always interpret that request as the opposite of what it seems: By asking me not to over-cook the audio, what they are really saying is that they *do* want me to over-cook it, but that they want it to also sound good. Everybody laughed; nobody questioned the remark.

What the clients are asking for is to have the audio fit into today's standards but to also have it breathe and feel good. This was easier to do by previous standards: Records from 10 years ago and earlier have far lower average levels, meaning far more dynamic range and room for the recording to breathe. However, if you print audio out of the realm of the visceral expectation in today's world, it often has to come along with an explanation. Sometimes I work with producers and artists who don't buy into the levels but rather the depth of field of a recording. Established artists and producers find it easier to take this risk because they have an established fan base, but I get others who want to copy the sound.

To borrow again from the parenting analogy, I think at its worst the current loudness trend is akin to infusing a diet with too much sugar. Might taste good up front, but is that really what you have in mind? Is that best?

If my brother fed his daughter a steady diet of cereal with copious amounts of sugar, she would eat her breakfast. Job well done. But she would also develop a taste for sugar at the ex-

pense of so many other flavors (to say nothing of her nutrition). That would be her baseline, the norm. All other tastes would have to be as “loud” as sugar just to compete.

Sugar has its place the same way pushing the limits on sound has its important place, but I think we are at a time when we fear that if we remove the sugar, no one will eat the cereal.

I am not a gear head. I've always focused on “vibe” rather than the purely technical side of things; the music, the sound, is the primary focus. I only use whatever tools are necessary to get the job done, and that changes with each assignment. Less is more. Less electronics, less processing, less push on what is in the chain.

But I do have strong feelings about tools like compression—especially from a conceptual point of view. I like to think of myself as growing with the new school and participating in it on every level. Any experience I share, or mentoring, is offered in the service of creating an environment of responsible audio transfers, no matter what medium. My close work with T Bone Burnett and his CODE sound quality-control initiative is an additional testament to this.

This idea of humans always pushing against limits brings to mind the early history of CDs, starting back in the 1980s when digital storage arrived for consumers. CD manufacturers would not accept any masters with samples over digital zero. The engineer would have to record or capture the music way below the threshold to maintain a legal master.

In the late '80s and early '90s, equipment manufacturers started building tools to clip audio right before the digital zero point. That, in turn, allowed the use of compression to essentially turn up the average volume of the

music and reduce the peak volume while avoiding sample overs.

Compression and limiting became popular ways to push the limits—no longer simply part of a set of tools to be used to enhance the musical vision of an artist, producer or mixer. The trend gained popularity as more and more noise infiltrated our lives and our listening environments. When the Digital Age went portable, to compete with ambient noise meant to push and push the limits of our recordings.

In other words, we sugarcoated everything to make sure it still got eaten.

“Compression” is an often misunderstood and misused term. It is nothing more than dynamic range control. It does not reduce highs or add lows, as some people think. (I am referring to compression of the stereo master. Compression of individual tracks within a recording before it is mixed would be the subject of a different article.)

The responsibility of all engineering is to learn from and maintain standards set by the greats, to embrace and enhance them. It is about working with the whole of a sound, operating within the entire dynamic range.

When we limit the range of audio, we are in fact simply limiting ourselves. We are limiting the size of the canvas upon which we are asked to work, and we are, in the end, limiting what we can contribute to the production of music in this Digital Age. **III**

Mastering engineer Gavin Lurssen is a two-time Grammy winner for the O Brother, Where Art Thou? soundtrack and PBS' Martin Scorsese Presents the Blues. He won two 2008 TEC awards for Robert Plant and Alison Krauss' Raising Sand.