Jeff Lipton *of* *Peerless* Mastering >>>>

by Andy Hong

Mastering. It's kind of like the snake oil of making records. It's that secret elixir that gives your songs sheen, size, and consistency. It brings out the best sound in your recordings, while helping to control any audible problems or mishaps. And it's what makes your records sound good no matter where they're played. Mastering is one of the most demanding recording sciences. It requires an extremely neutral listening environment and equipment with pristine audio-handling capabilities. It also requires an engineer who can listen with objective ears - both to the music and to the client's requests - and make precise adjustments to the sound. Jeff Lipton started mastering records late at night in his bedroom back in 1993, when friends would ask him to make their records sound more polished. Realizing that he had a much-sought-after skill, he opened the original incarnation of Peerless Mastering in Boston in 1995. Business expanded, and he now owns a world-class facility, housing two mastering suites, just outside Boston.

The first time I heard your work, it was for Willard Grant Conspiracy's album *Weevils in the Captain's Biscuit*, in 1998. The recording was from a live broadcast I engineered on WMBR Radio in Cambridge, MA. I was blown away by how amazingly clear and dynamic the CD sounded, considering that the original recording was lo-fi - literally recorded off of the radio. Do you remember what you did?

The recording was definitely optimized for radio. It was pretty compressed. The Willard Grant Conspiracy is a band with beautiful instrumental textures, and in the case of this recording, I think there were 7 or 8 musicians playing at once. I wanted to open up the recording so that you could clearly hear every instrument and add back in some of the life of the original performance, which wouldn't have been possible to present over the air. To do this, I used analog EQ, some additional analog compression, and several multiband expanders, and digital equalizers. I also worked on stereo imaging and optimizing the recording for the CD format vs. the radio format.

Speaking of expanders, when most recording engineers think about taking their mixes to a mastering engineer, they think about EQ, compression, and limiting - making things sound balanced and loud. I've noticed that you spend just as much time expanding as you do compressing. In fact, I can't recall ever going to another mastering engineer who's used an expander like you do...

I think a lot of recordings have suffered from too much compression, which can bury things and takes away the life of the sounds. Not that I don't think that compression is an invaluable production and mastering tool, I just feel that recordings can sometimes benefit from undoing some of the effects of compression, which of course is an effect in itself.

Louder, louder, louder...

Exactly. The current market seems to feel that the louder their record sounds, the better it is. This is a trend that I hope to help reverse. I am amazed by how few of my customers understand the compromises that have to be made in order to make a recording "louder." There is no "11" on the knob. But, people often tell me to turn it up, but don't compress it any more. The loudest any digital signal can be is digital zero. So the only way to make something that peaks near digital zero louder, is to compress it heavily, then add makeup gain to get it as close to zero as possible without clipping.

Do you think this is a case of the technology driving the trend... or the trend driving the technology? I'm thinking Finalizer, Waves L2, various "mastering" plug-ins...

I don't know. It is certainly easier to get things louder with the new technology. I think in my case, the clients come in with a very compressed record and say, make mine as loud as this one. I explain the pros and cons, but they almost always decide on "louder!"

What are some of the more memorable sessions you've had?

Let's see… one of the most complicated projects I've worked on was The Magnetic Fields *69 Love Songs*. Before I heard the songs, I was skeptical that even a genius like Stephin could pull off a record with so many songs and make it interesting and listenable; but he not only pulled it off, he created one of my favorite records of all time. I would go so far as to say that I think almost every song is a masterpiece. The Magnetic Fields are great to work with. They give me creative freedom to do what I feel is best for their material, but just enough guidance so that I understand what they are hoping to achieve. In this case, we had a strict deadline, so it was not possible for them to have all the songs mixed before the mastering began; and also for 46 songs they hadn't yet decided on an order. This made it especially important for all the tracks to be very closely matched sonically. I ended up spending over an hour on every single song on the record. All the songs were recorded under different circumstances, and a lot were recorded in a home studio. And the songs had a huge range of musical styles. It was lots of fun. It's rare that I get to work on a multi-week mastering project! Jack Drag's most recent albums were great projects. On one record, John Dragonetti had a concept for how the songs should flow into each other, so we spent a lot of time coming up with creative edits to create the flow of the record. I worked on the new Kelly Joe Phelps record for Rykodisc, which was recorded at Long View Farms and produced by George Howard. That record is so warm and beautiful, like Bob Dylan's album *Time Out Of Mind*, or Tom Waits' *Rain Dogs*.

Are there producers or engineers you like working with?

Paul Kolderie always sends me the most beautiful and textural mixes. Phil Greene - he has the best technical knowledge of anybody I've worked with. Mark Miller and Thom Monahan of Slaughter House in Western Mass are great. Jim Siegal of the Outpost always sends great material. Basically, I've just been blessed to work on some really great projects.

How about Sebadoh's lo-fi sound? How did mastering contribute to it?

They specifically asked that we maintain lo-fi qualities to the recording. On the album version of "Flame," the first single, Lou Barlow asked me to mix two mixes together because he loved both of them and couldn't choose between them. One mix was by Eric Masunaga, and another was by Rich Costy. This is not a normal mastering request! But they loved the double-mixed version and used it.

Selected Discography:

Ashley Stove - *All Summer Long*
Avoid One Thing - *Avoid One Thing*
Blake Hazard - *Little Airplane*
Chris Brokaw - *Red Cities*
Chuck E. Weiss - *Extremely Cool*
Dropkick Murphys - *"Sing Loud, Sing Proud"*
Either/Orchestra - *Afro-Cubism, Francine*
Future Bible Heroes - *Eternal Youth*
Helms – *Swimmer, McCarthy*
Jack Drag - *The Sun Inside LP*
Jeff Tweedy / Wilco - *Chelsea Walls Soundtrack*
Karate - *Some Boots*
Magnetic Fields - *69 Love Songs*
Matthew - *Everybody Down*
Seana Carmody - *Struts and Shocks*
Sinners & Saints - *Sky Is Falling*
Stephin Merritt - *Eban & Charley*
Thalia Zedek - *You're a Big Girl Now*
The Pernice Brothers - *World Won't End*
Victory at Sea – *The Good Night*
v/a - *Amos House Collection Vols. 1 & 2*
v/a - *Hamlet (2000) Soundtrack*

Wow! How tight was the timing between the two mixes? Did you let them go in and out of exact tempo lock?

I actually lined them up at the sample level, as best as possible. They were both at slightly different speeds; and they have very different effects on them; so the different delays and reverbs did cause a cool phasiness to occur. But the snare drum hits are pretty much lined up. It took a really long time to do this.

What's the typical amount of time you put into a project? Say a full-length CD with 10 songs...

It depends on the budget. If a client wants to put the time in to make everything perfect, it can average an hour a song. If a client needs to master something within a very small budget, I can work in as little as 15 minutes per song - depending on the song lengths that is.

How did you get into mastering? At what point did you decide, "I'm going to be a mastering engineer"?

I have always been obsessed with sound quality. It just seemed like a natural career for me. I love music, and I love to help people achieve their creative visions.

How did you learn the trade?

I started mastering live recordings of bands in Sound Designer II in the early '90s. I would just listen very carefully and experiment with EQ and compression until I had what I was looking for. The tools were crude, but I was able to learn a lot using them.

How do you know that the "sound" you hear in this room will translate well to other people's rooms, cars, spaces, etc?

That comes from a lot of listening. I often take my mastered albums and listen to them in a lot of different environments - as many as possible. In my mastering rooms, you can hear every detail of the recording. In many listening environments, aspects of the recording are masked by frequency cancellation, or frequencies are summed by reflections. I try first to make the recording sound as good as possible, flat, which really does translate well to other listening environments. The monitoring in a mastering room may be the most important part of the process. Being able to trust what you hear is essential to being able to make the decisions needed to master a record. I have been fortunate to have worked with top acousticians: Bob Alach of Alactronics, who designed my A-Room; and Michael Blackmer, who designed the B-Room.

The A-Room has to be the most neutral sounding room I've ever heard!

Even after the room itself was built, Bob Alach spent a year tuning it. Right down to moving cinder blocks by millimeters and angling the speakers by fractions of degrees. Behind all those hand-picked fabric walls are suspended bass traps, and even the doors were specially shaped to offer the correct diffusion. The room is essentially flat from 8 Hz to 40 kHz, and the SLS monitors and the Bag End subwoofers utilize that whole range. I can completely trust what I'm hearing in this room, so I can make better decisions. Also, you may have noticed that the main speakers are placed so that where you're slouching down on the couch, you hear them at the same angle as I hear them sitting in my chair at the engineer's position. If you like what you hear in this room - or dislike what you hear - you'll like or dislike the same things in real-world listening environments.

I've noticed that you've gathered quite a quiver of HDCD Processors from Pacific Microsonics.

Yes, we have three Model IIs and two Model Is. I find them to be the greatest converters I've ever heard. Their dithering process is also remarkable. We use them for both stereo and 5.1 dithering and monitoring. We use the converters to convert digital signal to analog for analog processing all the time. And you and I have talked a great deal about how the HDCD process on the final master comes close to achieving a 20-bit sound out of 16-bits. It's quite fascinating, but very real too.

The walls in your B-Room are um... unique...

Michael Blackmer calls that his "multi room within a room" design. Because of the way the reflections occur depending on where you are in the room, it sounds like a different listening space. This is very useful for testing the way material sounds before it leaves the studio. The A-Room has a much more consistent sound. It has a giant sweet spot - everyone in the room is basically hearing the same thing.

And what about this Weiss box?

The Weiss EQ1-LP is a great, transparent EQ. It's linear-phase, so unlike normal EQs, it only affects amplitude in the frequency domain - it has constant group-delay in the frequency domain. It also has a more normal mode, which also sounds great, but not as transparent.

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You used it a good deal in conjunction with M+S processing on the new Nedelle CD that John Baccigaluppi and I brought in.

Mid/Side processing is such an amazing tool. By being able to EQ or change the dynamics of the center image separately from the side image, it is possible to, say, bring out a buried vocal track, without affecting the instruments that are mixed primarily off center. If I recall correctly, you needed the relative volume of the vocals changed in two of the songs, and in general the Weiss EQ across the Mid gave the vocal a bit of shine. Also, one of the songs had cymbals that were a teeny bit harsh, so I put a multiband compressor on the Side to take out some of the upper-midrange harshness without affecting the airiness of the cymbals or the quality of the snare.

Do you prefer getting projects in digital or on tape?

1/2" analog tape. It sounds warmer and more accurate than 44.1 kHz, 24-bit. However, I do think that 192 k or 176.4 k sounds pretty great.

For the engineer or band who's putting together songs to bring to a mastering house for the first time, what things should the engineer or band know?

A well-documented project is very easy to work with. Make all edit decisions before mastering (not the edits, just the decisions). Use meaningful labels on everything. If you bring your mixes on CD-R, a data CD-R is better than an audio CD-R. Data CD-Rs have true error-correction while audio CDs use interpolation if the errors are bigger than what can be handled by the limited correction. And a data CD-R will offer you more resolution than an audio CD-R if your source files are better than 44.1/16. If you bring your project on tape, don't forget tones. A bass sweep or multiple bass tones are better than a single bass tone. Leave the mastering engineer some hiss before or after a song end, so they can use better noise reduction if needed. If you're attending a session, bring in some of your favorite CDs so both you and the mastering engineer know what to expect. Plus, you'll get to hear the CDs in the mastering room, so it'll be easier to comment on the sounds you'll hear during mastering of your own project. And finally, it's sometimes a good idea to do a "vocal up" mix. After you've done your "final" mix, you can do one more with the exact same settings, but with the vocal up a dB or two. Bring both to the session. You might be surprised when you hear your songs outside of your own studio.

Why should an artist working in a home or project recording studio bother with professional mastering?

High-end professional mastering is more important now than ever because more and more artists are choosing to work at non-professional or budget recording studios. Most of these lower-end facilities do not have precise, acoustically designed rooms, where you can hear just the music and *not* the room. Basically, working in less than optimal conditions leaves the engineer and artist guessing at what the music really sounds like, and they will optimize their mixes to a room that has its own imperfections. In other words, it sounds great in that particular studio, but it won't sound as good anywhere else. A high-end mastering facility will offer the client a nearly perfect room, where there are no handicaps to their decision-making. This, along with the fact that we have gear that is specifically designed for mastering, offering the lowest coloration possible, gives us the ability to make a recording sound as good as it can, no matter where it's heard.

And what should the client expect to get out of the mastering session?

An album that sounds clearer, more precise, warmer, well-matched. The songs should flow well together. Even songs recorded at different times or different facilities should play back in a cohesive manner. With me, a client should expect a very personal touch. Basically, I try to understand each client's artistic vision for the project; and then I try to help them reach their goal as best as I can, so that their sound reproduces as they want it to - wherever it's heard. When a client leaves, they should be happier with their recording and with the way their album sounds. That to me is what makes mastering a very satisfying process. ☮

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