John Rodd: Recording Soundtracks

John Rodd might not be a household name, but it's likely you've heard his work. As a recording and mix engineer, he's worked on many film and television scores, including Elysium, Breaking Bad, The Lincoln Lawyer, Son of Batman, In the Beginning, and Justice League: The Flashpoint Paradox. John has also worked on tons of video games, such as Call of Duty: Black Ops II, Kinect Star Wars, and World of Warcraft. Along the way he's recorded and mixed classical, rock, electronica, and jazz from solo voice to huge choirs and from string quartets to full orchestras. This breadth of experience, as well as an ability to handle the stress of intense deadlines and huge sessions, made me curious to find out more about his career. I visited him at his beautiful commercial facility in the Los Angeles area one sunny afternoon.

What were some of the scores that you heard when you were young that made an impression?

I grew up in the time of *Star Wars* — fantastic music and fantastic performances — and I remember one of my older sisters being into The Beatles. I listened a lot with headphones, and those albums were the most incredible things that I'd ever heard. I somehow figured out what an engineer was, and I wanted to be one.

How did you end up in this field?

I did the usual "engineer" thing of playing in bands, as well as messing around with synthesizers and tape loops in high school. I was taking private music lessons, but I was also into theater lighting design. I went to university for photography, filmmaking, video art, and sound. After some feature film work, I ended up getting a job at a studio in Toronto called Manta Sound, which is sadly no longer in existence. It was a world-class, five-studio facility that had a big recording room for film scores. I remember the first day, just being a fly on the wall with a massive film score being recorded. It felt super intense. There was all of this preparation and tension; so many people, deadlines, complexity, and tape machines. I thought it was crazy, but I wanted to do it. There were six staff engineers at Manta who were all great. One guy was mostly a rock guy, and one was mostly an orchestral film guy. Each engineer had their favorite sessions to do, but they each worked in all of the different rooms and were versatile engineers. That really opened up my eyes to what was possible. I was there for about five years.

In what capacity?

As an assistant engineer. When they hired any assistant engineer, they would say, "Look, to be clear, there's absolutely no chance of you becoming a full-time staff engineer in less than six years." It was very old school. But there was a very healthy spirit of competition between the six assistant engineers to see who could make these multiple tape machines lock up faster, who could have the most detailed notes, and who could be the most organized. I was a third engineer for six months or so. They took their training very, very seriously. That was really the beginning of everything; of getting a taste for surround sound, different styles of music, and what hardware did. Sometimes guys would stay after work to listen to subtle sonic differences between different hardware, such as compressors, for example. Manta was where I learned a lot. Eventually I became the right-hand man of Gary Gray, the staff engineer who was doing most of the film scoring. I worked with many of the top composers, including Marvin Hamlisch, John Debney, Angelo Badalamenti, and Howard Shore. For a period of time there was quite a bit of scoring happening in Toronto, because the exchange rate was favorable. I left Manta when it dropped to only one film project a month. That wasn't enough for me. I did TV commercials, rock albums, and everything in between, but I'd really had enough of the TV commercials. You learn to be very fast and very good with the clients, but in the long run I knew that my heart was in film scoring. I quit and backpacked around Asia for a few months. I ended up in England and was doing some engineering there. I then landed a very cool opportunity with the Banff Center for the Arts [in Canada]. I was engineering there and also doing some teaching. I ended up doing quite a lot of recording sessions that were also simultaneous "live to 2-track" mixes. That's a great discipline. You really learn about reverb and how different speakers work in different rooms. You live and die by your decisions, but there's a great feeling in being done by dinnertime. Someone might do some editing after the fact, but it's basically done.

You can't change it.

Sometimes I'd do live to 2-track, but also run a multitrack so I could go back and do a remix in order to compare and contrast. Living in the Canadian Rockies was fantastic; it's rarified air. It's a very special place. The arrangement with Banff is that no individual can hold that position for longer than two years in order to keep it fresh. I ended up in L.A. after that, and had a great opportunity to work at Ocean Way Studios in Hollywood.

I'd just turned 30. I had been a first engineer for a while, so what I did might've seemed like a step backwards in taking an assistant engineer position. The payoff was that I was working with incredible engineers, as well as learning a ton while working with Eric Clapton, Porno for Pyros, Michael Jackson, and film projects with Ry Cooder. There were insane hours and weekly all-nighters, but it was Ocean Way. After about a year there I really wanted to get back to the film world. The film world tends to be a little bit less crazy. You might start work at eight in the morning, as opposed to eight at night. I got a job at 20th Century Fox's Newman Scoring Stage in large part because Ry Cooder recommended me, without my knowledge! He made a phone call, and I didn't even know. For Ry, it's all about the music. I have a big respect for Ry. Their Newman Scoring Stage that had been under renovation for many years. That was the ideal job for me. I hustled and got into the film union, which wasn't easy; but I had enough film experience to get in, and I became their in-house scoring recordist. I took care of all the teams that came in for these super complex film-scoring sessions. It was insane complexity, with 100-piece orchestras and multiple rigs of every sort that you could imagine. I landed the job at 20th Century Fox and I was there for seven years, until I went freelance. I worked on 150 movies, or so, at Fox. I was working with great people and I learned a lot. There were some very intense hours, and there was pressure, but that gave me the confidence to strike out on my own about ten years ago.

Was it difficult to come from Canada to live and work in the States?

Right from day one, 19 years ago, I was able to get a work visa, as I brought a very specialized set of skills to America. That led to Permanent Residency and now I'm an American citizen, so I guess I'm staying. [laughs]

You were then available as a freelance recording engineer and mixer for film scores?

That's right. For film, TV, and the occasional album. I do a lot of video games too, as well as the occasional film trailer project.

We listened earlier to a cue from the movie *Elysium*. It's intense! Who's the composer on that?

His name is Ryan Amon. I recorded the strings, brass, and some solo instruments at Abbey Road and then I mixed all 101 cues here at my studio, Clearstory Sound. It's all dense and complicated. It had to be mixed in a way so that it just dropped into the movie. They've got to deal with dialogue and sound effects. I have to mix so they can just push up the fader and the score sounds awesome.

You recorded in Abbey Road Studio One?

Yeah. 62 strings, 15 brass, and a few solo instruments. Everything else you hear in that film score — including all the big cinematic drums — are virtual.

What's it like mixing in surround?

It's a lot of fun, because it's a big canvas to mix onto. I'm always very carefully going back and forth to check my fold down from my 5.1 score mix to my stereo mix. The stereo mix is for the score album, but it is also used by the composers to get future jobs. A movie will also make its journey to airplanes, DVDs, and laptops. The score also has to sound good in stereo. That's one of the many reasons that I'm very, very cautious about making sure that my stereo fold down sounds great from the beginning.

So you have to know that it's not phasing out in a weird way.

Yeah, absolutely. There are many techniques to make a 5.1 score sound great when folded down to stereo. One key concern is the level of the center channel. Often I'll adjust the fold down a little bit from cue to cue, just to make sure that the phantom center sounds right. Then there's the surround and the subs — they all have to be considered. On a big film, like *Elysium*, on the widest cues I was delivering thirteen 5.1 stem mixes of music, plus the full 5.1 score mix.

For each cue?

Yeah, for each cue. Not all of them have 13 stem mixes. The layout on that score delivery was live strings 1 and 2, live brass 1 and 2, and then big drums 1 and 2, little drums 1 and 2, pads, vocals, miscellaneous A, and miscellaneous B. In this movie they did very little tweaking to my score mix. What I handed off to them was very much what they used. I just wanted to give them the control if they wanted to turn up one thing a little bit in the final dub.

I'd imagine that they also might want to drop some of the elements down in volume for a second for impact in the final film mix.

That's right. I was in touch with the music and dialogue re-recording mixer, Christopher Scarabosio, who was great to work with. He told me that one of the things they did in places for an effect was to roll all the top end out of the score for a moment, because Matt Damon had an explosion near his head. It's like that whole underwater thing — everything goes really dark for a second and then comes back. They did that a couple of times.

It's all about the drama when you're supporting a movie.

Exactly. People might think that music mixing in surround is easy, like, "Just put the delays in the rears and put some reverb in," but there's a lot more to it. One thing we have to avoid is what's called the "exit sign effect." You wouldn't want to put a really active snare drum part only in the rear surround speakers, for example. If you're watching the movie, it's like, "Wait, what's that?"

You look back at the exit sign?

Yeah, exactly. We don't want to take people out of the movie.

What kind of techniques do you use during mastering?

I've got a whole lot of great analog gear, including a Crane Song STC-8, Neve Portico II, A-Design EM-PEQs, API 5500 EQ, a Kush Clariphonic, and the [Dramastic Audio] Obsidian 500. It's like an SSL bus compressor, except better.

It looks like one too.

There's an A-Designs Hammer, the [Dangerous] BAX EQ, and the Dangerous Liaison. I love that box. It's great.

It lets you set up different signal chains and route them. It's stereo, right?

Yeah, it's stereo; but it has memory, so you can take patches in and out, as well as reverse them to see what sounds better. You can store it then. It can be switched instantaneously.

I only see a little patchbay here. How do you route all this gear?

I knew that question was coming. Who likes patchbays and cables? They're unreliable, over time, because of oxidation and such. I have only a few analog things on the one patch bay, and those things tend to get printed back into the Pro Tools session. One entire rack of gear is all on the Liaison. I've also got three of the TC Electronics System 6000 [audio processing units].

And three Bricasti Design M7 reverbs too?

Yeah, I've got some great reverb going on. My interfaces are 80 channels of Avid HD I/O, which is hidden out of the way. Almost all of the outboard hardware is hardwired to the 80 channels of I/O.

You can patch into them through Pro Tools?

Exactly, through the I/O setup, using inserts in Pro Tools. That works really well. It means I don't have to use a patchbay when I recall a session.

With film soundtracks, when you're recording a live score, what sample rate are you at?

Sometimes 48 kHz, sometimes 96 kHz. I deliver 48 kHz for film and TV s with almost no exception.

24-bit, I assume?

Absolutely.

You mentioned that you do a lot of video game soundtracks.

Definitely. They have hours of music, and they are produced to a very, very high standard. I've worked on *Call of Duty: Black Ops II* and I do a lot of work with Blizzard Entertainment, who produce *World of Warcraft*.

Do you ever play the games?

I play some games, but I don't have the time these days.

They're selling great.

A lot, which is great for me. I like working on them because they have a different vibe than film. When I'm working on a film, there's dialogue that you have to accommodate. There's the director and various producers, plus the composer has a lot of people to deal with besides me. When I'm on a video game, it's often more about my collaboration with the composer, as well as making the score sound cool.

So there's more room for the music?

It's a bit of a new frontier. It's a different work process as well. Sometimes the work's more spread out in games because games can take up to 18 months. I might work on it for ten days and then be off of it for a while. There's various music getting written, and implemented, into the game, so it's not necessarily all in one crunch.

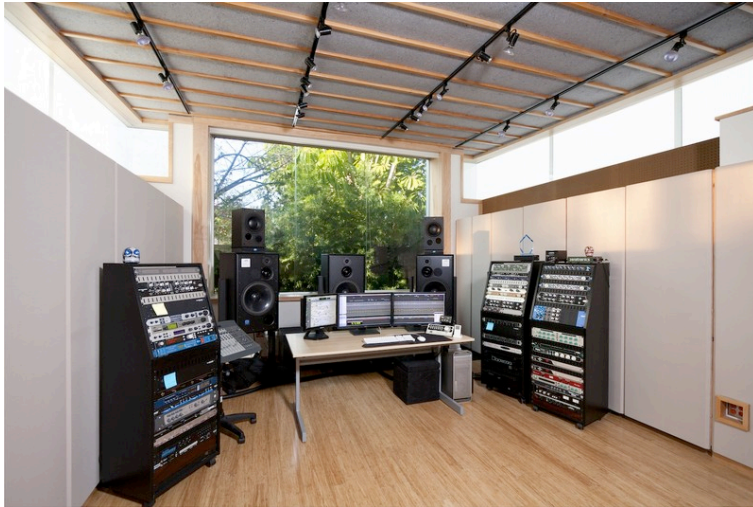**They're integrating it into the game as well. Are they sending you some visuals to build on?**

It varies. For the things that are called "cinematics," there will generally be animation. The cinematics happen at the very front of the game, and in between levels of the game when stuff is loading in the background. The cinematics are fixed. Those all have reference visuals. I did a bunch of work on *Star Wars 1313*. I was brought into LucasArts to meet with the animators and the chief art director. It was awesome seeing all of the concept art of what it was going to be: dark, underground, and edgy. I then flew to Abbey Road to record the orchestra before mixing it in my own studio. It would have been a really great game, if it hadn't been canceled when The Walt Disney Company bought out LucasArts. But, in terms of orchestras in film scores and games, you can do a classical style where it's set back and roomy. But that's not necessarily going to work well with sound effects, jets, and explosions. For me, part of the fun is balancing the room mics and getting it to sound big that way, but also using spot mics for detail. Not messing up the bigness, but just adding some presence. Abbey Road's big room has a long reverb, but with some careful work I can add some presence to the score. Then, of course, there are all of the virtual instruments. You want them to coexist, but not necessarily at the same distance because things can be closer or farther away. It's really fun sculpting.

When you're mixing virtual percussion, do you go in and see if you can add more layers to give it more depth in the mix?

I generally don't get into arrangement choices because there just isn't time. With *Elysium*, for example, there were 101 cues — 2.7 hours of music mixed in 19 days. It was about five cues mixed a day, but each cue is well over a hundred tracks. With the people that I work with, in terms of film, TV, and game composers — even the album projects that I do — the level of skill, talent, polish, and production is so high that I'm just taking it to the next level, as far as recording, mixing, and mastering are concerned. It's not like they're trying to do an album, figure out a song, or do a cool guitar solo. It's not a musical exploration that has no deadline.

How do you begin mixing a score?

When the schedule permits, I won't do the main title first. I'll ask the composer what the biggest, gnarliest, most complicated cue is that encompasses the sound of the project and theme. I'll mix that first to help me make a big mix template. A composer will generally have a favorite cue. I mix that first to get all of the reverbs and bussing dialed in so that I can print all of the separate stem mixes in one go. From there, I'll make a mix template and just keep adding to it.

John Rodd's Clearstory Sound

So the next cue might have things that weren't there before, so you add more channels?

Exactly. I know the Import Session Data function really well in Pro Tools. My mix template will easily end up being 400 or 450 tracks, but it's using Import Data and I'm deleting unused tracks when I get to each cue. That will only get me about 75% of the way there, sonically, but at least I'm not reassigning tracks all the time. For film work, people want a consistency of sounds and levels across cues. Sometimes scenes will get re-cut or shortened, or, at the eleventh hour, the director might want a little bit of a cue put somewhere else. The supervising music editor on a film will have to take different parts and reconstruct cues to accommodate. I'm generally not involved in arrangement or production work. My work is really all about the music, just carving things to make them sound great.

You already mentioned how many reverbs are in the rack, plus how many virtual instances can be created these days. What would be the maximum number of reverbs you'd have going in a score?

A lot. I couldn't even begin to imagine. As you know, each stem mix needs to be self-contained. Plus there are specialty things like, "This big musical boom needs a crazy long tail." I've got tons of reverb plug-ins — the usual suspects from Exponential Audio, Lexicon, AudioEase, and many others. I have fun things too, such as my CoolSprings MINI-LE by Zerotronics. Ralph Muha is this great guy who makes spring reverbs. They're passive, so I do the make-up gain with great preamps in order to ensure that it's clean. They sound like nothing else — just awesome. I've got a third mono one here, so I have an LCR [left, center, right] of these, and they're totally analog. They sound unlike anything else.

What is the story of your studio space here?

John Rodd's Clearstory Sound

I'd been thinking about having my own place for a long time. While working at Fox, I was also doing freelance work. Juggling those schedules was tricky, as you can imagine. Luckily, I got to the point where I could go freelance full-time. While I was at Fox, I was seeing where the technology was going. I figured that by the time I was freelance, I could be mixing in the box but using hardware inserts to get to all this great gear. I wanted to have a great surround mixing room. There weren't that many good surround-mixing facilities for music, unless you were hiring a super expensive facility in L.A. This room was five years, from conception to completion. The good thing about taking five years was that I could really think about what I wanted. I wanted natural light, and I

wanted to diffuse the clerestory windows. I visited a lot of other studios that friends had built, and I've worked in various rooms around the world, so I knew what I *didn't* want. I wanted silent air conditioning and really clean power, and, most importantly, I wanted to take the time to do it right. I've been in this room for about four years. The room sounds spectacular, clients love sitting in it and listening in it, and I can recall the gear for any project in about five minutes.

So for the analog recall, you'll just take notes?

Yeah. I've got a word processing document, like a template, and I just keep notes in there, like 10 kHz at +2 dB, etcetera. If there's a piece of gear that I can't recall accurately, I won't buy it. Seriously! It's not necessarily about detents, but clear hash marks around the knobs. After 30 years or so of doing this, I've gotten really good at looking right down the spindle and notating it exactly.

Is all the mix summing happening digitally on your mixes?

I do sometimes work on an analog console, but in this room it's all summed in the box. It sounds really good.

Well, you're very careful going in.

Absolutely. People ask me what I think about summing and so forth. Absolutely, certain consoles and tape decks will add color and nonlinearities, but I use other devices to get there, to get a similar sound.

If you've got a [Thermionic Culture] Culture Vulture, you can go to town.

Yeah. And both the [Empirical Labs and Kush Audio] Fatso's. Plug-ins just keep getting better and better. I love the Softube plug-ins. The Massey plug-ins are really cool. There are so many great options.

What led you to your choice of speakers? I was impressed to see these monstrous ATC SCM150 monitors when I walked in.

Auditioning big speakers for this room was a fun adventure that lasted about a year, actually. Of course, it's about the speaker, plus the sound of the room, in any setup. I knew that I had to build the room first. I've had a bunch of different speakers over the course of my career, as we all have. I got serious and started calling up companies. It was like the dating game. I'd have two pairs at all times. In this room, the ATCs were the clear winners, without question. A lot of film score guys use them, and a number of mastering guys too. For me, they're the most brutally honest speakers I've ever worked on. If something is harsh, they really sound harsh. If something is beautiful, it really sounds beautiful. From where you're sitting on the sofa, these ATCs sound good. They throw a really clear sound all the way back there. Anything else I've had in this room didn't do that. I really think it's about the midrange driver, as well as a lack of distortion.

It's clear and simple. There's no DSP [digital signal processing], and no hocus-pocus.

It's so refreshing to come in here and be looking outside at trees and plants. There's natural light coming in.

That's because of these 24-foot long clerestory windows; the only point of support is on the corners. The roof is massively thick, with layers and layers to keep the airplane sounds out. It's massively heavy, and it's basically floating on four points of suspension. In the corners are custom vertical steel columns that go six feet underground. Below us are two cement trucks full of cement, because the foundation goes down six feet. It uses one-inch rebar. When the building code inspector came, he was like, "Are you guys building a ten-story building?" One-inch rebar is generally only used in bridge construction. It took a long time to do all the steel for the cement, because the roof's floating and that added a lot to the price. It made the building very, very expensive, but it's worth it to me. People just love it.

Can you hear anything outside, if you crank it?

No. In all places it is super thick glass with one layer laminated and one layer tempered. That way they don't resonate together. It really stops the sound.

How many sessions areattended here?

It varies. I've done a number of projects with legendary film composer Cliff Martinez. He was with me the whole time, when his schedule allowed it. When I mixed his score for *The Lincoln Lawyer*, he was busy writing the score, so he wasn't with me at all. He made revision notes from his studio. Sometimes composers are busy finishing up writing a score, or they're elsewhere in the world. It ranges between zero and 100 percent. When I did three *Assassin's Creed* games for composer Jesper Kyd, he was here most of the time. The usual pattern is that I'll work alone in the early morning to get a bunch of mixes ready for when they're showing up. We'll work together until everything's polished and approved, and then I'll work into the night, getting ready for the next day.

Do you book yourself in blocks? Do you say that you're going to work on a certain film project or game, and then take some downtime to spend with family?

Downtime? What is this downtime word you speak of? You, of all people... [laughs]

I don't know. Here I am on "vacation," interviewing people every day.

That's one of the other reasons I built this place. I can have, with no compromise to anybody, two, three, or four projects going on. I can do CD mastering and mixing, as well as go off to a recording session one day and come back. Because I can recall the settings on the gear needed for a project in five minutes, it gives me a lot of flexibility for hitting all the deadlines, and for making sure that people have what they need. I have to

juggle, but I'm very, very organized: spreadsheets, multiple backups.

You must have systems of working to make it feasible to get these kinds of projects done.

Right. One of my secret weapons — that's not so secret — is a freelance music editor named Dave Lawrence. I've worked with him on a bunch of projects. He would prepare our Pro Tools sessions before going to the recording session. He's getting the clicks, all the pre-records, checking everything to the final orchestral scores, and get the video in. After the session, he'll clean up the fades and check all of the edits. Music edits are done "on the fly" at recording sessions, so Dave massages it later, and gives it back to me to mix.

That's like having an assistant to get your sessions up and running.

Right, except he's not an assistant. He's a music editor, an important part of the team, with his own facility, and he's often being paid directly by the film or gaming company. I work with Dave as much as possible. In terms of organization and helping me tackle a giant project really efficiently, Dave, and people like him, are fantastic, and a really important part of getting it done.

I didn't even know there were people that would help with that part.

Music editors. They're great at wrangling an enormous amount of data in a very short period of time, right before the scoring session, and then during and after. It's a full-time job.

Does anyone else ever work out of here?

I've certainly had requests, but I would be afraid of someone moving some wires and forgetting to tell me, or tweaking the speakers and not telling me. Or somebody spilling a drink, or smoking a cigar. You can look around and see that the place is pretty neat. I keep it this tidy. I'm very fortunate, because it's *my* commercial space.

As far as having film materials in your hands, is security an issue?

Yeah, I have to be very, very careful about where the hard drives are. They say, "Please use all the usual security precautions." Nothing's out of my sight, ever. I can't have it on a laptop and leave the laptop at a café. It can't happen.

I'm paranoid enough with albums, but I bet that movies involve a whole different level.

Also games. Games can be worked on for up to two years. For a long time I couldn't talk about working on *Star Wars 1313*. I couldn't say why I was going to London to record. I couldn't tell my friends about this awesome tour of LucasArts that I'd just had, including

seeing the original Han Solo in carbonate, the original E.T., and all these props and artwork. The ILM [Industrial Light & Magic] campus is so awesome. Currently, I'm signed on to multiple projects that I can't talk about.

Do you stay busy enough?

I'm very fortunate. I try very hard to keep a balanced life. Having my own commercial facility really helps that. If I need to come back to the studio to go to work at 8 p.m., or start work really early so that I can have some time with my family, I can do that.

Everybody gets pigeonholed in these fields. Does this happen to you?

When I went freelance in 2005, because I had been on staff on the Fox scoring stage from 1997 to 2005, some people — who didn't know me or my work that well — would say, "When I have an orchestral score, I'll hire you." But I had just mixed some score for the film *Ultraviolet* for Sony, which was completely electronica. I'm always trying to let people know that I work in all genres of music.

With these projects you must always be under a set deadline.

That's part of what I really like about what I do: the deadline. Even if it's for a game that goes on for a long time, there is a real feeling of gratification when you work really hard, being really focused and intense, and make something awesome.

With you being freelance, are composers requesting that you might be a good choice for any given project? How does the work come to you since you're not on staff at a studio at this point?

It's almost always the composer who hires me. Being freelance allows me the opportunity to plan my own schedule and to be able to pick and choose what projects to work on. Having my own 5.1 studio certainly helps because I have the freedom to quickly recall my gear, so I can slot in smaller projects among the bigger jobs. I appreciate this freedom now, but it was certainly a leap of faith leaving my staff position at the scoring stage at 20th Century Fox because it was a great job! With that said, although there is more of the business side to deal with when working freelance than staff, I have a more personal relationship with the composers that I work with. There's more of a sense of collaboration. It's fun to have someone in my studio who is working together with me to get cool sounds and musical vibes.

With a score that was created with virtual instruments, those are all rendered as stereo files?

Yeah. I don't deal with the raw MIDI tracks and instrument plug-ins.

Could anyone at the mixing stage even handle that? Or would it be too much extra?

There are way too many variables.

I can't even imagine.

I have done some mixing in Logic and DP, and occasionally, I'll mix at a composer's studio, but I really try to avoid it. I don't have access to all of my awesome outboard hardware boxes with Pro Tools HD's zero latency hardware inserts, and composers' control rooms often have sub-par acoustic listening environments. And dealing with MIDI: "Oh, the wrong patch loaded" or "I didn't back up far enough to get the mod wheel change." It's too crazy.

So in a case like this, you are getting a lot of stuff in stereo.

It's pretty much all stereo audio tracks that I'm getting, but mics that I, or anyone else records are generally mono audio tracks.

Do you ever tear things down to a single channel and use it in different ways? How do you approach it to get everything done quickly?

Sometimes I tear it down. It's really about using the tools we all have: panning, EQ, and compression. Sometimes I'll split a stereo sound into mono and then treat the better sounding side. If you stack a bunch of stereo stuff together, it can end up as mush.

It just becomes mono, because it's all stacked.

Absolutely. I want to get clarity, punch, and definition, but also size and excitement too. For example, I generally don't want the composer's generic reverbs. I have a lot of really nice hardware reverbs. Plus, if I start to pan an individual sound to one side and the baked-in reverb is pulling hard to that one side, it really telegraphs that something isn't quite right.

Yeah, it doesn't make sense.

It's always a conversation between the composer and me. Sometimes cool effects are baked into a sound, and they should be. Sometimes I'll do tempo locked pans to individual sounds. I love PanMan from SoundToys. I was bugging SoundToys for years to do that plug-in. When they finally released it, I was thrilled.

It's so fun to pan that into a reverb or delay. It's moving, but it's also creating this haze behind it. I do that quite a bit for spacey effects.

Absolutely. Sometimes some score elements can be a little bit static. PanMan and some of the techniques that you mentioned can be fantastic just for livening things up, triggering certain patterns off the Tempo Map and stuff. I always use the Tempo Map in Pro Tools. It's fun to give certain instruments a little more excitement.

Are there things that you've done to meld, say if you've got virtual strings and

live orchestral strings recorded, to bring them to a place where they're closer?

That happens more and more these days, and I've done a lot of what is called "hybrid mixing." Sometimes the film or video game doesn't have the budget to hire a full orchestra and we record only a small group of musicians. Sometimes I'm given 100% virtual sounds. I'm lucky to have had experience with live and virtual instruments of all sorts. I often use virtual strings to make the string section sound bigger and more exciting, for example.

It can add aggression and tonality.

Yes. There are so many ways to go. Composers sometimes ask me which sample library is the best, but the truth is that I love to get as many different sample libraries as possible. It's not a case of what's best but of what is wanted and needed. Take the strings, for example. I'll get the rosin out of one sample, the fatness out of one, the body out of another, and I'll pan, EQ, compress, and layer them all very differently. Then I'll use some common hardware reverbs to make it sound great.

It's always a trip. I've done bits of that, and I like that feeling, things supporting each other and melding. It's really interesting.

Yeah, it's fun.

I always wonder when I watch a movie whether the audience knows when a whole section is virtual. I always wonder how they feel subconsciously maybe. No one's listening like we are at the movies anyway, but I always wonder how that affects people.

I totally agree with you. I think that real sound and real instruments can affect you in an emotional way that you might not be aware of. It brings a production value, an elegance, and a lushness. It's great. It's why people still hire live musicians.

How much mastering do you end up doing at this point?

Quite a lot. One of the great things about freelance is the variety, and I record, mix, and master all sorts of projects from the traditional to the way out there. And the way out stuff is not always for avant-garde projects. For example, the two *Breaking Bad* score albums I mastered for composer Dave Porter and Sony Music are edgy, ambient electronica. My projects are all over the sonic map.

I talked to an engineer once doing film stuff, and she said that she just couldn't take the violence. She was working on sound effects and stuff for slasher movies or something, and she just couldn't take it. That's an interesting thing. Is that ever a consideration for you, like what the content of the movie is?

I can see that. Music directs and guides your emotions, but a slasher film's sound

effects confront you, which is great for the movie, but I don't think anyone could spend every day being confronted by sound that way. I'm grateful that I've been able to make a career of just music. I did do a bit of dialogue and sound effects work at the beginning of my career, but it's not for me.

Has anyone tried to hire you to mix albums lately?

I do some album work, but often albums don't have the budget that they used to, so I'm spending a lot of time these days on bigger projects that have the budget. Mostly film and video games. Not so much TV lately because of the extreme deadlines and endless revisions involved. TV can mean writing and mixing an episode in three or four days. This means that the composers and their assistants have to be pretty self-contained. They have to navigate revisions and approvals from producers and there's just no time to work with someone outside the composing team.