Digital Conversion

Lenny Kravitz recording on a ProTools system constitutes one of the great conversions of our times. Christopher Holder talks to the album's engineer, Terry Manning, to learn more.

Lenny Kravitz has, over the years, garnered a rock solid reputation as one of the biggest analogue aficionados around. Rumour has it that when Lenny fires up his valve-laden rack of outboard gear, the orbiting crew of the Space Shuttle can see the glow in the night sky. Imagine the surprise when word got around that Lenny's latest album, *5*, was recorded on a Digidesign ProTools system. Here was 'Mr. Analogue' committing his precious work to hard disk, that's quite a turnaround.

The album was recorded at Ghetto Lounge (Lenny's New York studio), and at Compass Point Studios in the Bahamas. Terry Manning was engineer for the project. Terry has to qualify as a genuine producer/engineer hall-of-famer. He served his apprenticeship at Stax Records in the '60s, where he engineered legends such as Booker T & MGs, Sam & Dave, Albert King and others. As well as being an accomplished guitarist in his own right (he was a member of The Wild Ones), he engineered and/or produced classic recordings from Led Zeppelin, ZZ Top and George Thorogood; while in more recent years he has produced Australia's finest, The Angels and Johnny Diesel.

We caught up with Terry Manning at the Carribean studio complex to learn more – like, can you see the beach from the control room?

Christopher Holder: How much of a part did ProTools play in the recording process?

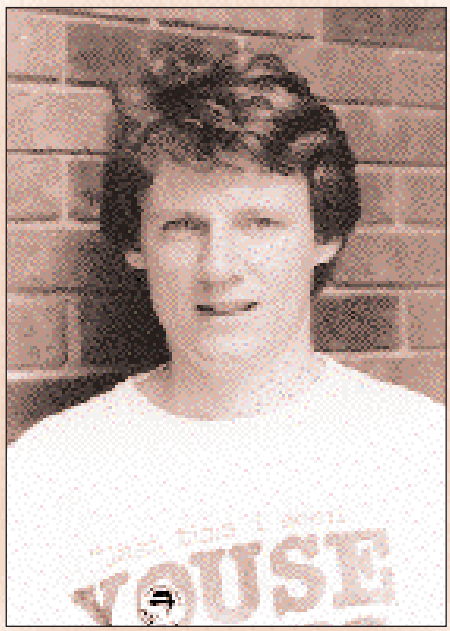
Terry Manning: We recorded the whole album on ProTools, we never went to tape, we just stayed in the digital domain. Which is a different tack for Lenny to take given his retro reputation, but it really worked well. Although we recorded digitally we still made extensive use of the valve mics, the old mic pres, the tube limiters and equalisers that Lenny and I love. I suppose it's like combining the best of valve technology with the best of the new digital technology. I love analogue and I probably still use it more than digital, but in this case it added an ease of operation that we wouldn't otherwise have had. Lenny plays virtually everything himself on the album, and with ProTools he could do things more quickly and more easily.

Take punching-in for instance. No matter how good an engineer is with his fingers and his brain, there will be mistakes when punching-in, especially on small complex takes. With tape, once you punch it in, you've then got to decide whether you want to keep that take, or find some way of making a safety of it – it's a messy process. But in ProTools you just set the points and punch it in. If you want to do another take then you do that and you have them both; or you do a third one, and have all three. You don't have to commit there and then, you can decide that the first one was best and go back and get it. It's not lost at that point.

We also created a lot of loops for this album and ProTools is a great place to loop. More often than not Lenny would play the grooves on his drums. We would record all of it, and we would take the bars that he really liked until we came up with a basic pattern for the song. In ProTools we edited the groove so that there was proper space for all the other sections and additional beats. So then he could overdub to the loop with fills, toms and rolls, all put into ProTools that way. ProTools is an amazing machine for looping.

CH: Was there much processing done within ProTools, using TDM plug-ins?

TM: That's one area of ProTools that I'm not wild about. There are some plug-ins that work extremely well, for instance the [Antares] Autotune plug-in is amazing. But for the most part the plug-ins that function like outboard gear – such as compressors, EQ, chorus and flangers – I don't generally like very much. I think that they have a harsh artificial sound. I'm not saying we didn't use any plug-ins, but for the most part I would take an insert chain out of ProTools into some type of chorus, phaser or flanger – like a Roland Dimension D, or even some of Lenny's stomp boxes – then go back into ProTools.



Terry Manning, engineer for Lenny Kravitz' 5

CH: With Lenny playing almost all of the instruments on the album I expect that the recording of 5 had to be a little unconventional.

TM: With Lenny there was no single set-up, unlike some sessions where you might set up the drums in a particular manner and keep it that way for all the drum tracks. We didn't work that way, we changed the set-up for every single overdub, for every single song. The drums might be in a different part of the room, we might use totally different microphones, actual drums might be substituted… every single overdub was individualised. I liked it because it made me work hard, it made me think a lot about what I was doing, and not just lapse into a standard procedure. So everytime I would set up differently.

CH: But if you could talk in generalities, how did you record drums?

TM: In general I used quite a few valve microphones. For the snare drum, a lot of times I'd use a Neumann U47 mixed in with another mic. That way I could get the warmth of the tube sound coming through, and bit of the harder 'crack' type sound coming from a transistor mic like an AKG451. The snare would always be equalised differently each time, sometimes thrown out of phase depending on whether it was miked 'over and under', or even if it just sounded better despite being technically out of phase.

CH: Would you always position the two mics top and bottom?

TM: Sometimes top and bottom, but a lot of the time I found that having the tube and transistor microphone combination directed at the top, coming from different angles, was more effective. Sometimes we'd treat the drum itself, deadening the sound. Often we used my wallet, in the old Stax tradition. One time we even put Lenny's shoe on the drum, it worked so well we left the shoe there – it was a bowling shoe if I remember correctly! I didn't use too many distant mics, unless the mics assigned to the toms or other parts of the drums happened to give the snare a bit more of a distant sound.

For the bass drum, a lot of the time I would mic the front head and the back. I found miking right on the beater gave a really nice solid thud to Lenny's playing, then I got more of the 'boom' type sound from the rear mic. I'd point the mic at the front skin just to the side of the foot, directed at the spot where the beater hits the front head. I'd use a Neumann U47 or U48 for the front skin and perhaps an AKG D112 for the rear head. I'd mostly place the mic about three inches out of the drum at the back.

For the rest of the kit I would use a Shure SM57 or a Sennheiser MD454 on the toms, while I might use a Neumann U64 pencil mic on the hi-hat. I'm a big fan of the Coles ribbon mics. I might use the Coles to mic the bass drum or use it for overheads, or an AKG C12 for overheads. The drum mics would either be fed into Lenny's Trident A-range console or an API 512b mic preamp.

Years ago API made a lot of gear, including full consoles. More recently the company has been revitalised by a guy named Paul Wolff in Virginia. They have started making equipment based on the old original designs. They're discrete transistor designs, no ICs in them, and they're transformer based. They have an amazing clarity of sound and bass punch. If I'm lacking anything in my sound I'll just plug in the API mic pre and usually it delivers. It's not so great for getting a softer valve type sound but for drums and bass, things like that, it's exceptionally punchy.

CH: There's a wide variety of guitar sounds on the album, how did you achieve that?

TM: We used a lot of different amplifiers, whatever amplifier that was called for tone-wise. On guitar I like to use just one mic if it's at all possible. If you want a bigger and roomier sound, I like to take that one mic and move it back until that correct spot is found. Usually that mic was a Shure SM57 or a Sennheiser MD421 if we

needed a more strident crunchy sound, and very often we'd use a Neumann U47 or U48 for just a bit more roundness and warmth. It depended on the type of sound required, because we went all the way from horribly distorted to super clean within this one album. Every song has its own unique sound to it.

All the guitars went through valve equalisers and compressors, which were almost exclusively from the Lucas brand. I find the Lucas outboard to be awesome pieces of equipment. Often I would create what I call an 'EQ sandwich'. I would put a Lucas limiter at the front of the chain, which would feed the EQ, and then put another limiter at the end. That way if I wanted heavier limiting, I could do a little initially, then get the EQ to do what I want it to do tonally, then compress the signal more heavily towards the end – it seems to allow the EQ a chance to do its work a little better. I used this method for vocals, guitars, and even some of the drums.

CH: I suppose it's the same drill for bass, plenty of classic amps, etc?

TM: Actually I would say that 80% of our bass tracks went into the Tech 21 SansAmp bass direct box. On the SansAmp you have bass and treble EQ control, as well as control over the amount of overdrive distortion, and the amount of bass amp simulation that you want. I never do anything just because its easy, I didn't say, 'here's a SansAmp, let's plug it in and I won't have to do anything'. We work very hard at getting sounds, but when we tried the SansAmp it just seemed to fit what we were doing. And as much as I like using old amps – the Ampeg B15, Fender Showman, or Bassman, I love them all – we often just went back to the SansAmp because we liked what it did. I really like the bass sounds on this album.

For bass I would always use the API mic pre, because to me it's the best bass mic pre that I've ever used. It's got a very good bass response and it's very punchy on the lowend. So the bass would plug directly into the SansAmp, and then the SansAmp would plug into the API mic pre, and the mic pre would then go to a Lucas limiter and a Lucas EQ. There's a special Lucas EQ model for bass – it's a bit of a harder EQ, with a very powerful slope – and I could get plenty of extra mid range and plenty of bass as required. Then I would usually go out of that into the last compressor in the chain, a Fairchild, and from the Fairchild to ProTools.

CH: You don't have a problem with committing the SansAmp processed sound to hard disk?

TM: No. There was usually only one bass track, and that was the sound we used. If I can make the decision about the way I'm recording something, then I like doing that. Let's face it, the Beatles recorded with only four tracks available to them at any one time. With only four tracks they had to make a lot of decisions right then at the time, and they did okay – it sounds pretty good and they sold a few records! I always look at what they did and think that if they can do that with the equipment they had – very good quality equipment but with capabilities far less than we have today – then I can certainly decide on a bass track. Is it good or is it not? Either I like it or I don't.

Lenny Kravitz talks to Suz Howells about his digital conversion.

Suz Howells: I was a little surprised to hear that you're using ProTools.

Lenny Kravitz: So was I.

SH: Has it changed how you work?

LK: Well, it's made it easier for me. Given that I'm not a band, but a solo artist that plays all the instruments on the majority of the material, it's always been hard to get a clear picture of the finished product. When you make a recording with a band, you can set the band up, they can play and you can get an idea of what the finished sound is going to be. With me playing one instrument at a time, it's always been a tedious job to blend instruments. Say I lay down a drum track, for that drum to sound the way I want it to sound and not rub up against another instrument I have to hear it in context. Previously I'd have no idea what it's going to sound like because there's no band playing. I would layer one instrument on top of the other, then a lot of times when I got to the end, I'm like, 'Hmm, that bass doesn't necessarily work with that guitar because they're stepping on each other frequency-wise,' or, 'the drums don't sound right'. That's due to the fact that I couldn't mould the recording by hearing it first.

So with ProTools, it's a great editing system for me to be able to put things down and not have to make final decisions. I have so much room and freedom to move things around and change them like a jigsaw puzzle.

SH: You recorded 5 directly to hard disk?

LK: Everything. No tape - except for the backups. So the entire record was made in ProTools.

SH: That's a big departure for you.

LK: Very big. But on the other hand, not really, because the sounds that I got were still run through my old tube stuff, still run through my old compressors, still run through whatever mic preamplifiers I chose from my collection. I have a collection of different mic preamps, different tube things from all eras: some discrete stuff, some of the newer stuff as well; everything from Langevin to Focusrite.

SH: Are you at all concerned about your reputation as an analogue kind of guy?

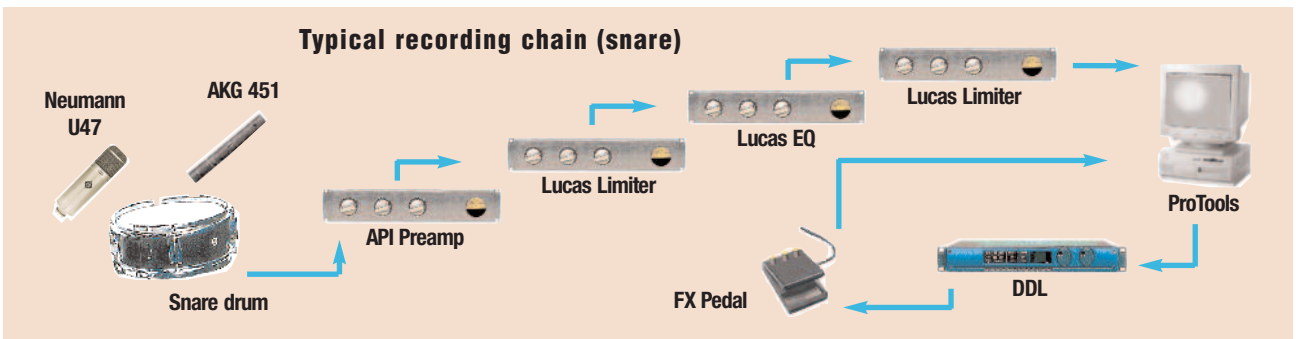
LK: No. Because all of that doesn't mean anything. For this project I still ran things through all of this old stuff that I've got – it's the same methods, it's just the quality of sound that's different. All of the noise that's on there is the noise that I wanted to put on there, and where I didn't want it, it's clean as a whistle. For instance, I recorded a lot of distorted vocals on the album with the mic preamplifier breaking up and all kinds of things – fuzzy guitars, all that. If you didn't tell anybody [that it was recorded digitally], they wouldn't know that you've recorded analogue tube sounds on digital. If I recorded through the Beatles mic pre and got this nasty ol' guitar sound, that's exactly what would be recorded.

SH: Didn't you buy some of the original Beatles

CH: How did you mic Lenny's vocals?

TM: Again it would almost always go through a Neumann U48, or an AKG C12 sometimes. Usually I'd use the Neumann, it just seemed to fit Lenny's voice quite well. I would vary the mic pres for his voice quite a bit. Sometimes we wanted a distorted overloaded sound for his voice, and I might feed the line out of one mic pre into the mic in of another. Sometimes we wanted a very smooth and sweet sound, and when he sang falsetto it might have had a different requirement than when he sang with a full voice. Sometimes the mic pre would be the API, sometimes that would be a little harsh so I might use the Lucas valve mic pre. Occasionally we'd use one from England called an EAR – its a really nice mic pre made for the BBC, with huge coffee can sized transformers in it. Occasionally we'd use the Neve mic pres from the V3 desk here at Compass Point, and on a few occasions we'd use an old EMI mic pre I have. I have a set of two modules – they called it a cassette of modules at the time – out of one of the actual EMI boards that the Beatles recorded through. It's not a valve one, it's a discrete transistor version, but it has an amazing sound quality to it.

I would always go through my 'EQ sandwich', which I find works especially well for vocals. Most of the time I would manually be varying the EQ as Lenny sang, because his voice changes quite a bit between falsetto and natural voice. To bring a cohesion to the recording of his two 'voices' I would very often make up as much as 6 or 8dB difference at 10k, if that was the chosen frequency for high end. I then knew when he was about to jump back down from falsetto to a full natural voice, and I would back off on the EQ. It was similar to playing the equaliser like an instrument as he sang, which is a bit touchy because you can do the wrong thing and



gear?

LK: Yeah, I have the console that they made everything from Meet the Beatles to Sgt. Pepper on. All of that gear that I have I use like guitar pedals; they're effects. It's a great asset – having five, six, seven, eight different mic-pres – it's just a matter of, 'what sound do I want?' My sound is not restricted to one console or any one piece of gear. If I wanted to record some drums and I felt that I wanted some tape saturation or tape compression, I could record the drums on tape and then fly them into ProTools. I've then got that sound that I want. It doesn't mean that I want the rest of the recording to sound like that though, and with these choices it doesn't have to.

Everything is an effects box for me now. I even see tape machines as effects boxes because tape machines do have a certain sound. My 16-track 3M machine has a different sound to a Studer 24-track. So, I'm aware of that sound, and it's an effect I can use. Whereas in the past, you would make your whole record on that tape machine and that was that, now I have the option of saying, 'well I want my guitar to sound like this, but I don't want the vocal to sound like that.' It's like a jigsaw puzzle.

SH: Was there any specific cases where ProTools let you do something you couldn't have done otherwise?

LK: Well, it was cool being able to piece things together. For instance, when I was in Los Angeles, prior to making this record, I had the band come to LA. We rented a house, and I taught the band the songs that I was going to do, so that I could take tapes away with me and actually have some kind of demo. I did that on an ADAT system. It was a pretty messy recording: the drum kit, the guitar, everything was in a room right next to each other – my two horn players were by one end of the couch – you get the picture. When it came to recording in the studio, we just couldn't get the sound and the vibe right for two of the songs, so we took the demo sound off the ADAT, put it into ProTools and constructed it. On one tune, there is a saxophone solo that is actually from that house demo. The same thing for a Mini Moog part on another song – we took it from the house session ADAT and flew it into ProTools. Obviously the time that we cut the tune in wasn't the same time as on the demo, so ProTools enabled me to stretch it a little, fit it to the tempo.

AT: It sounds like you're working more like the director of a film than jamming.

LK: Exactly. You've got your actors, which are your different sounds; you say 'Okay, now move here.' 'No, no I didn't like that. Move over there.' 'Say it this way'. It's more like directing sounds and it works really well for me.

spoil a good performance. But I learned what he was doing and with ProTools' editing capabilities we were able to clean up any little discrepancies.

CH: I understand that you lifted some horn parts from a demo Lenny did, is that right?

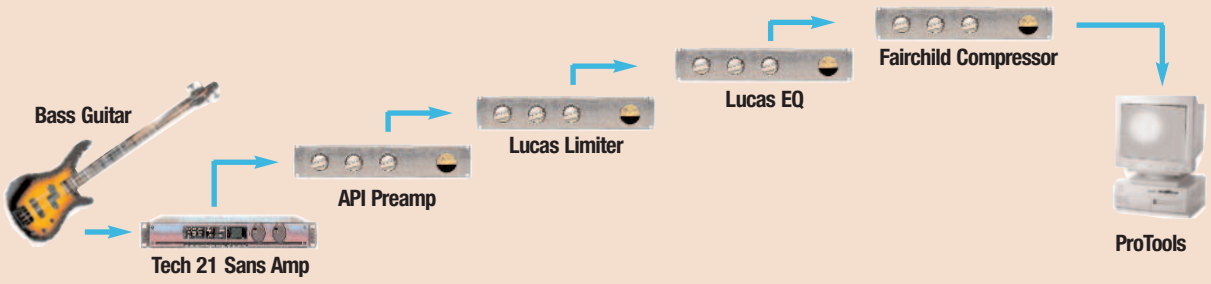
TM: We recorded most of the horn parts over the tracks we recorded into ProTools. But there was one sax solo we used that I know came from a demo of the song. The solo was so amazing that Lenny said, "you'll never top this". We let him try, but he didn't.

I used the AKG C12 and a Neumann U47 for the horns. If the trumpet was a little strident over the tube mic, then I might go to a U87 Neumann. But they were pretty straight forward, again done through the same mic pres, the same EQs and limiters, and carefully balanced at the time. I don't like to EQ horns very much. I would add a little if needed, but I like to get the mic in the right spot first. With horns, especially when you're recording digitally, there's a tendency to have them too tinny and bright. I left them pretty natural.

CH: Old fans might be surprised to hear a lot of synth work on the album.

TM: Yeah, we used a lot of synths and keyboards, which is again a big departure for Lenny. We mostly went direct out of the synths that we used. While we were at the Ghetto Lounge we went through a Focusrite mic preamp, and a Focusrite limiter that Lenny had in his keyboard rack. The Minimoog parts were sometimes an actual Minimoog,

Typical recording chain (bass guitar)



sometimes a Moog Source, and sometimes a Studio Electronics SE-1 Minimoog clone. We also used a lot of the Roland JV series and Emu's Planet Phatt and Orbit. When we used a sampler, it was an Emu EIII or EIV.

CH: And finally, what about the bongos and congas?

TM: A lot of the time I would just use the same vocal mic I was using at the time – sometimes an AKG414, sometimes a Neumann or AKG valve mic, and mostly not miking them too close. Occasionally I used this little Boss Dr. Sample inexpensive sample device – it's like a crazy, kid's mini ProTools. It has a built-in mic which is super limited and super compressed, giving a wierd sometimes awful sound, but I really liked it on percussion. I would just sit it on the stool near where Lenny was playing, let it be the only mic and take a line out of it. It gave an amazing quality to the sound.

CH: Was the mix done in ProTools?

TM: No it wasn't, I still prefer to bring it back to the analogue desk and do a normal proper mix. During mixing, ProTools was used as a regular multitrack machine. The returns would come straight back to the Neve desk and the mix would be sometimes done with automation, but more often than not, without. I like automation for what it does, but I'm still of the opinion that if you mix manually you can capture a more natural feel, because you're able to alter things as you go, right up to the final moment – you're not locked into anything. Right in the middle of the mix going down I might for some reason want to push a certain fader up. Sometimes it doesn't work and you'll do it again, but sometimes you discover something that you wouldn't have gotten if you'd programmed everything step by step via automation.

Mixing *5* was relatively straightforward. Most of the sounds and most of the effects were committed to the hard drive, so a lot of it came back the way we wanted it. Although there's always quite a bit of work to do at the mix stage. No matter how hard you try it's impossible to have perfect vision when you're recording.