



INSIDE TRACK

Secrets Of The Mix Engineers: **Ross Hogarth**

Expectations were high for the first Van Halen album in 14 years — and with eight mics on the bass alone, engineer Ross Hogarth was taking no chances!

PAUL TINGEN

During the last decade, Van Halen the band seemed destined for a respected elder-statesmen-of-rock existence, playing their back catalogue on lucrative tours, and had not released an album of new material since 1998's *Van Halen III*. But early 2012 witnessed the release of *A Different Kind Of Truth*, which shot straight to number two in the US and number six in the UK, and received glowing accolades, not only for the relentless high energy of the songs, but for Eddie van Halen's rejuvenated guitar playing, the power of the rhythm section formed by his bassist son Wolfgang and drummer brother Alex,

the bite of David Lee Roth's grizzled vocals — and, not least, the in-your-face sound of the album.

This last was, to a large degree, the handiwork of engineer, producer and mixer Ross Hogarth. Born to world-famous illustrator Burne Hogarth and raised in New York, he began his musical career in the '70s playing guitar and writing songs in punk bands, before moving to California to work as a roadie, soundman and production manager for the likes of Jackson Browne, David Lindley, Fleetwood Mac and Little Feat. His next step was to cut his studio engineering teeth at Rumbo Studios near Los Angeles, where Don Gehman, John Mellencamp's producer, became one of his mentors. Hogarth

has since built up a very impressive and extremely varied studio credit list, featuring the likes of Mellencamp, REM, Ziggy Marley, Jewel, Sick Puppies, Melissa Etheridge, John Fogerty, Motley Crüe, Hall & Oates, Roger Waters, the Black Crowes and the Doobie Brothers. Hogarth has won two Grammy Awards and currently works out of his own hybrid analogue/in-the-box LA studio, BoogieMotel.

Finding A Sonic Imprint

Ross Hogarth's work on *A Different Kind Of Truth* began as far back as early 2010, when he went up to Eddie van Halen's 5150 (LA police code for 'insane') studio in LA. It's next door to van Halen's house, and every Van Halen album since 1983 was



Ross Hogarth in his BoogieMotel studio.

Photo: Mi Borsari

recorded there, though *Truth* would prove a partial exception to that rule. Hogarth explains: "5150 is the band's sanctuary, where Ed and Al know what they hear and what they like. It is a fully equipped studio with a 72-input 9000 J-series SSL desk and lots of analogue outboard, which meant that this was predominantly an analogue project, even though we recorded to Pro Tools. I initially went there to demo songs with the band. We're all professionals working with professional equipment, so we don't really do demos, but we were establishing the sonic imprints for the different instruments on the album. Ed, Al and Wolfie were getting sounds, moving the songs forward and playing together as a band and we recorded everything to get an idea of the sound of the final album."

In terms of "moving the songs forward", seven of the 13 songs on the final album are reworked rarities from the band's early days. It could have been a disaster, but what Roth has called "a collaboration with our past" turned out remarkably fruitful.



'Tattoo'

Written by Eddie Van Halen, David Lee Roth, Alex Van Halen, Wolfgang Van Halen.

Produced by Van Halen and John Shanks.

"Dave wrote new lyrics to all the songs," recalls Hogarth, "apart from for 'She's The Woman' and 'Bullethead' — two songs that more or less remained the same. Dave put his own modern-day, personal life spin on the other songs, and the band worked hard to make everything really top-quality, both in terms of the songs and the playing. They are super-tight and have a great spirit. It's also a beautiful thing to see the father-son relationship of Eddie and Wolfie, and to also see his connection with his uncle, Reverend Al. I'd like to add that nothing from the old demos survived. Everything on the record as far as the recording is brand new."

David Lee Roth likes working in Henson Studios [originally A&M] and has been making music there for well over a decade, so he persuaded the band to leave 5150. In mid-January 2011, the band moved out of 5150 to work there, with staff engineer Martin Cooke, engineer Paul David Hager and producer John Shanks. By the end of March 2011, the band had returned to 5150, where the Van Halens and Hogarth finished the record. Returning to talking about the beginning of the project, Hogarth described the "sonic imprints" the band and he devised for the different instruments.

"The first thing I wanted to do when we began at 5150 was to bring Ed's guitar sound into the modern era, but maintaining all the DNA of the past. He has worked very hard over the years to develop his own guitars and amps and cabinets [see www.evhgear.com] with his right hand man Matty Bruck, and his gear is tailor-made for his own sound and how he plays. When we started working,

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Adding his own gear to that resident at 5150 gave Ross Hogarth a powerful mixing arsenal. In this rack, from top, are a Retro Instruments 2A3 EQ and 176 compressor, Bricasti M7 reverb, Chandler TG1 limiter, and two AMS DMX 15-80 delays with a TC Electronic 2290 delay in between.

» I suggested to Ed that instead of going for his classic guitar sound with the guitar to the left and the effects panned to the right, we split the guitar sound naturally instead of electronically and use two heads and two cabinets, place and record them far apart, and hard pan the signals. The idea was to have a guitar sound that was wide and mono, and not digital delay-driven, and it's what you hear on the record, with only a few overdubs — the classic Van Halen sound is not to have a rhythm guitar when he solos.

"In terms of recording, one of the things I have developed over the years is using Royer ribbon microphones a lot, and I've been one of the first to use them on electric guitars. I became known as the guy who put a Royer on a 4x12 cabinet and told all my engineer pals about it! So I used a Royer 122V tube ribbon and a [Shure] SM57 on each of the two 100W 4x12 cabinets, finding the best speaker in each and placing the mics in front of them. For solos not connected to the rhythm tracks, we tended to use the original setup but we added a prototype 50W head and 2x12 EVH cabinet. The four mics went through Ed's API 312 mic pres, without EQ or compression. All of the rhythm guitars recorded at 5150 were done like that. Ed would then have the Royer and 57 on different faders on the console and get the blend he liked. The Royer gave a certain amount of mid-range thickness with low-end thump, and the

57 gave the upper-mid grit. There's very little low end on a 57, so he could push up the Royer when he wanted more low end, without using EQ. Ed is a brilliant engineer himself, with great instincts, and he's been doing it for so many years alone, so you almost can't question certain things. But my suggestions worked for him, so he went with it."

Wolf Tones

While the guitar signal path was relatively straightforward, the way Hogarth and the band went about achieving the bass sound was remarkably elaborate. "When I came on board in 2010, the band was already experimenting with splitting the bass signal into different amps and cabinets, and we fine-tuned that. The idea was to have a bass sound that covered the whole spectrum, from high to low and clean to dirty. For the clean tone, Wolfie had an Ampeg B100R, which I recorded with a [Neumann] FET47 at the »

This rather fuzzy photo shows the labels illustrating how some of the other outboard gear was assigned. Visible from top are Empirical Labs EL7 Fatso tape simulator, SSL compressor, a pair of Universal Audio LA3A compressors, another EL7, a rack of API EQs, Neve 33609 compressor, a pair of Empirical Labs Distressor compressors, API 2500 compressor, Eventide 2016 reverb, Slate Dragon compressors (x2) and Lexicon PCM42 delay (x2).



» front, and a [Sennheiser] 421 at the port in the back that acted like a subwoofer. The grit and distortion came from one of Ed's EVH heads going into an EVH cabinet, which was recorded with a 57 and a 421. In addition, we had one of Ed's older, modified Marshall amps going into another EVH cabinet for a super-gritty sound, and that was also recorded with a 57 and a 421.

"I know this starts to sound like overkill, but we also played around with an old Ampeg SVT and cabinets, and then found that Fender had come out with a new Super Bassman head. The SVT was leaking into everything anyway because you have to turn it up so loud, so we tried the Super Bassman with one of the new cabinets Fender made for it, which worked great. The Super Bassman head allows you to dial in a wicked distorted sound and blend that in, and this became an awesome middle ground that gave us lots of definition. I recorded it with a FET47, and during the mix I had all these signals at my disposal to give us the balance of grit, definition and low end that we wanted in each song. The Marshall bass mics went through some API mic pres, and the rest through Ed's Neve preamps, some of them 1084s and some other BAE 1073s, and then straight into Pro Tools."

Moving on to the "sonic imprint" of the drums, the tone of Alex's drums is a crucial and distinctive part of the sound of the band. Hogarth explains that one of the challenges is that the drums need "a lot of definition. Al has a double-headed 26-inch kick drum, and a song like 'China Town' has a double slamming kick, so that presents some interesting challenges. What's interesting is that when getting into dialling in his sound, you find that a majority of his tone is above the drums, rather than in front of them. So we created what we called the 'press conference' above the drums, which was a whole group of microphones, consisting of AKG C12s and Neumann U47s. Then, in front of the kit I had a very old-school British, Led Zeppelin approach, which was the Coles mono mic. The 'press conference' mics and Coles were pretty close and not very ambient sounding, so during the mix I'd add compression to bring out the ambience, and use close mics to get more detail.

"The close mics consisted of a Shure SM57 on the inside of the kick, close to the beater, and a Neumann FET47 and a Heil mic in front of the kick drum, to blend in with the Coles and to play around with the



As with the bass and drums, nearly all the mix processing on Eddie Van Halen's guitar came from hardware devices, but plug-ins were sometimes used for special effects, such as delays from Waves, Line 6 and Sound Toys. On 'You And Your Blues', the guitar was heavily treated with Sound Toys' Crystallizer for a synth-like effect.

phase. Then I had some traditional mics on the toms, like AKG C414s and D19s. I had a [Neumann] KM84 on the hi-hats, and a 57 on the snare top — there's a mic at the bottom, but it's rarely used. Reverend Al's snare sound has a fat ring, a woody tone, and the bottom snare mic doesn't have any bottom end so it doesn't add anything to the end result. The snare sound really only comes from the snare top mic and the 'press conference'. There's no gating on the tom mics, they were wide open, and they added another level of ambience to the kit. But the majority of the drum sound came from the 'press' kit above it, blended with the Coles. All drum mics went through Ed's API preamps. As far as the vocals were concerned, David's vocals were all recorded at Henson, with a Neumann M49 that he loves, going into a Neve 1073 mic pre, without compression."

Old School Mixing

According to Hogarth, the final mix took place over a period of six weeks in the summer of 2011. "We did 13 songs, and it took us a day to mix the song, we came back the next day and tweaked it and

the guys would live with the mix for an afternoon or night, and I'd print it the next morning. Because we were mixing on a console, we couldn't move on to the next song until a mix had been approved by everyone and could go off the desk. I come from the old-school analogue mentality but am now a new-school guy, using plug-ins and working with companies to develop their plug-ins, and working in the box at BoogieMotel. It was interesting to have to get back into my old mind-set. I've gotten into a groove in terms of working in the box, and then you get back to the desk, and there's a moment when you have to think about how you're going to do things, like do I do the automation inside of the desk or in the box, and how is that going to affect compression, and so on.

"Eddie's SSL has 72 inputs, so I could lay the entire session out over the desk, and so almost all the mixing was done on it. There were a few song elements that I mixed in the box, like the vocal stacks, but there weren't many of them on this record. It was really great to get a lot of my old stuff out again. My gear is like old friends, but much of it I don't use all the



time in my studio. Ed also has a lot of stuff in 5150, so when mixing I first looked in his rack at what he has, and then at the bulk load of gear that I brought myself.

"There was a certain thread that carried through everything we did during the album mix. Even though we approached each song on its own, we did have a certain template that worked on Ed's main guitar, on the bass, and on the drums, and then it was a matter of blending the different chains that I had set up with the particular aspects of each song. I am a gut-level guy. We had already been recording and building up these tracks, so it was pretty easy with each mix to jump in and just push up the faders and know what everyone was looking for in terms of how they wanted it to sound. Obviously, with any rock band it's all about the drums, so I first tried to get the drums right, and then moved forward from there, bringing the bass and guitar in and getting the backing track slamming. I try to move pretty quickly

single, 'Tattoo', has some keyboards, which were played by Dave. There's a kind of 'Jump' synth, a chuggy synth that I called 'diggadigga' and that reminded me of the stuff I did with Giorgio Moroder in the '80s, plus a higher, spooky sound. It was the only song on the album with keyboards — what sounds like synths in 'You And Your Blues' is Eddie's guitar going through the Sound Toys Crystallizer, while the outro of 'As Is' has Ed playing through a [Fernandes] Sustainer. 'Tattoo' was also unusual in that it had the biggest vocal stack. I did the balance of all the harmonies in the box, so that what he had created at Henson remained the same throughout the mix, instead of it being torn apart and then rebuilt by me."

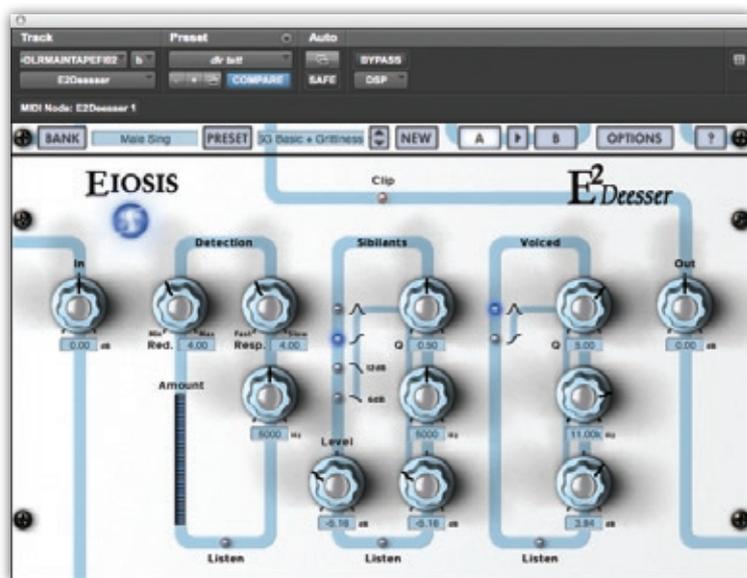
Drums: SSL compressor, API 560, SPL Transient Designer, Empirical Labs Distressor and UBK Fatso, Chandler compressor, EMT plate, AMS reverb, Eventide Princeton 2016.

when getting the track together, and I then go back, and work a lot with multing and parallel compression.

"After that, it was a matter of bringing in Dave's vocals and the backing vocals, and getting all the detail in the mix, like the ad libs and screams and solos. But once a track was slamming it was pretty straightforward to get the vocals in there. The first

"I'd push up the drums and would go: 'OK, I need more compression on this,' and then Ed and Al would come in and say: 'I need more 'sound,' which to them means air, and I'd mult the drums 'press conference' mics and compress them. I'd figure out what this would give me and what I needed in the context of the whole record, with different balances and different tempos on each song. You can't have the same amount of room or compression on a track like 'China Town', with the slamming double 26-inch kick drum. So in general it was a question of working out how much depth I needed in the kick drum and then getting the entire drums section to feel right. Once again, a lot of the sound of Al's drum came from the 'press conference' above, so I'd balance the 47s and C12s and I'd mult them out to extra faders, on which I'd put SSL outboard compression. Ed has these and they are great on drums because they are fast and punchy. The drums were recorded pretty close up with basically no room mics, but there was air on the 'press conference' mics, so the more I compressed them, the more air I got. I could compress them without the actual drum sound going away.

"I'd also mult the kick and the snare to a couple of faders for extra EQ and transients. On the kick and snare, I used a API 560 graphic EQ and the SPL Transient Designer, on occasion with an Empirical Labs Distressor. I've been using API 560s on kick and snare my whole career and they are amazing. They have just the right frequencies and harmonic distortion. I then parallel compressed all the drum tracks, sending tracks to the 'B' bus of the console, which follows the fader balance, and the 'B' bus went to a pair of Distressors in really heavy slam nuke mode. It all sounds really kooky, perhaps, but I've been mixing for many years and there are certain tricks that I like, and I don't want to slam all the drums, so I use multing and parallel compression, which allows me to balance the compressed and uncompressed signals. There's something about Distressors that's just killer on drums, but I also used the new brown-face UBK Fatso, totally slammed with all the buttons in and in warming mode. There was one more drum mult on which I had the Chandler EMI compressor for some very noticeable EMI compression. The Chandler can really get the drums to pump and the cymbals to sizzle, getting them all swooshy. >>



The core of David Lee Roth's vocal processing came from hardware API EQ and UA compressors, but de-essing was handled in software using Eiosis' E2 De-esser, and tape simulators from Waves and UA were used as delays.

» "Once I had a balance of the dry tracks and the sum of the multed and parallel compressed tracks, I started to get what I wanted out of the drums. After that, it was a matter of minimal processing, like using a little bit of Ed's EMT vintage plate reverb, and there was also a setting on the old AMS reverb that brings out the 'wood', which is the word Ed and Al use all the time when they are talking about what they want the snare to sound like — even though Al's snare drum is not made of wood. They're talking about the tone of the drum, and the AMS has a hall setting, but made really short, that really brings out the tone of the snare, and also the kick. I also brought one of my newer [Eventide] Princeton 2016 reverbs, for a little occasional air when needed, like on a tom fill or something. So that's all on the drums. There certainly was a lot of parallel compression!"

Bass: Desk EQ, Aengus EQ, Lang EQ, Retro Sta-Level.

"The interesting thing about mixing the bass was that I had such a wide scope of sonic possibilities from just moving the faders alone, with the 57 and 421 on one EVH amp/cabinet combo for distortion, another 57 and 421 on the Marshall/EVH stack, the FET 47 and 421 on the Ampeg front and rear for the clean tone and sub, and another FET47 on the Fender Super Bassman rig. With a lot of the songs, I didn't process the bass at all, apart from some desk EQ, and an old Aengus 500

series EQ on the Fender amp. The Aengus is an EQ I've been using since my Mellencamp days, it has EQ settings at 1k and 2k, and it's amazing for adding note definition and a bit of grit to bass. I also multed the bass channels and sent them through a Lang EQ and my Retro Sta-Level to have an EQ'ed and compressed signal under a separate fader that I could mix in as needed. Ed has a couple of the Langs, and it's a nice old Pultec-style passive-style EQ that's great on bass when complimented by the Retro Sta-Level. They're really beautiful EQs and I have used them on just about every record that I have ever mixed on a console. So I had eight faders in total to choose from for the bass, which may sound like a lot, but we really wanted to give Wolfie's bass a special voice. He's such a gifted musician, so it's in respect to his playing and the prominent role he has on this record."

Guitar: API 550B and 550A, Retro 2A3, Urei LA3, Neve 33609, EMT plate, AMS delay, Lexicon PCM42, Waves H-Delay, Sound Toys Echo Boy and Crystallizer, Line 6 Echo Farm.

"I had four faders to work with, the 57 and Royer 122 on each side, and I'd use Ed's API 550B EQs on the 57s. He knows what that gives him, so it's easy for him to say something like: 'I need some more mid,' and we both know it's either 800Hz, 1.5k, or 3k — or 'more top' and it's either 5k, 7k or 10k. On the Royers I had a tube stereo

EQ made by Retro called the 2A3, which has this amazing 40Hz high-pass switch which is super transparent. The thing that is amazing is that it actually brings out the bottom end. When it takes off some grunge sub frequencies that cloud the lower end, it gives you more definition in the rest of your bass frequencies. The middle range on the Retro is super sweet, so I'd grind in some of that as well. But for the most part, the guitars were EQ'ed with the API, adding 1.5k, 3k or 5k where we wanted bite on the 57s, and we then decided how much we wanted from the Royers, which we mainly used for punch and low end. These two EQs were super sweet and for the rest it was a matter of balancing these four mics. On the overdubs I might have used an [Urei] LA3 compressor or the Neve 33609, but other than that there was no compression on the guitars. You don't need it on a heavy sound like that; the amp heads compress the sound enough.

"In terms of other effects, I added some reverb with Ed's beautiful EMT plate, which had an API 550A EQ in front rolling off 50Hz, which is a classic way to use an EMT: put an EQ in front. The EMT was patched in as a send, so I could add it, old-school style, to whatever I wanted, mostly drums and guitars. I also had an AMS delay on the guitar, in the classic long delay setting that he loves, and which works in different amounts. We used another AMS to widen



out the signal, with 28ms delay on one side and a 32ms delay on the other side, to get a kind of doubling effect, sometimes setting it at 21ms/42ms. I also had the [Lexicon] PCM42 set up for a longer delay, as a throw on solos, set in a time tempo mode of quarter-note or dotted eighth/quarter notes. When we really wanted some space on solos, for example the end of 'Beats Working', where we wanted it to go completely nutty, I'd dig in Pro Tools and had a look at the Waves H-Delay, or the Sound Toys Echo Boy or grabbed the [Line 6] Echo Farm, one of my favourite lo-res plug-ins. They went to a separate Pro Tools output and then came up under a pair of faders on the SSL. I did the same with the Crystallizer effect on the guitar in 'You And Your Blues'. But most of the guitar sound is built from these four mics split over two cabinets, with the AMS short and long delay and occasional PCM42 longer delay throws."

Vocals: API 525, Universal Audio LA2, Empirical Labs DerrEsser, Retro 176, Slate Pro Audio Dragon, Bricasti M7, AMS reverb, UAD Ampex ATR102, Waves MPX Master Tape, Eiosis E2 De-esser.

"Because Dave prefers not to sing with compression, you have to add compression afterwards, and he really likes the sound of an API 525 into an old LA2 (not an LA2A). He's very specific. He likes the sound of

the 525 and the LA2, and he has great ears and instincts. When you hit these two units pretty hard they bring out a lot of his voice. Seventy percent or more of the vocal sound is the 525 into the LA2, with the Empirical Labs DerrEsser de-esser in front of it and a little bit of high-pass. I also multed the vocals to a Retro 176, which is one of my favourite new compressors, because it gives you so much control. In addition, I multed Dave's voice to a Slate Pro Audio Dragon compressor, set to 20:1 limiting, for a bit of crunch. I used that on Dave's talking parts because it brings out the chest and throat resonance of his voice. Again, there was a lot of dancing with parallel compression.

"Insofar as reverb is concerned, one of the things Dave really loves is the sound of the Studio B main recording room at Henson. After his vocals were recorded and comped, engineer Martin Cooke piped them back into the Studio B room and re-recorded the room sound on separate channels, which I used in the mix. So a fair amount of the reverb on his voice comes from Henson Studio B! However, I didn't want the same vocal sound on the whole record, so I created a few different but similar-sounding rooms in my Bricasti reverb. The Bricasti is an amazing box and extremely versatile. I also created a shorter room sound in the AMS reverb I used at times and also on background vocals. For tape slap-type delays with

shorter delay times, for doubling or ADT effects, I ended up using the UAD Ampex ATR102 or the Waves MPX Master Tape plug-ins. All the reverb was to add a little bit of dimension and depth without the vocal sounding wet. I definitely didn't want to go for an old-school wet-plate thing. In the box I also used the Eiosis E2 De-esser, which is one of the most brilliant de-essers around."

A Song And Dance

"The above is 90 percent of what I did on most songs, and then occasionally a song had an Eventide Harmonizer, and one of the songs has a [Lexicon] PCM70 pre-delay plate, like the intro of 'As Is'. I also occasionally used certain other Waves and UA plug-ins, as well as the Crane Song Phoenix plug-in, but for the most part, what I just gave you is the dance that was done. Every song had a slightly different balance, with every delay setting slightly adjusted and every vocal reverb a little different. But everything was tailored to having continuity, so the record didn't come off as if it was recorded and mixed in 10 different rooms. Because I was using so much parallel and onboard compression, I was just tapping the stereo bus very gently with an API 2500 stereo compressor, which went into a Burl B2 A-D converter and then to another Pro Tools rack at 96/24. We got the Burl especially for this record. I have the Cranesong HEDD 192 at BoogieMotel, but I had to leave my studio mostly intact for the duration of the project, because I was doing other things as well. The Burl sounds excellent and worked well for us.

"The mastering was done by Bernie Grundman and his assistant Joe Bozzi. I would go there every day, and bring what we did back to the guys, who might suggest a tweak here and there. Occasionally I went back and changed a vocal level or something in a mix. So I was very hands-on. We mastered for CD, and then mastered for vinyl from the 96/24 mix, rather than the 44.1/16 CD reduction. I really trust Bernie, and our aim certainly was not to make the loudest record out there. Bernie didn't use any extra compression and whatever limiting he applied was strictly for the CD and not to crush it more to compete in the loudness wars. The band and I don't like the sound of over-compression. We simply wanted to honour the amazing legacy of Van Halen and take it into the 21st Century." ■■■

SOUND ON SOUND

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Sound On Sound, Media House, Trafalgar Way, Bar Hill, Cambridge, CB23 8SQ, United Kingdom

Email: subscribe@soundonsound.com

Tel: +44 (0) 1954 789888 Fax: +44 (0) 1954 789895

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