

## Dave Pensado's Mixing Secrets

### Advanced Waves Tips that Make the Hits (Part 1)

*Dave Pensado, the mixing master behind hits by Christina Aguilera, Pink, Brian McKnight, Mya, Justin Timberlake, Kelly Clarkson, and Destiny's Child among many others, stopped by the Waves booth at AES 2004 to offer some of his thoughts and tips. Part 1 in a series.*

ONE OF THE GREATEST things to happen to music in a long time is the advent of the digital age. It doesn't limit your imagination. The analog world is great—I'm not saying it isn't, but it's limited. There's only so much you can do. But in the digital domain, we haven't even scratched the surface yet.

Waves has been at the forefront of what I think the technology should do. When you look at the brochure for Waves, very, very few of those items actually exist in the real world. When they do exist, Waves has taken them to a level you could never do in an analog way. That's what I think the future is.

MaxxBass is one of those things that really doesn't exist in the real world. There are a couple of products that are kind of close: they do one thing, but not very well. MaxxBass is one of those rare plug-ins that has a musicality to it.

I use it in two ways. One, I use it in the way it was designed to be used, which is to add subharmonic tones to things that don't have those tones inherently in the sound. Let's say you're working on a sound that just doesn't have any frequencies below a certain point. With MaxxBass, you can actually synthesize and create those frequencies. That's impossible to do in the analog world.

You can take 25 equalizers and put them in series, but if it's not there, it's not there. So MaxxBass can give you a subharmonic sound.

One thing a lot of people don't pay attention to is that when you're equalizing above 60Hz and you boost, say, 880kHz, you've boosted the note "A"—but you don't really hear it that much. But when you're working down low, it really makes a difference that you boost the exact frequency you need, because otherwise you can get those beats of notes rubbing against each other. With MaxxBass, you can get in the cracks and make sure that you're in tune.

The second thing I like about MaxxBass is using it in synthesized music with a bass sound that is basically a sine wave with very little harmonic content. You'll put that on your big speakers, and you think you're killing the world: "I've got more low end than any human has ever gotten on any song, ever." And then you go to your



little speakers and you can't hear it.

What I used to do, and what a lot of us did, is add some distortion. I used to crank the input to my console just to get

some distortion. We also experimented with harmonizers to get a higher octave. None of these things worked all the time, and it was a struggle to get them to work. But with MaxxBass, it's a no-brainer. You can just take the synthesized sound, slide one of the faders over to the right, and you increase the frequency that you're adding. Monitor

it on the big speakers and you're still killing the world. Go to the little speakers, add enough of that frequency to where your ear can find it, and voilà, you've got the best of all worlds.

One of the songs I get a lot of compliments on is "Lady Marmalade" [the remake sung by Christina Aguilera, Mya, Li'l Kim and Pink, featured in the Moulin Rouge soundtrack]. One of the problems I had with that mix was making

it so that it would play on pop radio stations but at the same time giving it enough credibility to play on hip hop stations. If you've never had to solve that problem it might not seem so big to you, but trust me, it's a difficult thing to do. One of the things that really made that solidify was MaxxBass. Putting it on the low end made it acceptable to the urban stations. On the pop stations, I actually had radio programmers telling me they had difficulty finding songs to play after it.

I have a bias towards the extreme ends of the frequency spectrum. It was something I just grew up with naturally. That has given me a little bit of an advantage in the musical world because it was something no one else was paying attention to. One of the things that distinguishes me is that I work very hard down there. I'll spend hours down there where as some people will spend minutes. Waves MaxxBass gives me a tool that I can be really happy about when working down there in the basement. And now anybody can do it. It's very affordable. It's something that can basically make you sound like what I do.

*Watch for Part 2 of Dave Pensado's tips in the Summer issue of Waves Journal.*

**"I get a lot of compliments on 'Lady Marmalade'... One of the things that really made that solidify was MaxxBass."**

# The SMM Story

## Germany's pioneering DAW retailer reflects on the early days

**W**HEN ASKED ABOUT the secret of his company's success, Mike Hofer, founder and chairman of SMM, is clear. "If you want to achieve success in your line of business, you must search out a market niche that is fun for you, have a bagful

of ideas and a lot of idealism. Work hard and believe in yourself and with a bit of luck you will succeed."

Three young businessmen who wanted to take part in the new media revolution established SMM in southern Munich in 1991 as Swinging Mac Media. Much in evidence were the most important ingredients for success: ideas, dedication and above all idealism.

### Recording on a Computer?!

In the first few years the average working week amounted to a good 90 hours. The market was not yet familiar with hard disk recording, so a

lot of awareness building was needed in order to overcome people's prejudices. Apple computers were then still seen as exotic and expensive and Digidesign or Avid had not yet been heard of. In the beginning, SMM's office fittings comprised three Apple computers (LC and SE/30), a printer, three telephones and a photocopier. In the warehouse were three Digidesign Sound Tools systems and a huge (for then) 600MB hard drive—that was it.

At this stage, computers were not yet powerful enough to operate even basic plug-ins. Only when Digidesign brought out its TDM Starter Kit in 1995 was the foundation laid for the now-typical work with software plug-ins. The Starter Kit cost about 6,500 DM and consisted of a TDM module for the core card, a TDM ribbon cable, the DSP farm card and Pro Tools version 2.5 software which was needed for its operation.

"Even in the mid-1990s we were laughed at by some well-known recording studios when we predicted that software plug-ins had a big future ahead of them."

### Waves, First in TDM

Waves had already brought out the first plug-ins (L1, Q10, etc.), based on the SoundDesigner software platform, to the market, and in 1995 became the first producer to provide plug-ins for the TDM platform. It speaks for the products and the company that Waves

today remains one of the leading plug-in producers in the market.

Over 13 years later, SMM is now firmly established as media supplier to private and publicly owned TV/film, radio, post-production and music studios. With a multitude of

studio planners and service technicians in Munich, Mainz, Berlin and Cologne, the company advises, plans and modernizes more studios than any other supplier in Germany.

Alongside computer-based workstations for sound and video production, SMM also offers a wide choice of peripheral equipment. Whether it is microphones, preamps, recorders, speakers, studio furniture or mixing desks—the product range is extensive and embraces products from all the well-known manufacturers. **SMM SMM München, Bleicherfleck 3, D-85737 Ismaning. Phone: (+49) 089 / 992 88 992. [www.smm-online.de](http://www.smm-online.de)**



**SMM, which stands for Swinging Mac Media, was founded in Munich in 1991.**

### SALES TIP

## Selling a Waves upgrade?

First make sure you know what your customer owns

You can save yourself and your customers time and frustration by finding out exactly what product and version of Waves they own before selling a Waves upgrade.

Here's an example of why this is so important. Let's say your client has an older Waves product, a Version 2.0 bundle, and you sell them a standard Gold Upgrade. That's an upgrade they can't use. And when they come back, they'll find out that the Gold upgrade they need is more expensive.

That puts you in the dicey position of trying to convince them to spend more money than you first quoted—or eating the extra cost yourself. And that's not good for anybody.

If your customer isn't sure what Waves version or product they own, just give us a call at **Waves Sales direct at (865) 909-9200, ext. 2.** Tell us the customer's email address or registered serial number and we'll tell you what the customer has registered—and a complete list of their upgrade options. You might even discover some options to offer that you weren't aware of.

With this approach, you're armed with everything you need to sell your customers what's best for them and for you.

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# Waves' Echo Chasers

## Our Guys Who Stalk the Wild Impulse Response

**I**F YOU CHECK OUT any of the convolution-based reverbs on the market, you'll notice that capturing impulse responses (that is, sampling the natural reverb of an interior space) is quickly becoming a race to collect the sounds inside the world's most acclaimed venues.

Naturally, Waves is leading the pack—and it ain't an easy job.

Waves engineers Regev Ayalon and Eyal Elyashiv have logged thousands of miles to create the Waves library, one of the most extensive in the industry. Like anthropologists stalking rare species, the Waves echo chasers battle all kinds of problems in their quest.

While visits are planned months in advance, sometimes the guys still have to wing it. Recording reverberations in ancient amphitheaters in Sicily, Regev discovered a nearby cave with an unusual shape that caused sound to echo for a remarkable 10 seconds. Regev and Eyal knew they had to capture this amazingly cool place, but there was a problem—they didn't have mobile equipment with them. They resorted to blowing up and popping dozens of balloons to get a sound they could record.

### The Sound of ... Martians?

To capture a 360-degree acoustic sample of a venue, the Waves' team has to make many recordings with specialized microphones and speakers placed in different areas. During the session, a "sweep" signal is sent out, which is essentially a tone that varies in pitch from low to high frequency.

Eyal says when people hear the sound they don't know what the hell it is. He once freaked out his neighbors by sending out sweep signals in his own home. "This sound starts at a low

frequency—sounding like an earthquake—and ends at a much higher frequency—sounding something like a UFO." said Eyal. "My neighbors didn't know what to make of it."

When the Waves team records, they follow a methodical process. Each set



**Waves' Regev Ayalon and Eyal Elyashiv, echo chasers extraordinaire, back from their adventures.**

of sweeps typically lasts for fifteen minutes, then the equipment is moved a few feet, and a new set of sweeps begins. Sampling sessions can take hours. Absolute silence is essential. Since famous venues typically have lots of tourists, sampling sessions are often conducted at night, when places are likely to be empty. At the Sydney Opera House, despite his Israel-to-Australia jet lag, Regev began his session at 11 p.m. and worked straight through until 8 a.m. "When I think about that, it's kind of funny," said Regev. "In what other job would I find myself lying on the floor in the middle of the night in all kinds of concert halls and famous venues around the world?"

### Pigeons, Subways, and Monks

Achieving silence isn't always so easy. While recording at the Luzit Caves in Israel, Regev found himself battling pigeons. He would send a set of sweeps through the air, only to have the recording ruined by the flapping birds. "We had to navigate between the cooing," Regev laughs, "which was

completely unpredictable." A more predictable interruption occurred at the Trinity Church in New York—Regev had to pause every ten minutes to wait for the rumbling subway to pass.

Most sites are booked months in advance, but even then the building's caretakers don't always know what the Waves duo is doing there with their weird equipment (one piece is a mannequin head with microphones attached where its ears are) and earthquake-to-UFO-sounding signals. On a trip to Russia, Eyal's translator went for a walk while waiting for him to finish capturing a church near St. Petersburg. Shortly after, Eyal was stopped by a monk who demanded to know what he was doing, and who became agitated when he couldn't understand Eyal's Russian. "I tried answering him in Hebrew, English, German, and Dutch but nothing seemed to work," said Eyal. "Finally, he just gave up and left, and of course, that's when my translator reappeared."

### The Quest Goes On

In the past two years, the Waves team has collected more than seventy impulse response samples from concert halls, churches, clubs, caves, and other acoustic spaces in the U. S., Italy, England, Scotland, Australia, Japan, and Russia. And this year they'll be out again, fighting pigeons, monks, and anything else that stands in their way—all in an effort to create the biggest library of the most luscious reverbs in the world. You can check out the list and descriptions of each venue they've sampled, as well as viewing a short film about the process, at [www.Acoustics.net](http://www.Acoustics.net), Waves website dedicated to impulse response samples.

# The Mighty L3 Multimaximizer

## Awesome Mastering Tool & Sales Tool Combined!

**T**HE SUCCESSOR to the legendary L1 and L2 Ultramaximizers has arrived, and it's not only a killer, gotta-have-it mastering tool for your customers, it's also an

great sales tool for you when selling a Diamond or Platinum bundle. How's that? Because although the full L3 product lists for \$1200 TDM and \$600 Native, customers who buy the Diamond Bundle get the L3 Multimaximizer free, while Platinum buyers get the L3 Ultramaximizer free! Your customers won't necessarily know this, so when you tell 'em, it can work as a major nudge to close the sale.

### Not Your Father's Maximizer

So what's so great about the L3? As incredible as the L1 and L2 are (they're used on virtually every record to hit the charts these days to get a slammin' sound) the L3 is a completely different animal.

Here's the deal. The L3 begins by using a linear-phase crossover with user-definable frequencies to divide the audio into five bands. That means there's absolutely no phase distortion between bands. The signal then enters the patent-pending Peak Limiter Mixer to maximize headroom use, intelligently determining how much attenuation to apply in each band. The result is maximum loudness and minimum intermodulation, without losing brick-wall limiting—all controlled with a simple master threshold parameter.

### Automatic to the People

The PLMixer automatically controls the gain relationship between the

bands, eliminating the need for an overall wideband limiter to catch overshoots. The unique Priority Control lets you adjust the relative amount of limit-

ing in each band, so you can really tweak the tonal character of the L3, while also producing classic brick-wall limiting. And because each band can

also be boosted or attenuated by up to 12 dB in addition to limiting, you've essentially got a linear phase equalizer placed in front of the limiter. This feature makes the L3 a killer, one-plug-in mastering finalizer.

### Vintage Vibe to Go

There are still more ways the L3 can take on a different character, including the emulation of classic limiters. Use the Separation control to adjust the relative independence of each band to change the tone. Change the Master Release to alter the L3's ARC (Adaptive Release Control), to get the tonal options of Warm,

Scaled, Aggressive or Manual. Of course, the L3's also has Waves critically acclaimed dither and noise shaping capabilities, which provides the highest perceived sound quality after quantization and multiple DSP operations.

There are two versions of the L3: the Multimaximizer provides full functionality, while the Ultramaximizer uses the same PLMixer technology but works from presets, with limited controls. The L3 Multimaximizer and L3 Ultramaximizer are included in the Diamond Bundle, while the L3 Ultramaximizer is included in the Platinum Bundle.

So the next time you have a customer interested in a big Waves bundle, let 'em know about the L3, and move 'em up into a Diamond or Platinum Bundle. They'll be glad you did.

**The World's First Auto-Summing Multi-Band Limiter** automatically optimizes headroom across all bands

**5-Band Linear Phase EQ** gives you equalization with zero phase distortion

**Brickwall Limiting** on 5 bands simultaneously guarantees no overshoots

**IDR Dithering & Noise Shaping** retains sonic detail and ambience when requantizing.

**Priority Controls** let you tweak each band's attenuation for even more tonal character

**Master and Individual Release Controls** let you maintain transparency or dial in as much vintage vibe as you need

**Separation Control** blends band interaction from a crisp five band sound to a smooth wide-band sound

**The new L3 comes in two flavors: the full powered L3 Multimaximizer (free with a Diamond Bundle) and the L3 Ultramaximizer, which features streamlined controls but which uses the same internal engine (free with a Platinum Bundle).**



**The L3 Multimaximizer and Ultramaximizer are also available as a single boxed product.**