



Mercuriall - Interview for ProjetHomeStudio.fr

Hi guys, thanks a lot for taking the time to answer this interview.

Since the creation of Mercuriall in 2015, you've come quite a long way. Even Steve Stevens (famous for playing with Billy Idol) now uses your plugins !

So, for our readers who don't know you, could you introduce briefly what kind of effects you're building ?

Hi!

Thanks a lot for an opportunity to give this interview!

In short, at Mercuriall Audio we build software for people who need a precisely modelled guitar amp or a stomp box in their computer. Our in-house Neural Hybrid Engine technology allows running exact digital copies of analogue prototypes. It means we can replicate not only the sound, but also the feel and response of the original unit. We've received a lot of positive words from people around the world (we humbly thank everyone who believes in us!), so the plan is to continue making awesome paid and free products!

Good - I think it's great to offer both paid and free stuffs : like that everyone's happy ! How came the idea to build amp simulations and not, say, delay or reverb plugins ? Did you feel something was missing on the plugin market or did you simply want to propose an alternative to the existing softwares ?

Vladimir, our mastermind, wanted to apply his programming knowledge and love of neural networks to create something he could use - and he simply decided that the complexity of tube amps is an interesting challenge. The rest is history! =)

Now we are pushing the boundaries of where the amp sims can go. There are still quite many things that can be improved in the grand scheme of things; that requires a lot of R&D time.

Okay. As of today, your amp simulations seem to be mostly targeted towards “le gros son”, “the big sound”, as we say in France. Basically, metal and heavy rock. Is it because of a personal preference, or are people coming from this scene more receptive to amp sims ?

We feel that, for some reason, metal and rock players are more open to new technologies. More open to trying things that simplify their life. One can easily put up a survey about what amp would they want to be modeled, and with a 99.9% accuracy the top ones will be metal/rock amps. That’s how it is at the moment.

Hopefully, when we get to modeling a clean amp one day, many more tube-amp lovers will be ready to expand their horizons.

Some people remain unconvinced regarding amp sims, saying “it will never sound like the real thing” and such. What’s your point of view on this ?

In our opinion, for purists, modeled amps will never sound the same as the tube amps, because something that is modeled cannot sound EXACTLY the same as the original (for various reasons). Amp modeling has areas that have been pretty much nailed and work exactly as in real life. Some areas still need improvement - for example, the poweramp/cab link. Once this gets sorted, we can talk one more time and see what purists say.

Overall, the beauty of amp sims is that you can use them without worrying about space, broken tubes, mad neighbours, unhealthy volume levels, electric grid inconsistencies, lost settings and many other irritating things. And still get an amazing sound/feel.

In connection with this topic, there used to be a lot of developers who were releasing their amp sims for free. It doesn’t really happen anymore, except regarding brand freebies.

Why is that ? Are people expecting such a level of quality that it’s not worth for a solo developer to work on that ?

There are still free amp sims or stompbox sims out there, but not as many as, say, 6-10 years ago. At that time many people were building amp sims during their free time, exploring available technologies. The level of accuracy was not yet as high as it is now. At the moment, building a free amp sim that matches the

quality (sound/feel/UI/usability/etc.) of paid ones is not an easy task and would require serious time (=money) investment.

So yeah, now it's much harder to be a solo developer and release top quality free amp sims just for fun, as the level expectations is much higher.

Have you thought of creating an amp sim that would be completely new, that's to say not based on existing hardware ?

No, not really. Building an amp from scratch requires a different skillset. We are currently concentrating on modeling existing hardware prototypes only.

Would it even make sense, both commercially and in terms of musical creation ?

It will possibly make sense to do something like that only in cooperation with a very well-known artist. Which will be his signature amp that does not exist in real life. That might work.

Otherwise, without a strong support such project may see a very limited success, if any at all.

Alright, so you guys are some of the best amp sim makers out there. Can you walk us through the main steps of the creation of such a plugin ? What are they and what do they consist in ?

Thank you for the kind words!

The main steps of creating an amp sim are roughly these:

1. Do market research and choose a product to model.
2. Purchase the needed hardware model. It needs to be in perfect condition, of course.
3. Disassemble certain parts and start the examination of the hardware unit. Take various measurements of all the components.
4. Move the measurements into digital world.
5. Run non-real time tests of the model and adjust it if needed.
6. Write code. Using Neural Hybrid Engine tech, of course =)
7. Draw user interface.
8. Test, test, test and fix any issues.
9. When all done, release.

In reality, there are many more little and big steps that one needs to do to release a commercial product.

And out of all of this, what is the most difficult thing to reproduce ?

The most difficult/challenging is possibly the power amp. The way it interacts with the rest of the elements is very complex and requires extensive research and testing. There are still quite some improvements that can be done in this area.

Many of the readers here are working from their own home studio. Would you have one or two mixing tips for them, if they want to get the most out of their amp simulations (Mercuriall or not, actually) ? What could they try to get the best possible sound ?

Sure! But first, basics:

- Fresh strings (if you are playing every day, you'd want to change strings as soon as they feel dull)
- Properly set up guitar intonation
- Properly set up string height
- Tuned guitar
- High quality cables
- Sound card with proper instrumental input or a good DI box
- Properly set up amp sim input level. Many don't pay attention, but in reality it is extremely important, so that the modeled circuit behaves as expected. You can check out our product manuals for recommendation.

As for the mix tips, the most important ones would probably be these:

1. Don't let the low end of your guitar tone to cloud the mix. Turn on the high pass filter and play with it until you get a good blend with kick/bass in the lows. It's the kick/bass that produce the massive lows, not the guitar.
2. Carefully listen to hissing frequencies (talking about hi-gain guitars here) in the 3k+ area. Some of them may be overbearing and need to be attenuated to get a pleasant sound. To find these frequencies, get something like a FabFilter Pro-Q where you can set the highest Q for a band and boost it. Now move the band left/right until you find the nastiest ringing spot and attenuate it by the amount of dB that you feel is needed without sucking the life out of the tone. You might need to cut a few of

such spots. A/B with the original tone and hear how much cleaner the EQ'd version is.

Thanks a lot for them !

Of course, cabinet Impulse Responses are also very important to get a good sound quality. Where are the IRs included in the Mercuriall coming from ? Are you making them yourselves, or maybe in partnership with famous IR brands ?

The 2D cabs in U530, Spark and Reaxis are custom ones.

The IRs in SS-11X are recorded by our artists and beta-testers. Many of them have pro studios, which allows creating top level IRs. We are very proud of all the IRs we have in SS-11X!

How are you choosing which amp sim you will work on next ?

Well, depends on how the stars align. As well as the amp sim community feedback. And business needs.

In other words - it's complicated =)

Early products were simply what we had at our disposal (the hardware). Now we do much more market research, of course. So yeah, we take into consideration various factors before a decision is made.

Talking about this (I think you saw me coming to it), can you tell us a bit more about your next products ? Are you already working on something new ? Can we hope for some Orange emulations ?

As much as we'd want to - no details can be shared before an official announcement =)

Orange? Not in near future. Sometime later? Everything is possible!

Alright, time to close this great interview. It was a pleasure to exchange with you on all these topics — so, thank you very much for your time ! I wish good luck to Mercuriall for all your future endeavours !

Any last words you'd like to share with the Projet Home Studio readers ?

Thanks so much for inviting us for this interview! Hopefully it brings out some interesting facts about Mercuriall and amp sims in general.

To all Projet Home Studio readers - when in doubt, make music! =)