



Nebula readme

You have to take account of some informations to use the Kalthallen Nebula programs right. So please read this once.

You will notice that there are 4 versions of each sampled mic position. A, B, C and D.

The letters stand for:

A - Cabinet driven by a **tube** guitar power amp, sampled in **44.1 kHz**

B - Cabinet driven by a **tube** guitar power amp, sampled in **96 kHz**

C - Cabinet driven by a **solid state** guitar power amp, sampled in **96 kHz**

D - Cabinet driven by a **solid state** guitar power amp, sampled in **44.1 kHz**

In general A and B are intended to be used with amp sims or preamp outs (fx send) of real guitar amps.

C and D are intended to be used with power soak signals. (When you use your own tube power amp out). Feel free to experiment though. C and D always sound a bit flatter than A and B. But they are also less fizzy.

I decided to sample in 44.1 kHz and 96 kHz, because the sample rate conversion in Nebula can sound a bit different. In principle you can use both disregarding in which sample rate your project is.

The programs don't work with Nebula Free.

You have to copy the files of the **Programs** folder (n2p) in your **nebulatemprepository** programs folder and the files from the **Vectors** folder (n2v) in your vectors folder so they can be found by Nebula.

The program names contain informations about the microphone, cabinet and speaker that have been used. The "Mic position pictures" folder shows the accordant picture to the Nebula program.

So for example 018b-AT4050-V30-4x12 features an Audio Technica 4050 microphone in front of a Celestion Vintage 30 speaker in a 4x12 cabinet powered by a tube guitar power amp recorded in 96 kHz.

018.JPG shows where the microphone was pointed at for the Nebula programs 018a – 018d.

The microphone preamp that had been used was a Telefunken v672.

The recording interface was a RME Fireface 800.

Setting up Nebula

If you already have worked with other 3rd party developers libraries you might have already set up the **sample rate cnv** in Nebula higher than the default. If not, you should first follow these steps.



- 1) Open Nebula in your DAW, then click on the MAST button on the bottom. If necessary, choose the second slider from the left to change from Mode 0 simple to Mode 1 guru.
 - 2) Click at the number right to "RATE CNV" which should be 25 ms by default. Use the second slider to increase the number to around 3000 ms and click "save".
 - 3) Close the Nebula plugin (take it off the insert).
 - 4) Open Nebula again.
- This only has to be done once.

Now you can open the first cabinet program by clicking on the red "init" basic program.

All of the "Kalthallen Cabs" programs have the extension CAB which stands for cabinet.



You will see three sliders raised in the right. Attck, Rels and Drive. Do not touch them!

As opposed to an normal impulse response the only thing that is really important to **adjust is the volume of the signal that goes into the Nebula program.**

The cabinet programs are all sampled with a big dynamic range and are all pre set up the way that when you give in a signal of around **-18dBfs** you will be in the middle of the sampled loudness steps.



That means your signal (which could come of an amp sim or was recorded using the FX send off your guitar amp) should be around -18 dBfs. Even a distorted guitar has some dynamics left, so it doesn't matter if you may have peaks around -11 dB at palm mutes for example.

If you want to hear the cabinet at its maximum loudness you can raise the "in" knob in Nebula fully to the right. (+ 6.02 dB)

Then, with an incoming signal of around -18dBfs you will reach the loudest sampling step.

You can also leave the "in" knob at 0 and have the incoming signal at around -12 dBfs to have the same effect. If you go in hotter it will distort audible and you will not have any benefit of the sampled dynamic steps because simply said you would always be on one sampling step like with a static IR.

The same principle is true in the different direction with a very low input. You could end with being only at the lowest sampled step which also would lead to a pseudo static IR.

So if you go into the Nebula program with a level around -18 dB you don't need to read further. Have fun with the programs! 😊

When you are used to work with louder levels, lets say around -6 dBfs all the time in your mixing work flow and don't want to change that you have two possibilities.

1. Set the "in" knob of Nebula to around -12 dB
2. Change the "padin" in Nebula to 12.53 dB for example.

To find "padin" – "padout" click EDIT → GLOB

After you did that press EXIT and SAVE.

If you saved it that way, next time you open the program it will have kept this setting.

You're entering the nerdzone

For those of you who really want to get into this levelling thing I added a calibration program. (000-Calibration Program.n2p)

This one isn't supposed to sound good with music, its just there to let you experience the dynamic range.

When I took this program I changed the mic position for the loudest and the quietest sweep that ran through the cabinet from a very dark sounding position to a very bright sounding position.

What you can do now is to load this program and put a noise generator in front of it. Set the out-coming noise to around -18dBfs.

Then turn the "in" knob in Nebula. When you reach +6.02 dB you will notice a change in sound.

That is the point where the loudest sampling step is played back. When you turn it back there will also a brighter sound suddenly. That's the point where you reach the lowest dynamic step.

You don't need to use a noise to test this, you can also use a guitar signal.

You can also adjust the padin, padout fitting to your personal mixing level work flow.

Kernels

Nebula not only plays back impulse responses dynamically, but also allows to capture saturation. The more kernels the more saturation is captured.

So more kernels are always better?

I spend months to find the best possible NAT (Nebula sampler) set-up to sample the cabinet as good as it gets. As close to a real mic'ed cabinet as possible. For guitar cabinet sampling higher kernels added a high end that wasn't there, so I saved the programs the way the sound best. And that is with less kernels than I captured them with.

If you wanna use more kernels regardless, you can click on "KERN" in the Nebula plugin and set them to "MAX". Then save the program.

You can also do the opposite. If you wanna have just a dynamic impulse response without any saturation calculated you can set the slider to "CLEAN".

In my opinion you should leave it as it is.

/ nerdzone

Thanks for reading. Enjoy the programs and feel free to donate if you find good use for my Nebula programs and/or IR's.

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