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# Getting the NeuronVS to work on Intel Macs

## 0. Prerequisites and Restrictions

**VST SDK version note:** The NeuronVS was originally based on VST SDK 2.1. This version has been deprecated by Steinberg and most modern hosts now require VST SDK 2.4 or higher. The NeuronVS will not work with these hosts. It will take some time to update the project so it can use VST 2.4 and therefore it might never happen. Also, there is no Windows version as only the Mac version has survived.



**Hardware requirements:** Please also note that you will need the <NUKE> controller hardware in order for the NeuronVS to be fully operational. Without the controller you won't be able to change any parameters controlled by the sticks – you can still use the plug in as a preset player but you will definitely miss out on the fun.

## 1. Installation

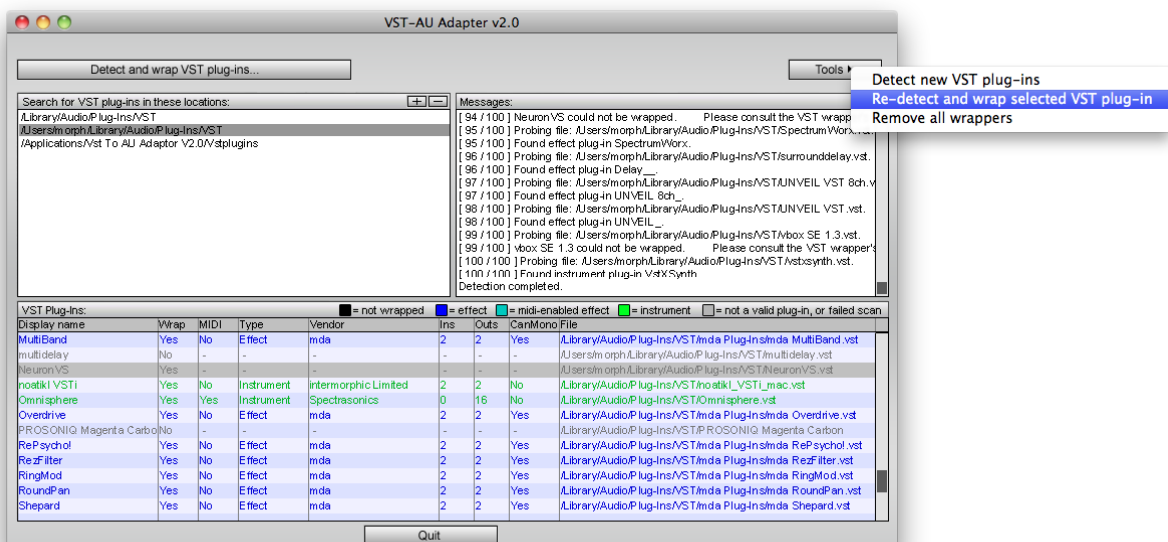
First you will need to install a couple of things in order to use the NeuronVS. There is no installer.

1. Copy the file NeuronVS.vst to the following location on your computer: /Library/Audio/Plug-Ins/VST or ~/Library/Audio/Plug-Ins/VST (the one in your home directory).
2. Make sure you have a copy of the latest Neuron database (NeuronDB). If you don't have a copy, get it from the following location:  
<http://neuron.audiodsp.net>
3. Copy your NeuronDB folder to /Library/Application Support/Hartmann Music/NeuronDB. Create directories as needed in case they don't exist and make sure you have your access permissions set up correctly.
4. Get a copy of AudioHijack Pro, or any other VST host that can use plug ins compiled against the 2.1 VST SDK (I'm not sure if there are any others left!). AHPro is available from <http://www.rogueamoeba.com/audiohijackpro/>. I'm using v2.10.6 here. Install it.
5. Dust off and plug in your <NUKE> controller into any available USB port (yes, the problem with it having to be the first port on the machine has been fixed)
6. Plug in a MIDI keyboard. I'm using an Oxygen61 here
7. Done! You're good to go

## 2. Known Issues

There are several issues to be aware of that are left over from the original version that I have not been able to fix yet (or that are inherently unfixable):

- you will need a <NUKE> controller (yes, the hardware!), otherwise the plug in won't work
- don't use more than one instance of the NeuronVS – this might cause crashes and inconsistent behaviour of the <NUKE> controller
- make sure your <NUKE> controller is connected to a port that has enough power (won't work with some keyboard ports). Otherwise the <NUKE> controller is not recognized by the software. In this case you will get a light blue "about" screen instead of the usual NeuronVS user interface
- there is a bug in the VSTGUI bitmap code that can cause the user interface to come up all grey. This will go away once I update the code to use the latest VST SDK. Reloading the plug in usually helps (if it doesn't crash when on closing the window, which is likely to happen)
- the VS does not remember its last used program when a project is loaded
- when using the FXpansion VST/AU wrapper make sure to enable read/write permissions for the VST and Component folders. Otherwise the wrap will fail ("access denied")
- when using the FXpansion VST/AU wrapper you might need to enable the "wrap" option manually for the NeuronVS and use the "Rescan and wrap selected plug-in" option in the wrapper's tools menu. You might need to do this several times over.



There are a couple of things that *have* been fixed in this version, such as the USB weirdness of the original version (like the one that could cause the VS to randomly eject hard disks potentially causing data loss), and about a ton of memory leaks.

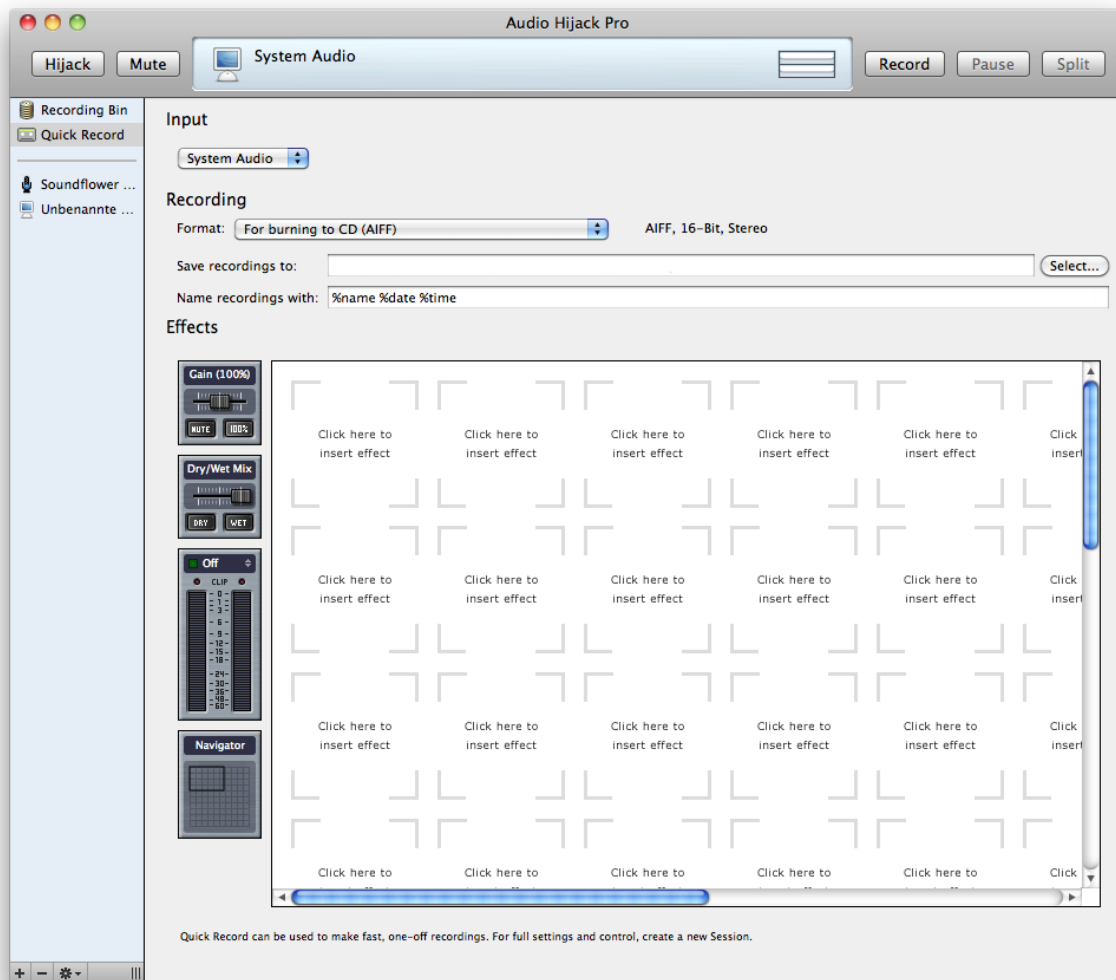
### 3. Compatibility

This section collects information about what hosts are supporting the NeuronVS VST Plug-in

Application	Version tested	Results
AudioHijack Pro	v2.10.6	works ✓
Plogue Bidule	v0.9728, v0.9730	works ✓
Logic	v9.1.8/32bit, via FXpansion's VST/AU wrapper 2.0	works but UI has redraw problems
Ugly VSTi	0.4	works, but you need to set "Signal Vector Size" to 128+
Live	v8.2.1/32bit, via FXpansion's VST/AU wrapper 2.0	works ✓
Live	v8.2.1/32bit	does not work ø

## 4. Example Setup

In order to use the NeuronVS, launch AudioHijack Pro and go to the Quick Record page:

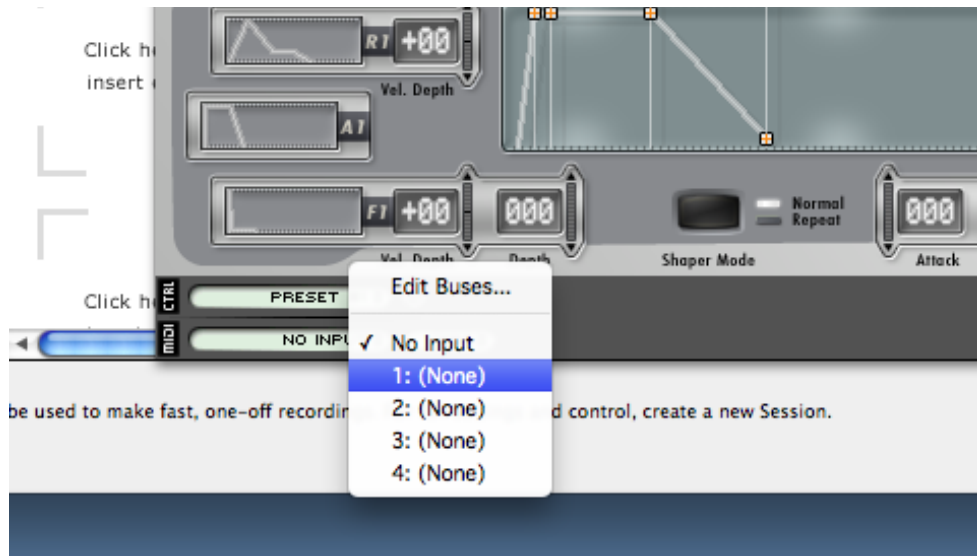


Make sure you set the Input selector to "System Audio" to get continuous playback.

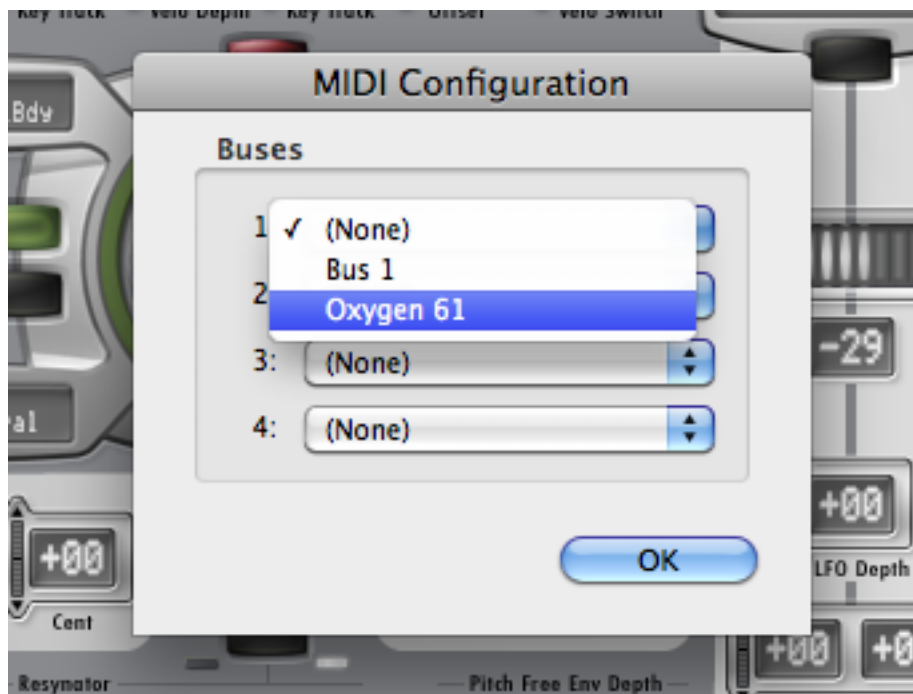
Now click on one of the rectangular spaces to get a popup menu and choose "NeuronVS" from the "VST Effect" submenu:



From the bottom of the NeuronVS window popup the MIDI menu and select slot #1:



Click on "Edit Buses" to choose your MIDI device



Click OK. The MIDI popup should now be set to your MIDI device.

### **THIS IS IMPORTANT:**

In order to start the sound engine, hit "Hijack" in the main window of AudioHijack Pro. If you press MIDI keys you should now hear the NeuronVS.

**Congratulations – you're done!**

## 5. Other Cool Things to do

There are several other options for things that you can do if you have successfully managed to use the NeuronVS.

- Become a member of the Hartmann Neuron Facebook page. For this you will have to visit the following web site and apply there:  
<http://www.facebook.com/groups/285585009322/>
- Write me an email. I'd love to hear how you're doing. Drop me an email at [neuronaut@bernsee.com](mailto:neuronaut@bernsee.com)

## 6. What's next?

Getting the NeuronVS to work on Intel Macs is a little project of mine that I started in my spare time after I found a CD with the sources when relocating the Prosoniq office. Until that time they were considered lost, so I was very happy that one of the former Hartmann developers apparently left it there as a backup. Since Hartmann Music went out of business in 2005 there is no official organization that would be able to continue the work that Axel and I started in 2000 so I decided to take on this challenge and do it in my spare time. Stefan Rapp, the former CEO of Hartmann kindly allowed me to use their plug in code, and being the CEO at Prosoniq I allowed myself to use my part, the Neuron DSP technology, to update the old project and distribute it.

While I'm not sure if that backup was the latest version I did fix a ton of bugs, such as memory leaks, the crappy USB / <NUKE> communication which was a total kludge and could cause some serious damage to external USB hard drives in the original version, as well as several issues with the DSP code that could cause the output to create silence or static.

Still, this is a first and totally untested version that is compiled against a VST SDK that has been deprecated by Steinberg and is no longer supported by most of the VST host developers. It's a long way to go to make this work on a more recent system or with more modern hosts. This part will need to be reworked when there is more time (which may be never, I don't know) - and funding.

Also, there is no Windows version of the sources, unfortunately. I will need to create them from scratch at some future point if I choose to do so.

The Prosoniq Neuron synthesis technology might again be used in some other projects of Prosoniq. I'd recommend you check out our web site from

time to time to stay up to date, or follow us on Facebook  
(<http://www.facebook.com/pages/Prosoniq/131025911008>) or Twitter  
(<http://twitter.com/prosoniq>).

You can reach me at [neuronaut@bernsee.com](mailto:neuronaut@bernsee.com) if you want to send me email.

Have fun!  
Stephan Bernsee

## 7. Change Log:

### Version 1.56

- Fixed issue with panning on certain hosts
- Fixed stale buffer issue on note-on
- Fixed bug that could cause some sounds to sound out of phase
- Fixed filter section for Blender stereo mode
- Started to do some cleanup work
- Added option to disable the NUKE entirely. In Terminal, type

```
defaults write com.Hartmann-Music.NeuronVS "userEnableNukeController" -int 0
```

to disable the NUKE on the driver level. Type

```
defaults write com.Hartmann-Music.NeuronVS "userEnableNukeController" -int 1
```

to re-enable it (you will have to reload the plug in for the change to have an effect).

### Version 1.55

- Fixed issue that could cause some sounds to be exceptionally loud
- Fixed issues with internal clipping that could occur at high sound levels
- Optimized code for better performance (more voices)
- Cleaned up code and added security checks to improve stability

### Version 1.54

- Fixed a ton of bugs related to the NeuronVS user interface
- Plug in can now be used without the remote. Operation of the sticks is still tied to the remote, so without the remote it's more like a factory preset player

### Version 1.53

- Added feature to resolve symlinks and aliases to the NeuronDB (and Hartmann Music) folders. Your NeuronDB can now be anywhere on your hard disk as long as you have a properly named alias or symlink that points to it.

### Version 1.52

- Added compatibility with MacOS X 10.8.x
- Improved USB communication
- Other minor fixes, code cleanup

### Version 1.51

- The <NUKE> controller is now more reliably recognized

- Fixed a memory leak that could cause a crash with some models
- Removed soft clipping at the output (not required for the VS)
- Other minor fixes, code cleanup

**Version 1.50**

- First release of the refurbished Hartmann version