Synapse Audio The Legend HZ

The legend and much more ...

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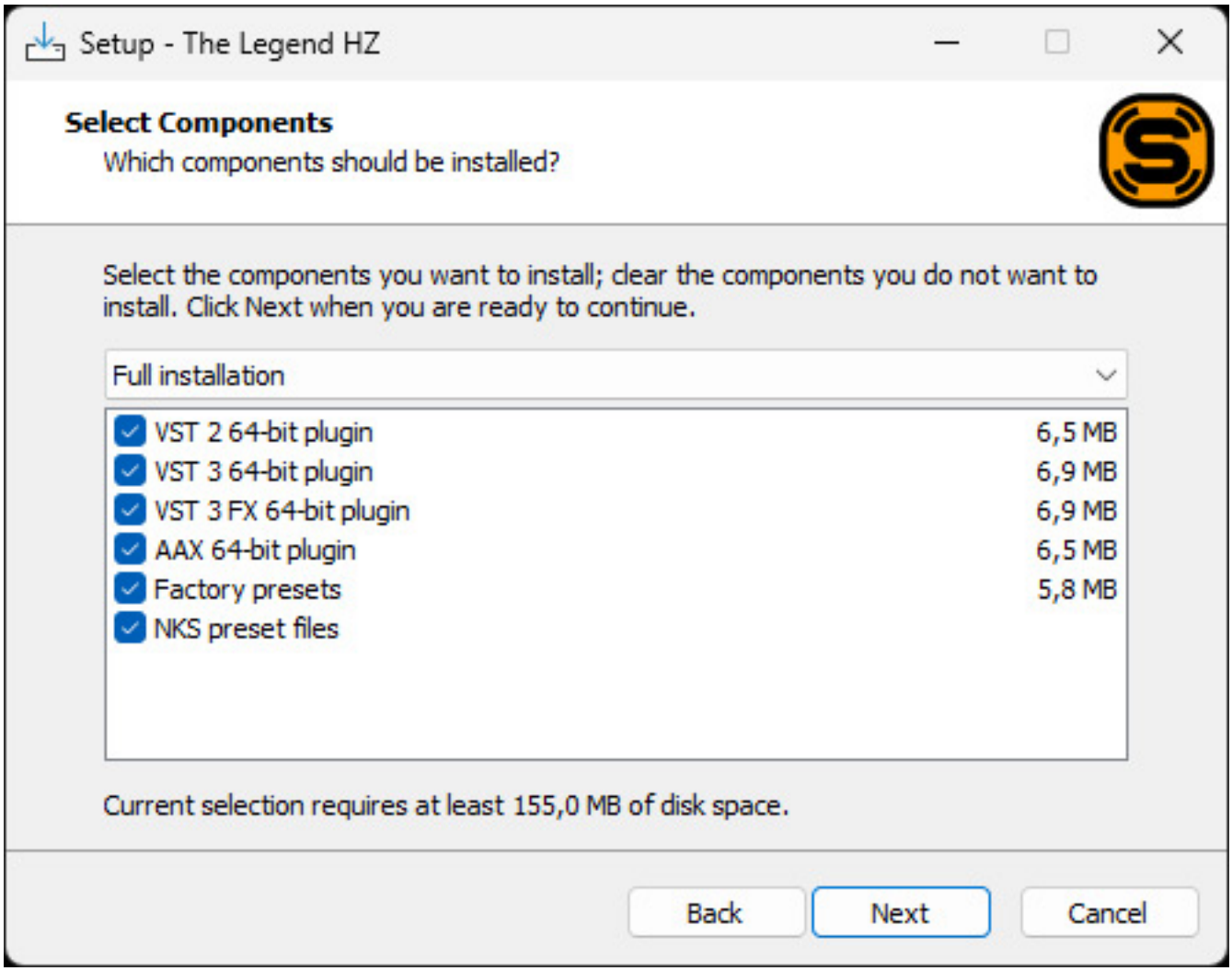
Synapse Audio has had a remarkable simulation of a legend in its program for some time now, namely "The Legend", a simulation of the Moog Minimoog. Even if the name doesn’t immediately suggest it, a look at the user interface and the basic performance features does.

In the course of 2024, "The Legend HZ" was introduced, a version that goes far beyond a Minimoog simulation in terms of functionality. This was created in collaboration with Hans Zimmer - hence the initials "HZ" - and Kevin Schroeder.

More about this in an interview, which can also be read in this review.

Installation and prerequisites

First, we present the basics. The virtual instrument is available for Windows (from Windows 7) and macOS (from version 10.14) and requires 64-bit host software. VST 2, VST 3, and AAX, as well as AudioUnit (macOS only), are available as plug-in formats. The virtual instrument is also suitable for M1 to M3 CPUs, and at least ProTools 11 is required for AAX. NKS is also supported.



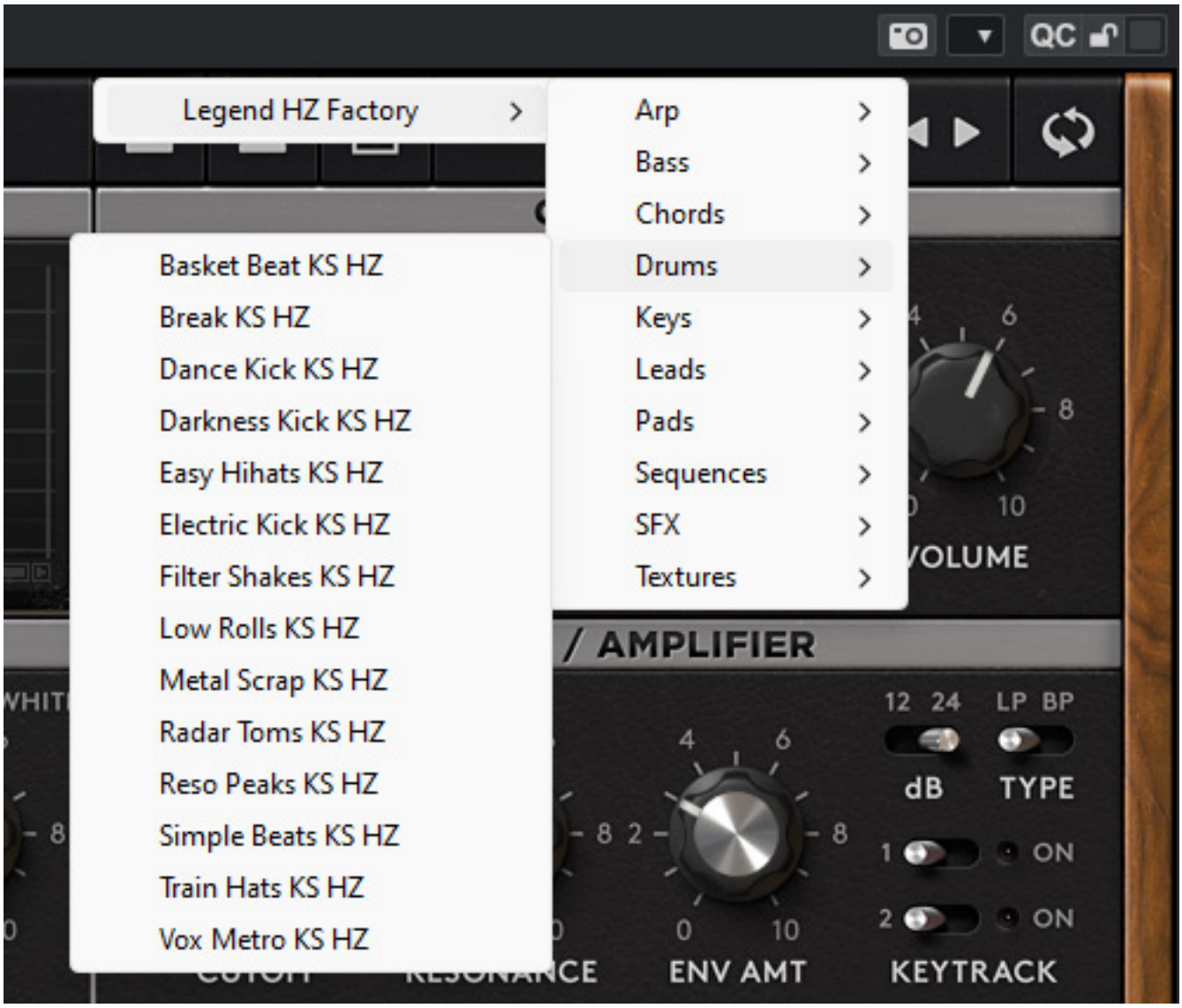
Installation is performed via an installer with which the individual plug-in types are installed individually. If you buy the plug-in, you will receive a code and a link to create a user account on the Synapse Audio website, which is also used for licencing. The plug-in requires that you enter the code again. It is important to check whether there are any spaces in the code. Although these are not displayed in the plug-in after copy/paste, they are taken into account (at least in our test version) and licencing may then fail. Therefore, it is best to first copy the code into a text editor, remove the spaces, and then use them in the installation and licencing

process.

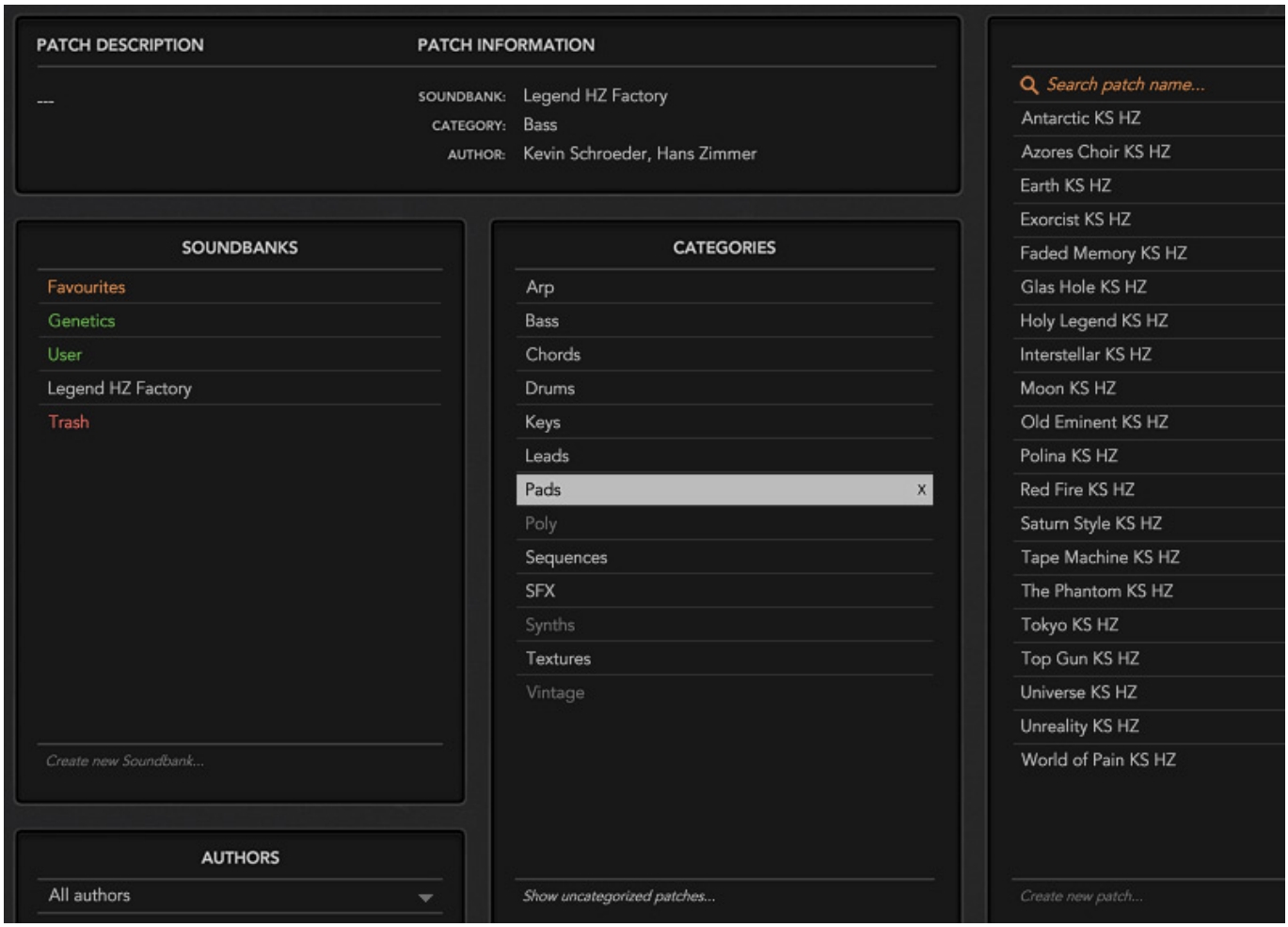
Operation

The user interface is divided into two pages that can be switched via an icon in the top right. The lower area for the modulation matrix and sequencer remains unaffected and is visible on both pages.

The size can be set in steps via a menu or continuously with the mouse. Global brightness, virtual LED intensity, and background can be adjusted using controls (see illustration above).



At the top, a preset can be selected via a menu, where presets are divided into categories (see illustration above).



It is more convenient to use the integrated preset browser, which is the third operating page on which you can search for sound banks and other category descriptions.

Pitch bend and modulation wheel are virtualised at the top left. Under Control, you can set Glide and the level between the oscillator 3 waveform output and noise - just like in the original.

We now arrive at a significant difference from the original design. On the left, everything still looks original; however, instead of three, The Legend HZ version now fortunately has six oscillators. Therefore, oscillators 1 to 3 are functionally present twice. Keyboard tracking can be switched off for oscillators 3 and 6. Compared to the original, "Sharktooth" has been added to the waveforms - a mixture of sawtooth for the rising, and a triangle waveform for the falling waveform.

The mixer was thus upgraded with six controls for the oscillators and the noise generator (white/pink noise). There is a drive control to deliberately provoke saturation behaviour and a feedback control that feeds the output back to the input via an attenuator.

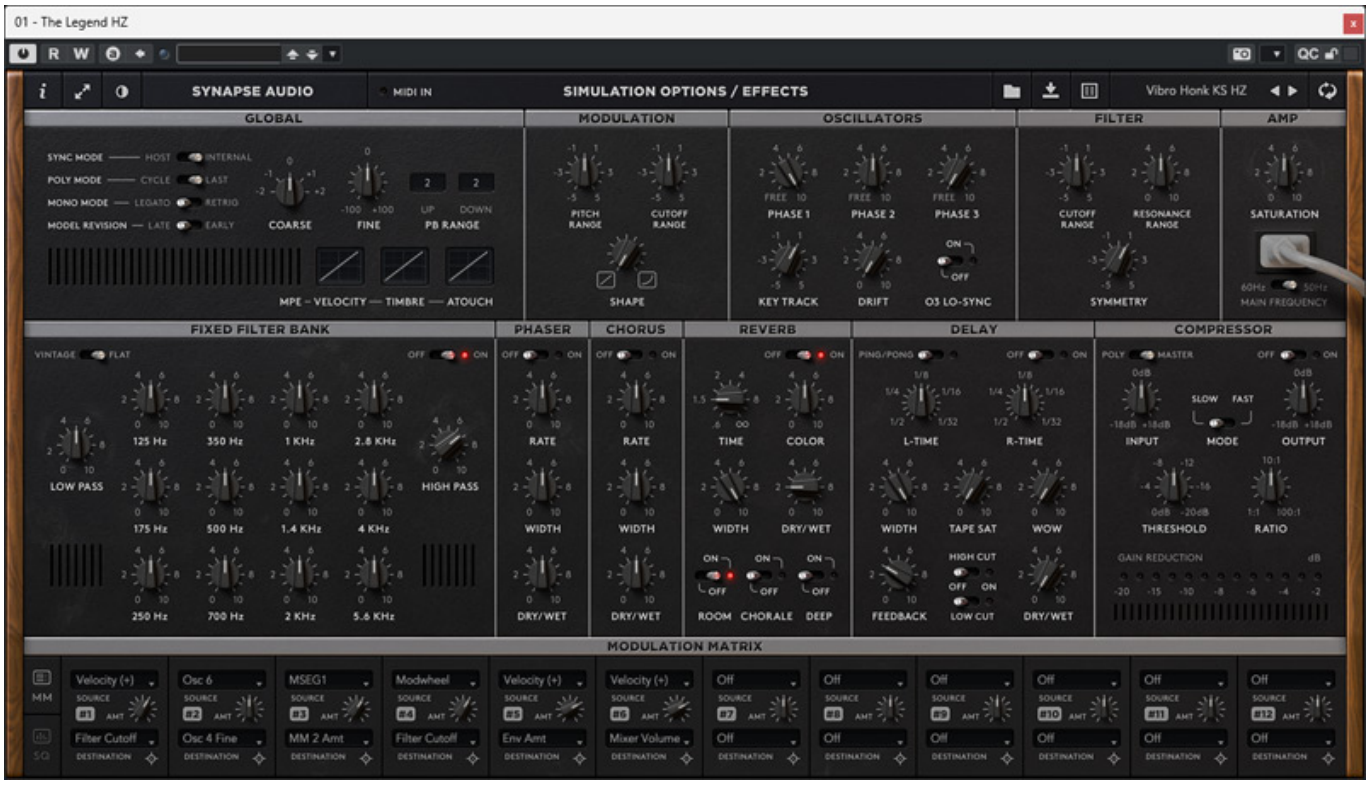
Contrary to the original design, the filter slope (12 or 24dB/oct.) and the filter type (low-pass/high-pass) can be selected, and the envelope generators offer four-phase ADSR.

Various polyphony modes can be set in the OUTPUT section, ranging from MONO to UNISON (four voices are triggered simultaneously) to polyphony with four, eight, or

twelve voices. With DETUNE, the voices can be detuned against each other, and with SPREAD, the voices can be distributed more or less to the two stereo outputs.

The Legend HZ offers four additional graphical envelopes (MSEG - Multiple Segment Envelope Generators), the shape of which can be adjusted using the mouse, and there are also various trigger modes such as: Note on, Note off, Loop, Key on, and Trigger. The latter mode requires explanation because the generator only starts in this case if modulation data are also received from the modulation source, for example: with aftertouch as the modulation source, the generator only starts when MIDI data are also received from the controller. Individual synchronisation with the DAW host tempo can be activated for each of the four MSEGs.

The modulation matrix can be operated in the lower section. Here, twelve modulation sources can be switched to modulation destinations, and the modulation index can be varied. The DESTINATION icon can also be used to link modulation destinations with the mouse.



These are the basic settings that have been used so far. On the second operating page of the GUI, called "Rear Panel", you can do even more.

Here, you can set different sync/trigger modes and two different model revisions with slightly different oscillator and filter tolerances. There are also coarse and fine tuning, pitch bend range limits (up to +/- seven semitones), and three parameters for MIDI Polyphonic Expression mode, as The Legend HZ also supports MPE.

Under MODULATION, the user can limit the modulation wheel range, adjust the effect of the wheel on the filter frequency, and switch continuously between linear and exponential response of the wheel. The linearity of the keyboard tracking can also be shifted to higher or lower frequencies. With DRIFT, you also have an adjustable random size, and with the "Oscillator 3 Low-Sync" switch you can synchronise it with the DAW host tempo.

In the OSCILLATORS section, the phase start point can be set from a free to a fixed adjustable value. In FILTER, the user can set the cut-off frequency, resonance point, and filter symmetry, which can be used to continuously adjust the nonharmonic content of the upper frequency waves. Finally, the AMP section offers an adjustable

saturation level.

Yes, and then there is another delicacy from the 5 U Moog modular system: a virtual Moog 914 filter bank with twelve band-pass filters as well as a low-pass and a high-pass filter. The corresponding filter bands can be boosted or attenuated using the controls.

Effects are also directly integrated into The Legend HZ, such as a phaser, chorus,

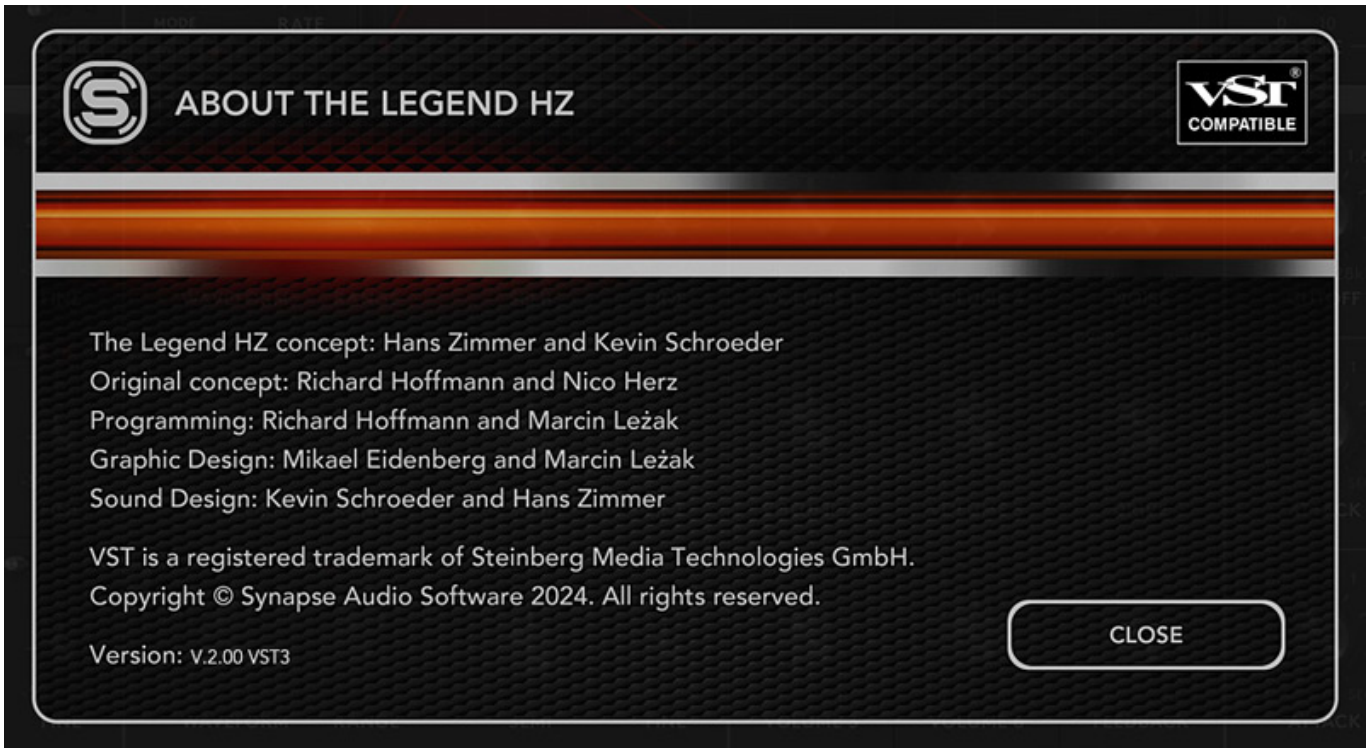
reverb, delay with adjustable band saturation and adjustable pitch fluctuation (wow), as well as a classic compressor with two-stage time constant setting, application threshold, and compression ratio, as well as a gain reduction bargraph display.

The lower section can also be switched from the modulation matrix to an arpeggiator/sequencer page. A 32-step sequencer is offered here, where 20 factory patterns can also be called up. There is also a MIDI mode in which you can load standard MIDI files for the patterns. The number of steps, octave use, speed or host sync, relative gate time, and swing parameters can be set for a pattern. In addition to the velocity, you can also set four modulation parameter values per step, which are available as sources in the modulation matrix.

The arpeggiator/sequencer offers twelve different operating modes (see illustration above).

Interview

We had the opportunity to talk to Kevin Schroeder, who was involved in the development, and also works as a synthesizer sound designer.



proaudio.de: Perhaps a few words about Synapse Audio and his colleagues.

Kevin Schroeder: Synapse Audio makes VST plug-ins for all common DAWs, as well as rack extensions for Reason. Synapse Audio is currently made up of three people, including founder Richard Hoffmann, myself and software developer Marcin Lezak. There are also other sound designers, beta testers, and freelancers who work on projects here and there. In addition to the analogue emulations "The Legend" and "Obsession", Synapse Audio is best known for the synthesizer "DUNE 3", which is often used by producers in the EDM genre, but also in the film industry.

proaudio.de: The Legend as already available as a virtual instrument from Synapse Audio. Were you also involved in the design?

Kevin Schroeder: I programmed many factory sounds for The Legend 2016, including an additional sound set called "Modern Analog", and I also made a comparison video between the original Minimoog, which I borrowed from Hans, and The Legend.

proaudio.de: How did the update and the collaboration with Hans Zimmer come about?

Kevin Schroeder: I got to know Hans Zimmer via Facebook. At some point he liked my posts about my work. One day, he asked me if I would like to do some sounds for Wonder Woman 1984. So I flew to Los Angeles to see him in 2019, and then the next films followed: Top Gun Maverick, Dune Part 1 and James Bond 007.

When Hans heard about The Legend, he was absolutely thrilled. Hans has contacted Synapse Audio. Hans quickly had the idea that six oscillators and a filter bank would be something great. I added that we could also incorporate a sequencer and MSEGs, and a larger modulation matrix. Richard Hoffmann from Synapse Audio loved the idea and got to work. The effects section was also improved. In the end, "The Legend HZ" was born.

proaudio.de: What else was particularly important to you with The Legend HZ?

Kevin Schroeder: It was important for us to double the monster sound of the old The Legend. We achieved this very well with the three additional oscillators. The filter bank is also very similar to the original. With the sequencer, it was important to us that it was more versatile than other sequencers. We achieved this with the four ARP parameters. You can link these ARP parameters with all the controls, so to speak, and the oscillators can even play a melody independently of each other.

proaudio.de: Has The Legend HZ also been used for productions by Hans Zimmer?

Kevin Schroeder: The Legend HZ has already been used several times, including in Dune Part 1 and Dune Part 2, Top Gun Maverick, James Bond 007, and The Creator. Therefore, we tested and used The Legend HZ extensively long before its release.

Practice

We tested the virtual instrument The Legend HZ on an AudioKern B14 workstation from D.A.S. on the Windows 11 operating system with Steinberg Nuendo 13 as the host application. The maximum processor load in the Nuendo performance display is approximately 25 percent in Poly 12 mode with effects and four-note chords. You cannot get a load much higher than that. We didn’t make it above 30 percent.

I have to say that I hadn’t even looked at the previous version, "The Legend", but the difference is clear. There are not only twice the number of oscillators but also many more functions have been added. The POLY-8 and POLY-12 modes were not available on The Legend HZ predecessor either. MSEG, the phaser and chorus effects are also new, as are the compressor and, above all, the arpeggiator/step sequencer and the flexible modulation matrix. Compared to its predecessor, the whole thing is more of a full-blown upgrade than a cosmetic update.

The sound comes very close to the Mini Moog. I doubt whether you would hear a difference in a blind test. The sound engine with eightfold oversampling does a good job here while still making acceptable use of CPU resources.

However, The Legend HZ is by no means simply a simulation of a Minimoog; rather, it is a virtual extension of the Minimoog with a whole range of functions. In terms of sound, for example, the 914 filter bank, which adds a finishing touch to some sounds, should be mentioned here. The sequencer is also a helpful addition. The Legenz HZ is functionally more in the direction toward a Moog modular system. Thanks to the modulation matrix and the MSEGs, the possibilities are very flexible without patch cables. For the sequencer, I would perhaps like to see an update with ratcheting to satisfy all Berlin School Ambient nerds.

More than 200 factory presets differ widely and range from powerful monophonic solo and bass sounds to polyphonic sound carpets. When you listen to the presets, you have to admit that The Legend HZ has its roots in the Minimoog, but its sound also reaches completely different regions.

Conclusion

The Legend HZ is priced at US$ 179 and is available directly from the Synapse Audio website. This is absolutely reasonable. The Legend HZ offers significantly more functionality than its predecessor, which represents a significant step forward. In terms of sound, The Legend HZ is far ahead in terms of Minimoog sound simulations, but this is actually the most banal thing about the instrument because The Legend HZ only becomes interesting in conjunction with the many functions that go beyond those of the Minimoog. You can clearly hear the influence of the Moog modular systems. In terms of sound, it follows this direction and is polyphonic with up to 12 voices. The Legend HZ is a powerful instrument, but its user interface makes it easy to handle.

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