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Plugin Alliance Brainworx bx_console

A Different Kind of Channel Strip

After a couple of months deeply concentrated in sound mangling and creativity, we felt compelled to try something radically different. So, we found ourselves immersed in the—normally hidden behind a curtain—world of mixing and sound editing with the new Brainworx bx_console. This plug-in introduces a new level of "analog realism," emulating tolerances for more than 150 components, in a legendary Neve VXS console.

By
Fernando Rodrigues
(Portugal)

We contacted Plugin Alliance because bx_console got our attention. It's true that we never get tired of channel strips, but it is also true that—based on the published specs—this is a different kind of channel strip. Of course, it first attracted us because it emulated the channel strip of a coveted Neve console. Not only that: The Neve VXS console whose channels (and yes, the plural here makes sense) are far from accessible to common mortals (the author included). For many years, the Neve VXS was used to record big film orchestras at the Skywalker Ranch in California. It was later acquired by an ex-ABBA member, who moved it to Sweden. It ended up in the Brainworx studio in Germany, where allegedly it has been used in the development of many of the company's most popular plug-ins.

So, it's no surprise that Brainworx decided it was time to showcase its own Neve VXS in a plug-in. And nothing is better than to feature it for the first time with a new technology the company has been developing: Tolerance Modeling Technology (TMT). TMT means that, instead of each plug-in instance duplicating the characteristics of all the other instances, we can have differences between each instance. This is much like what happens in a real analog console, where each channel has slight sound variances, due to component tolerances defined by each of the channel's components. All analog components have manufacturing tolerances that state an acceptable range of differences between them. These tolerances vary from 1% on some parts up to 20% in many standard electronic components.

So, this means that, even if we have the same parameters in each channel in, say, a 60-channel mix, every channel will have at least slightly different sound deviations from the others. Of course, we can also have the traditional digital behavior, where all channels sound the same. That's the kind of approach we prefer, and kudos to Brainworx for giving us the option. We are totally in favor of innovation, but we don't like it to be forced down our throats. Fortunately, here we can use the new TMT or not—it's up to us. And we checked that thoroughly, to see if there is a difference, and how good that difference sounded.

Another Analog Channel Strip Emulation?

The Neve VXS console (and here we are quoting the description provided by Plugin Alliance) was something of a bridge between vintage Neve consoles like the 80 and VR series and the modern 88RS. "Loaded with features like a comprehensive EQ and dynamics section, it still delivers that classic

English punch and vibe that we use to expect from a Neve console." Since we don't have any experience with the console itself, we will take their word for it.

The plug-in is divided into three sections. The left section has the dynamics and the gate, the middle section has the EQ, and the right section has the VU meters, knobs for the channel input gain and channel noise, and a slider for the volume. Besides the VU meters, there are also indicators for the compression reduction and for the noise gate. Besides the low-pass filters (LPF) and high-pass filters (HPF) included in the EQ section, we also have a pair of input filters (one LPF and one HPF), positioned right in the beginning of the chain. Nothing unusual, so far, that we can say. Of course, we could not have a real "strip," so, things had to be split in two halves for better management of screen real estate.

The dynamics, as usual, include a compressor and a gate, while the EQ section has low-shelf and high-shelf filters and two full parametric mids, one positioned in the mid-low and the other in the mid-high.

As stated in the manual, while the bx_console is an exact emulation of the Neve desk at the Brainworx Studio, the designers also included slight modifications to the plug-in to make it more flexible and handy. Therefore, the input filters on the bx_console have been given an extended range from that of the original hardware.

Many Brainworx compressor plug-ins add a Mix knob to the interface, which is always a welcome addition when working with powerful dynamics processors. The bx_console is no exception, adding parallel compression to the Limiter/Compressor section. Aside from that, they also added an additional HPF that ranges from 10 Hz to 2 kHz, drastically increasing flexibility to the way the compressor interacts with incoming sounds. Finally, there is control for a secondary release parameter.

The original VXS enables the user to position the EQ either after the dynamics section or within the sidechain circuit. Inside the sidechain, the EQ can precisely filter content that should be avoided by the compressor. The Brainworx plug-in adds a position before the dynamics section, drastically changing the behavior of the compression circuit. Considering the ability to mix the compressor's processed and unprocessed signals, this can be a very powerful tool to have in hand.

TMT or not TMT?

The TMT technology is the biggest new feature of this plug-in, so, we had to take it to our bench "stress test" to see what is there. We took a big mix (36 stereo channels, which translates into 72 single channels) of a film orchestra recording and inserted a default bx_console in each stereo channel, by changing the channel number. We started with the violins, at channel 1–2, and went from there until the last pair: 71–72. We rendered the resulting file (with the inserted plug-in at default values, which means no processing), and then went back to the mix, bypassed all the inserts, and

The compressor/gate section of the bx_console channel is topped by the low-pass filter (LPF) and the high-pass filter (HPF). Typically, only high-end consoles feature dedicated filters, but this is a feature to be used. Below that is the compressor (which completes the original with parallel compression and side chain).

The EQ section is a classic British sounding EQ. We can also switch the position of the EQ, so it can be used at the sound input chain, before the compressor, by pressing the PRE DYN button. This is also something typical with British consoles, such as the SSL.

The bx_console is another analog modeled strip channel, which mimics some realistic imperfections of the modeled hardware, including added floor noise. It features a new technology developed by Plugin Alliance called Tolerance Modeling Technology (TMT). But, we can also opt to make it sound clean and modern.

Our "tour-de-force" with bx_console is the 36 stereo tracks where each track has inserted a bx_console instance with a different channel pair selected—72-channels in total. This enables users to check the influence in the sound of the new Tolerance Modeling Technology (TMT) by itself. It is also a good departure point for later configuration.

rendered the file again.

For the final test, we inverted phase in one of the rendered stereo files, and mixed it with the other rendered file. If there was no difference, the result would have to be total phase cancellation. Well… it wasn't. The difference is subtle, but it is there. So, the Brainworx statement that there is a difference induced by the analog tolerance modeling is true.

After contacting the company, they said, in their opinion, the difference would be more noticeable if we had actually mixed the 72 channels with the plug-in, and then compared that situation with the same mix using just the same channel (i.e., where each instance would be an exact duplication of the others). We will definitely check that.

But the main question is: Is it really better this way? We have to confess that we ended with mixed feelings. Personally, we are not supporters of modeling the "flaws" of analog hardware, and our position is that we should pursue the cleanest possible result. But there are different opinions about this, and the fact that we can use the plug-in the way we want is always good. We are in favor of giving the option to the user.

We tested the same parameters with different "channels," and sometimes just changing the channel seemed to make the sound better. Of course, we may have been influenced by the fact that we were searching for that (or not). But the differences seem to exist, although subtle, and more noticeable when the processing is more intense, like what we did with vocals and drums.

We used TMT sparingly, but it's another parameter to color the sound anyway, and sometimes, as we said, the results seem to be there.

At Work

The bx_console behaved much as we expected. Strong sound, full of character, and its presence will be noticed when there. Maybe it was because we knew the modeled console was used to record big film orchestras, but in our opinion, the big orchestral mixes is where it really shines. The sound becomes fuller, and we could easily get that orchestral mass of sound.

Sometimes, in heavy rock mixes, we had

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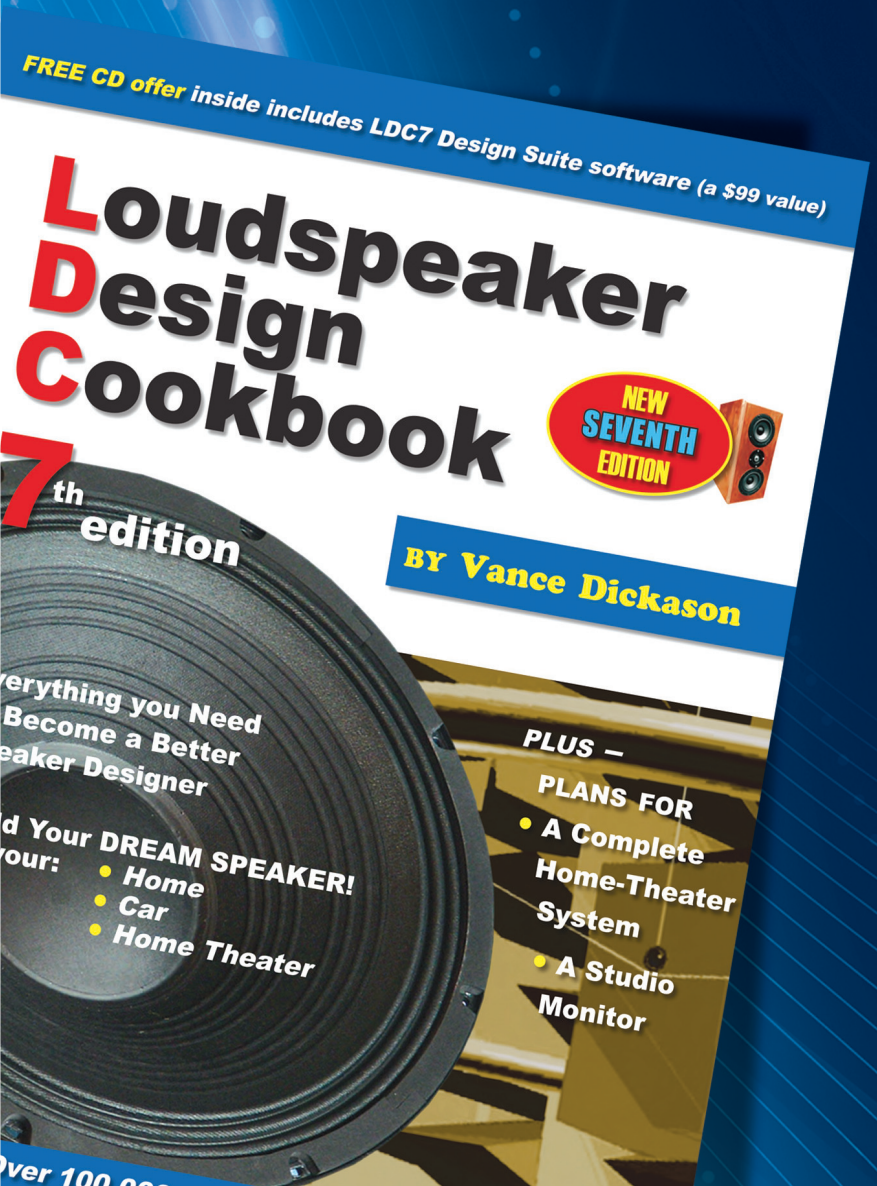

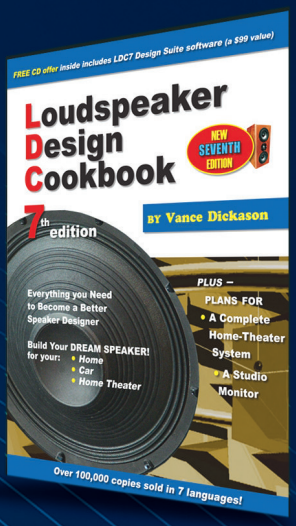

In this picture we can see several bx_console instances, each with a different pair of channels selected. Some of the included presets call for specific channel pairs, which could mean the authors found sweet spots for some specific sounds.

The "screw heads" in the GUI panel are extra controls for specific parameters not available in the original strip channel of the Neve VXS console. One of the controls is for a secondary release parameter. Another is for the Mix, and one is for the high-pass filter (HPF). One of them is a Mix pot that enables users to input the unprocessed signal back in the circuit. The other is a second release threshold that, combined with the main, changes the compressing curve from linear to exponential. This is internal and has a fixed value in the hardware console, but here we can edit it.

About the Author

Fernando Rodrigues began studying music and technology in the 1970s. His goal was to marry his two passions: music and computers. As a student, he helped assemble the electronics music studio at the music college in Porto. Later, he directed the technology department at one of Portugal's major distributors while pursuing a career teaching musical analysis and composition techniques. He now concentrates on research and writing about music and technology, sharing his own perspectives about music and sound.

experienced difficulty in getting the punch we wanted and had to change the values we used (e.g., with the SSL Channel). But once there, the sound was again full and great. Overall, the console has a pleasant sound, but you have to dig to get there. It's not an instant gratification piece of software

We were also surprised by how light the plug-in was on the CPU. We were afraid that because we wanted to use it in big mixes, the CPU taxation would prevent us from running the tests. But that did not happen. For example, the mentioned big orchestral mix with 36 channels loaded with bx_console, showed less than 9% of CPU in Reaper. We chose Reaper since it is, in our opinion, the DAW host that holds more processing. After testing it, we also tried Cubase and did not have any problems loading a big mix with it either. Of course, our system is above average, but even in modest systems, there should be no problems in loading several instances of bx_console.

Conclusion

What we have is a very powerful plug-in, that behaves in a way we are not used to in terms of plug-ins. We tend to like more precise, predictable behavior of plug-ins, but sometimes this might become a little dull. With bx_console we have a certain dose of unpredictability that relates to the way the analog equipment works, which forces us

Brainworx bx_console

- Strip-Channel Plug-In (compressor, gate, and EQ)
- Available in AAX DSP, AAX Native, AU, VST2, and VST3
- Pro Tools 10 or higher or any VST/VST3/AU compatible host running on a supported operating system, www.plugin-alliance.com

System Requirements

Windows:

- Windows 7 or 8 (Windows 10 currently not supported)
- Intel-compatible CPU with SSE2 instruction set (Pentium 4 compatible or higher; minimum 2 GHz recommended)

Mac OS X:

- OS X 10.6 to 10.10 (El Capitan currently not supported)
- Intel CPU only (minimum 2 GHz recommended)

Both Systems:

- Display resolution: 1440 × 900px or 1280 × 960px or higher
- Memory: 2 GB RAM (minimum)

The Brainworx bx_console plugin running here in a Pro Tools session. This faithful emulation of the Neve VXS console features a comprehensive EQ and dynamics section and delivers effective results.

to look for adaptations. This might help to make the mixes more alive, but we certainly have to be more careful when using it.

The plug-in also gives us some refinement controls (that we did not address) enabling additional flexibility—the kind of flexibility that we got used to with plug-ins, and hardly find in the real world. Sure, these will not be for the day-to-day work, but they can be handy on special occasions. We advise users to carefully study the manual, try the tips, and familiarize themselves with the refinements.

We have never worked with a Neve VX, so we cannot confirm how close this plug-in comes to the real thing. However, we can state that it has the "sound" of the British consoles that we learned to love and that made Neve and SSL so popular worldwide. And, we can get that sound for our own systems at a reasonable price. Of course, this will not replace a real console, but it is among the best we can get "in the box."