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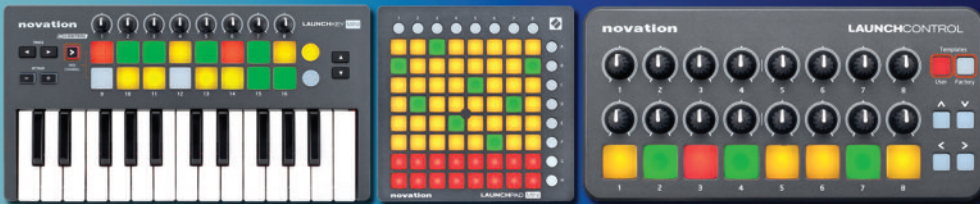- Secrets of the perfect backing vocal

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REViEW

BY PAUL VNUK JR.

Antelope Orion³²

32 channels of impeccable audio over USB... how is this possible?

Antelope Audio is a boutique company well known in professional audio and audiophile circles for its Zodiac, Isochrone and Eclipse audio converters, as well as for the Isochrone 10M Atomic Digital Clock. Antelope gear, being boutique, spans the gamut from $2700 up to $5995 (for the Atomic Clock). Thus Antelope created a stir last year when it announced the Orion³² that packs 32-channels of Antelope-quality A/D and D/A conversion into a single rack space for $2995 street.

I know that $3k is not pocket change, but I say again: 32 channels, Antelope quality... three grand! Kind of grabs your attention, doesn't it? The next part had me even more curious—the Orion³² uses USB 2.0 to make this happen!

Meet the Orion32

The Orion³² is both a 32-channel digital converter as well as a 32-channel USB 2.0 DAW interface. In addition to USB 2.0 it includes a hearty selection of additional interface choices, routing options and more.

It is housed in a clean single-rack-space housing with a thick brushed aluminum faceplate, with a thick plexiglass-covered LED/LCD display that shows clock frequency as well as full-on digital metering for each of the unit's 32 channels. Nine silver push buttons control power, frequency, internal settings and presets, and additional LED lights indicate clock settings and preset choice.

The Orion³² supports sample rates of 32 kHz up to 192 kHz. Its internal clock is a 4th Generation Acoustically Focused Clock with 64-bit DDS and an Oven-Controlled Crystal Oscillator. It has a stated stability of < ±0.02 ppm (parts per million), oven-controlled at 64.5 °C / 148.1 °F.

The Orion³² can also be clocked externally, to Word Clock or Atomically with a 10M. Its A/D and D/A converters have 118 dB dynamic range with a THD+N of –105 dB for the A/D and –98 dB for the D/A. For USB it uses a custom designed high-speed USB 2.0 chipset with a data stream of up to 480 Mbits/192 kHz.

More options in back

USB is not this unit's only connection option, either. The rear panel is jam-packed with I/O choices that include 32 channels of analog input and 32 channels of output via TASCAM-style D-Sub connections. Digital connections include four ADAT Optical sockets (2 in / 2 out), a pair of MADI I/O, and a pair of standard coaxial S/PDIF connectors on RCA, as well as four BNC word clock outputs, a single BNC word clock input and, a BNC input for locking to the 10M Atomic Clock. There is also the standard 3-prong power cable socket and lastly the type B USB 2.0 socket.

Channel counts will vary with ADAT depending on sample rate settings, and I should note that the S/PDIF connections are quite handy for connecting to an external monitor controller or for connection with older digital gear.

With DAWs

The Orion³²'s Control Panel software helps you choose how and where your signals go, thanks to an elegant drag-and-drop matrix that scales itself depending on connection and clock speed. A pair of faders control master volume and the hardware display brightness, and there is even an Antelope news feed built into the software!

The software also contains a full-fledged mixer application and settings panel with signal oscillators, settings for SMUX and S/PDIF, ADC and DAC channel trims (20 dBu to 14 dBU in 1 dB steps), buffer settings (64 up to 8192 samples), and USB streaming mode choices ranging from Minimum Latency for tracking to Extra Safe for mixdown. This is also where firmware updates are initiated.

The Orion³² is both Mac and Windows compatible for most of the popular DAWs from Logic, Cubase/Nuendo, Pro Tools, Ableton, Studio One, Reaper and Samplitude. The only thing to note is that due to USB limitations, the Orion 32 can only achieve 24 channels of high sample rate operation. For complete computability, latency specs and more, be sure to check out Antelope's website.

Up and...

I installed the Orion³² software on my 2.5 GHz quad i7 late 2011 17" MacBook Pro running OS X 10.8.5 (I am not brave enough to go beyond—yet) and on my X980 3.33 GHz PC running Windows 7 64-Bit Home Premium (not brave enough for Windows 8 either).

On the Mac, installation was smooth as butter. On my PC it was rough. The first problem was my fault, as I tried using a 10' USB extension cable in addition to the included 3-meter cable (my PC lives in a closet on the other side of my studio wall for noise reasons). Unfortunately, the Orion³² does not like this and you will need to stick with just the included cable. Tech support let me know that a slightly longer cable can be used, but extension cables are a no go!

That issue was easily solved and the Orion³² installed and locked up with my PC nicely until I launched Cubase 7. Initially there was an ASIO conflict between the Orion³², Windows 7 and Cubase that would not allow the Orion's clock to lock over USB. This was admitted by Steinberg to be on their end, and with the new Cubase 7.5 software released a few weeks ago, I am happy to say that things are fixed and have been rock solid with the Orion³² ever since.

...Flying!

I did multiple D/A listening comparisons between my Lynx Aurora 16 and the Orion32, as well as session tracking and comparison mixdowns through 14 channels of outboard gear on both units. I am sorry if readers are expecting me to say that one high-end converter system "crushed" the other, but often I heard very little difference at all.

If I had to differentiate the two I would say that I found the Orion32 a tad smoother and more open than the Aurora 16, which was a touch harder edged and forward. All in all a 5 to 10% difference if that.

This was most noticeable during D/A comparisons of well-known stereo tracks. When comparing my own mixes done through each machine, playing them back on my home system, I could barely tell them apart.

That may sound boring, but I actually find it *exciting* considering how revered the Aurora is for its stellar sound quality. Add in that the Aurora is 16 channels only and requires an additional PCIe or add-on cards for DAW connection, all of which cost the same if not slightly more than the Orion, it's really exciting... not because one is superior to the other in outright sound quality, but more for just how much bang for the buck you're getting with the Orion32.

Conclusions

When you combine the sound, feature set, and simplicity of use of the Orion32 all together into one box as Antelope has, and you consider its price, you get a conversion system that could legitimately be called a game changer. And that is a phrase I rarely use.

If you thought it was impossible to fit 32 channels of world-class conversion into a single rack space, Antelope Audio would like to have a word with you. That word is Orion. ✍

Price: $2995
More from: Antelope Audio, www.antelopeaudio.com