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The magazine for the recording musician[®]

MAKE VOCAL MAGIC

Tools And Tricks For Tracking Great Vocals
Digital Audio—What You Need To Know



VOL. TWENTY NINE
NUMBER FIVE
FEBRUARY 2016
USA \$5.99
CANADA \$5.99



24

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Antelope Audio Orion32+

A newer, faster 32-channel interface... and a look at the MP32 mic preamp rack

by Paul Vnuk Jr.



Antelope Audio is a company helmed by designer-engineer Igor Levin. First with Aardvark and now with Antelope, Igor has been at the forefront of digital clocking technology for well over 20 years. To say the \$6000 Isochrone 10M clock is legendary would be putting it mildly.

In February 2014 we took a look at a new device from Antelope named the Orion32. This was a multichannel audio interface/converter, and three things made it stand out from the crowd: it offered 32 channels of A/D and D/A conversion in a single-rackspace unit, all conversion and clocking was Antelope quality through and through, and it somehow did all of this over standard USB 2.0!

As you might guess, the Orion32 made significant waves in the industry. These units can be found as the centerpiece of many home, project, and professional studios around the world.

Now here we are in February of 2016 and the Orion32 has gained a big brother in the form of the newly released Orion32+. The form factor, channel count, and conversion quality remain unchanged, but it offers three new significant enhancements of its own:

1. The Orion32+ adds the option of Thunderbolt connectivity.
2. It boasts a new, additional mastering-grade monitor output.
3. Like Antelope's Zen Studio (reviewed October 2014) it offers an onboard DSP chip that adds DSP mixing and effects. This includes the company's new AuraVerb reverb, which I should mention is now available to Zen Studio owners as well!

On the plus side

The Orion32+ lives in the same stylish, minimal and modern 19" rackmount enclosure as the original—the only visible difference is the new blue-green metering in the central LCD display.

The rear of the unit is also virtually unchanged, with one significant exception aside from the Thunderbolt port. Like the original, all 32 analog ins and outs are handled via TASCAM-style DB25 connectors. There are also connections for ADAT, MADI, S/PDIF, and Word Clock, and a pair of BNC connectors for interfacing with one of Antelope's 10M series clocks. Where the original Orion32 had four BNC Word Clock outs, the Orion32+ offers only two, making room for a pair of 1/4" TRS output jacks for the mastering-grade monitor outputs mentioned above.



These outputs make use of their own output chipset, separate from the other outputs on the unit. However, it should be noted that this does not make the Orion32+ a 32-in/34-out unit. The new outputs simply offer an alternate, high-quality stereo output choice.

Bringing the thunder

In addition to the custom Antelope-designed USB 2.0 circuit (as on the original), the Thunderbolt circuit on the Orion32+ is likewise a custom-designed Antelope creation.

Thunderbolt means even lower latency and lower buffer settings are now possible on the 32+. In Cubase (my DAW of choice), the latency spec'ed out at 0.917 ms in and 0.646 ms out at a buffer setting of 32, and 1.250 ms in and 0.979 ms out at 64, both at 96 kHz. In plain english—it's freakin' fast!

Software and DSP

The Orion32+ plus sports a brand-new control application. It still uses the drag-and-drop routing matrix found on the Orion32, but in improved form. It has a black color scheme with bold routing color blocks, and a new software mixer section—4 DSP mixers, actually, which include onboard EQ, compression, and the new AuraVerb. This mixer is similar to the one introduced on the Zen Studio. Antelope now also uses a universal driver that, once installed on your machine, works with any and all Antelope devices. Only the control apps are unit-specific.

As with the Zen Studio, on the Orion32+ routing and setup are handled



by a simple click and drag of inputs to outputs, including the mixer. It's very much like a digital mixer, minus the physical hardware. Like any digital mixer, it has a slight learning curve; there are some alt-click button presses that offer options for group channel muting and more. The mixer even features onboard oscillators for testing and room setup.

Regarding the new DSP chip: as with all things Antelope, the company chose to roll its own FPGA chip which they feel offers significant advantages over the various industry-standard DSP chipsets.

AuraVerb

AuraVerb is a great addition to the Antelope family. Rather than just a simple no-frills utility verb, AuraVerb is more akin to a classic algorithmic style hardware box. Sonically it is a very 3-dimensional reverb with its own distinct sonic signature. It's warm, glassy yet open, and sits well in a mix. It has a healthy complement of parameter choices including size, color, pre and post delay and more. I counted a maximum of 8 to 10 seconds of reverb tail.

AuraVerb excels at plates, halls and rooms. In function it is a very artistic, by-feel style of reverb, not hung up with exact millisecond values and such. Instead, you get to play with the room dimensions and the thickness and colors of the sound.

In use

Since I already have a pretty good working knowledge of Antelope devices, installation of the software and hookup/use were a breeze on my quad-i7 iMac. After driver and software installation, all updating, registration, and even firmware updates are all but automatic and painless.

After spending previous time with both the original Orion32 and the Zen Studio, I found the Orion32+ to be a great marriage of the channel count and quality of the original, with the mixer and DSP processing of the Zen.

Conclusions

The Orion32+ is quite the box and it does a lot of things well. It will track and mix 32 channels with super-low latency, it handles mastering-level tasks like sample rate conversion, and it works great as a standalone MADI-based A/D and D/A converter as well. The DSP mixer and software are greatly improved over the original, and the onboard DSP and AuraVerb are icing on an already wonderful cake. Thank you, Antelope. ➔

Price: \$3495; \$4995 when bundled with MP32 mic preamp (see sidebar)

More from: Antelope Audio,
www.antelopeaudio.com



The Antelope MP32

A great companion piece to both Orion32 units is Antelope's MP32 (\$2495), which offers 32 channels of remote-software controlled microphone preamps in a 2U rack enclosure. Yes, I said a 32-channel mic preamp!

The MP32 features a matching design and color scheme to the Orion32, with two rows of 16 Neutrik Combo XLR/TRS jacks across the front. Around back are 4 TASCAM-style DB25 jacks for connection to the Orion32 or any D-Sub equipped interface or patchbay, as well as USB and power sockets. As a nice bonus Antelope includes four short DB25/D-Sub jumper cables with the unit!

This is a remote-control style mic pre with no physical controls on the unit itself. Everything is handled over USB, via a mic preamp/mixer app on your computer screen. Each channel offers mic or line input; channels 1–4 also have the option of Hi-Z instrument connection as well. Each channel has individual phantom power, line/mic level settings, and nameable channels, all controlled in the software. There are three preset locations as well, for your most-used mixer settings.

Sonically the mic pres are similar to the preamps found on the Zen Studio. However, I would characterize these as a tad more on the straight-wire clean side, as opposed to the Zen's "console preamp" sonic leanings.

To put the MP32 through its paces, I took it and the Orion down to the Chicago Recording Company (CRC for short), where we'd previously made good friends while testing out the Neumann U 47 fet reissue against the originals (see February 2015). Studio manager Chris Shepherd was eager to test out both units to see if they would make good remote recording rigs for CRC's sister company, American Mobile, which operate three remote trucks as well as multiple portable "fly-packs". Currently most of the American Mobile trucks use 64 channels of True System mic pres coupled with Digi 192 converters.

For testing they chose to set up the Orion32 as a MADI box coupled to their interfaces, alongside the True Systems preamps. In side-by-side recording, the preamps on the MP32 held their own; some of the team preferred the MP32 while others liked the True Systems. Chris found the biggest difference in the 100–200 Hz range, but overall they were very close in sound.

Everyone was impressed with how clean they were and how much headroom they had. Even when cranked at full volume with no signal, the perceivable noise floor was minimal. With 68 dB of clean gain, a Royer R-121 ribbon mic used with spoken word was no problem at all.

The only thing missing from the MP32 as a mic preamp was a signal pad for loud input levels. However, since the unit was so clean, it was possible to switch the MP32 to line input on loud miked sources with no artifacts or issues.

While compact, portable and great-sounding, at this time Chris and his mobile crew had two significant concerns. One was the lack of input level control beyond the software app; they felt that a control surface, or even a HUI emulation mode for use with industry standard digi-control surfaces, would be anywhere from hugely helpful to a must-have. As Chris pointed out, when tracking bands live, especially in festival situations where extensive soundchecks are rare, the ability to grab gain pots and turn them down quickly was a necessity. Second, the company needs 64-channel rigs, and currently only one MP32 can be controlled at a time with a single computer and they can't be daisy-chained.

Live work and the rigors of the road aside, the MP32 is a fantastic companion piece to both Orion32 boxes. It puts 32 channels of quality microphone preamps and 32 channels of top-notch conversion together in a 2-rackspace package that could quickly and easily form the centerpiece of any modern studio. —PV

Orion32+ by the numbers

D-Sub Analog Inputs: +20 dBu max, 11.2 kΩ

D-Sub Analog Outputs: +20 dBu, 56Ω

D/A Monitor Converter: 127 dB (Dynamic Range), –108 dB THD+N

D/A Converter: 118 dB (Dynamic Range), –98 dB THD+N

A/D Converter: 118 dB (Dynamic Range), –105 dB THD+N

Sample rates (kHz): 32, 44.1, 48, 88.2, 96, 176.4, 192

Clocking System: 4th Generation Acoustically Focused Clocking (AFC) with 64-bit DDS Oven Controlled Crystal Oscillator