

## Antelope Audio Zodiac+ HD Mastering Converter Review

Apr 1, 2011 9:00 AM, By Erik Zobler

GREAT-SOUNDING D/A BOX OFFERS INPUT SWITCHING, VERSATILE I/O



Years ago, Robert Hadley at the Mastering Lab (Hollywood) rocked my audio world when, with a push of a button, he re-clocked my master mix to an Aardsync II. I was so amazed by how much better it sounded that I bought one the next day. Aardvark is no longer in business, but Aardsync II's designer, Igor Levin, continues to innovate new word clock designs for Antelope Audio.

In 2010, Antelope Audio released the Zodiac line of D/A converters. These converters incorporate technologies developed for the company's word clocks such as the "Oven Clock," 64-bit "Acoustically Focused Clocking" and Jitter management. For this review, Antelope sent me a **Zodiac+** (its midline model), along with an external power supply called the Voltikus.

### JITTER ME THIS BATMAN

Before I began this review, I believed that all jitter was bad. Not so, according to Levin, who says that jitter is both good and bad. Converter chips need to have small amounts of random noise or dither added to break up or randomize naturally occurring repetitive patterns generated by the converter chip. Levin says that properly controlled jitter serves to randomize these patterns and helps make the converter sound more natural and less "digital." To accomplish this, Antelope starts with a temperature-controlled sealed container that keeps the clock crystal at exactly 65 degrees C,  $\pm 0.1$  degree. Then the company applies its proprietary technique of controlling clock jitter called Acoustically Focused Clocking.

### WELL CONNECTED

The Zodiac+ has multiple inputs and outputs. Digital inputs include an AES/EBU, two Toslink/optical connectors, two S/PDIFs and a custom-designed, high-speed mini 2 B-Type USB connector that operates at up to 192 kHz. It also has analog balanced +4dBu and unbalanced -10dBv inputs. The analog inputs allow the Zodiac to function as an input switcher for multiple sources, both analog and digital. For outputs, the Zodiac has balanced and unbalanced analog outputs. The balanced outputs have small trim pots for precise output adjustment, and have up to 26 dBu of output. It also has an AES and two S/PDIF de-jittered, re-clocked outputs to feed other digital equipment. There is an external word clock input in case you want to use an external clock.

The front of the unit has a digital read-out showing the source's sample rate and the precise setting of the analog output. All of the Zodiac+ volume adjustments are done in the analog domain. When the large output knob is turned all the way up, it shows 0dB attenuation. When the knob is turned counterclockwise, the display shows the exact amount of attenuation. The front also has a small volume knob for two headphone outputs and dedicated buttons for power, source, mono and mute.

### IN MY EARS

To do comparison tests, I configured a Pro Tools session to feed the same output to four different pairs of stereo converters: stock Avid HD 192, BLA/RAE FM192, a Lavry Blue and the Zodiac+. I calibrated the converters to a 1k tone. All of the converters exhibited extremely flat frequency responses, from 20 to 20k Hz. I listened on my normal converters to some familiar mixes to get my bearings. I was unprepared for my reaction when I switched to the Zodiac+. It was dramatic—the difference was not subtle. The mix was instantly more punchy and clear. There was a perceived increase of upper midrange and lower-high frequencies as compared to the other converters. I say perceived because all of the converters were level-matched and they all looked the same at all frequencies. As I listened to different types of source material, I had the same experience. The bass did not increase, but tightened up. The soundstage seemed to widen slightly. Both of these effects generally happen with the addition of high midrange to high frequencies, but with the Zodiac+, these changes in the sound were not due to any EQ.

I then listened to the other digital inputs. I plugged the optical output from my Apple G5 into the Zodiac+. I rarely listen to music directly from the Mac so it was difficult to form an opinion, but the tracks sounded very good. To listen to the USB input, I transferred a mix from a CD into iTunes as an MP3 at 192 kb/sec. I plugged in the USB cable into my MacBook Pro, and when I opened the sound preference, Zodiac+ showed up as an output choice. I put the CD into a player connected to the AES input of the Zodiac+. I hit Play on both and then switched back and forth between CD and the iTunes MP3. This was not a fair comparison, but I thought the iTunes MP3 sounded pretty good, considering iTunes had thrown away 90 percent of the original data.

### POWER PLAY

To test the Voltikus external power supply, my assistant helped me with some blind listening. Calling out A and B, she alternated the power supplies, each time playing the same piece of music. Zodiac's Anti-Thumping Speaker and Ear protection guarded against pops as we freely switched the power connectors without having to mute or turn anything off. At first I wasn't sure if I was hearing much of a difference, but once I sonically latched on to the difference, I could identify it every time. The Voltikus tamed the perception of an enhanced midrange (mentioned earlier), making the output sound

smoother while retaining the definition and depth in the bass. It also seemed to enhance the stereo field. The Voltikus definitely improved the sound of the Zodiac+.

Antelope says that its headphone amp is ultralinear and designed to work with a wide range of impedances. I listened to three different brands of professional headphones, and while I agree that Antelope's headphone outputs sound good, all three headphones exhibited a somewhat "sizzly" sound that I found a bit distracting.

#### WRAPPING IT UP

To say that the Zodiac+ is "over engineered" is probably an understatement. It has more inputs than just about anyone would ever need. It has two headphone outputs; accepts voltages from 100 to 240 and outputs signal up to +26 dBu; will operate up to 192 kHz; and has a custom-designed USB implementation. It is loaded with technical innovations and built with audiophile philosophies such as separate power supplies and PCBs for its analog and digital circuits. Sonically, the Zodiac+ has a bold footprint—you will instantly hear a difference.

The Zodiac+ sound is very forward, tight and in-your-face. For that reason, I am not sure the Zodiac will replace everyone's favorite D/A, but I sure liked it on my mixes.

*Erik Zabler is an L.A.-based recording engineer and producer.*

PRODUCT SUMMARY	
<b>COMPANY:</b> Antelope Audio	
<b>PRODUCT:</b> Zodiac+ D/A converter; Voltikus external power supply	
<b>WEBSITE:</b> antelopeaudio.com	
<b>PRICES:</b> Zodiac+, \$2,695; Voltikus power supply, \$1,090	
<b>PROS:</b> Crystal-clear sound, great connectivity.	<b>CONS:</b> Headphone outputs exhibit a distracting "sizzly" sound.