RECORDING

The magazine for the recording musician

Miking Vocals!

- ## Vocal Tracking
  ### with Mark Hornsby

- ## Monitoring for
  ### Vocal Recording

- ## The Truth
  ### about Ribbon Mics

18 New Reviews

- Apogee • Cranborne Audio • Earthworks
- Harrison • Roswell Pro Audio • Steinberg
- Strymon • Telefunken • Thermionic Culture
- Universal Audio • Warm Audio

Cranborne Audio 500ADAT

Expand, sum, and blend in this uniquely featured 500 Series enclosure

REVIEW BY PAUL VNUK JR.

We first met UK-based Cranborne Audio in May 2019 when we reviewed its debut product, the Camden 500 preamp. The Camden 500 is a single-slot 500 Series preamp that offers an ultra-clean sound with the option of two shades of dialable MOJO, these being 'Thump' and Cream. Most impressive was its boutique-level sound combined with a modest $350 price tag.

Continuing down the 500 Series path, Cranborne offers two new eight-slot 500 Series enclosures to stuff full of Camden 500 modules or your other 500 Series favorites, and that's just the beginning.

We will be looking at the 500R8 in a future issue, which in addition to its enclosure status, is a full-scale audio interface that can be configured to handle up to 28/30 channels of DAW recording. This month we focus on its sister unit, the 500ADAT.

500ADAT

The 500ADAT is an eight-slot 500 Series enclosure. In addition, it's an eight-channel ADAT-based expander, an eight-channel discrete analog summing mixer, a zero-latency dual-source artist mixer, and a high-powered headphone amp.

The Enclosure

It starts with a 4U steel chassis. On the front, below the open slots, is a bottom row filled with routing switches (analog, ADAT, C.A.S.T.) as well as level and pan knobs for the summing mixer. On the right are the artist mixer and headphone amp. Connections are on the rear, which we will look at section by section.

Nice Ears!

The 500ADAT comes configured out of the box to be mounted in a traditional 19" equipment rack. The side ears are easily removed if you wish the unit to be a desktop device, or they can be transformed into a top-mounted carrying handle.

500 Series Versatility

If the 500ADAT were simply just a 500 Series enclosure and nothing else, it would still be pretty impressive. Not that some of these features can't be found on competing products, but this is one of the few 500 Series enclosures that combines them all, and more, into a single unit.

On the front, each slot can be chained or fed forward, left to right into the next module, for easy staging of consecutive modules—no patch bay necessary. Moving to the rear of the unit, the 500 Series section offers XLR ins and outs for each slot, as well as a $1/4$" TRS insert point for even more processing versatility.

What if you don't yet have eight 500 Series modules? No problem, there's a small switch at the top-back inside of each slot that bypasses the slot connector and sends audio directly in and out of the rear I/O. This feature allows you to patch in other external gear for use with the expansion, summing, and chaining functions. It's also handy when using dual-wide, single connection modules, as you don't lose the hidden I/O.

Lastly, there's a jumper on the backplane of the 500ADAT that enables stereo linking of 500 Series stereo-equipped compressors.

Discrete Summing Mixer

The 500ADAT is a full eight-channel discrete analog summing mixer that can be used to sum signals out of your DAW with or without modules in the slots, and with or without the insert points. The stereo summing mixer features high headroom and sums to a set of stereo $1/4$" balanced outs on the back of the box, and it can be monitored via the front headphone outs. Each channel offers a level control and an independent pan knob.

Artist Mixer and Headphone Amp

In addition to each slot feeding into the headphone outs, on the rear of the unit is a pair of stereo $1/4$" inputs allowing you to patch in an additional audio source such as a DAW-based tracking mix. This aux mix is then blended to taste with the summed mix from the 500 Series slots. Each of the two headphone outs has its own master level control and aux/mix blend control. Plus, each Aux control has its own stereo $1/4$" output on the rear of the unit. A note about the headphone outs—they are loud, proud, and linear down to 1Hz.

ADAT, SMUX II/IV Expander

Using the optical ADAT-SMUX II/IV protocol, the 500ADAT is a full ADAT expansion box. It offers eight channels of expansion at up to 96kHz or four channels of expansion at 192kHz to any similarly equipped ADAT interface. This could be the Cranborne 500R8; in my studio, I had superb results using a Universal Audio Apollo x8p, and the new Apollo x4 reviewed on page 30 of this issue.

Used as an expansion box, you can fill the 500ADAT with preamps and add eight more tracking inputs. You can use it as a summing mixer as described above, with or without 500 Series modules in line. Note that the Camden 500 Series Preamp works great here, as we can all use some MOJO in our summing signals from time to time! The third scenario is what I used the 500ADAT for the most. That was sending signals out to my 500 Series compressors, equalizers, and saturation boxes digitally over ADAT and then back into my DAW as hardware inserts in Cubase 10. It was a joy not to have to patch signals in and out on my physical patch bay.

The Digital Side

The 500ADAT features converters and clocking with a dynamic range of 121dB A-weighted (AES17 method, 20Hz - 20kHz), a frequency response of 2.2Hz to >80kHz (-1dB), THD+N of <0.00032% (-110dB) @ -4dBFS, 20Hz-40kHz, 1kHz, A-weighted, and an impressive <0.5 picoseconds of clock jitter. There are BNC clock inputs and outputs on the rear of the unit, and the two pairs of ADAT sockets. As a converter/expander it's clean, clear, detailed, and it sounds really nice.

The clock source and rate are set on the rear of the unit via small slider switches. The 500ADAT does not perform any internal clock switching. Even when not set as the master clock, you must switch the unit manually to match the external clock rate. In my opinion, this is the only downside I could find with this unit. In my workflow as a mixing engineer, I work on projects that come in at different sample rates, and sometimes I work with multiple rates in a single day. This means that the 500ADAT needs to sit on top of my rack. It would be impractical to access the switches conveniently if the unit was racked. [According to Cranborne, a forthcoming app will be able to make sample rate and clock changes via the currently dormant rear USB port coming later on this year—great news!]

C.A.S.T.

The final feature of the 500ADAT is the Cranborne C.A.S.T. system. This is a CAT 5-based feature that links multiple 500ADAT and 500R8 units together, and makes use of the company's N22 and N22H expanders, which are audio snakes that carry four channels of analog audio or headphone mixes over Cat 5 cables.

Conclusions

The Cranborne Audio 500ADAT is a forward-thinking and feature-rich device that performs all of its functions spectacularly. From its summing function to its eight-channel expansion, 500 Series mixing and routing functions and even its dual-channel headphone amp, nothing feels like an afterthought or a half-baked add on. When you factor in the C.A.S.T. functionality, Cranbourne has an impressive configurable system on its hands. ⤵

Price: $1499
More from: cranborne-audio.com