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DigiMAX 96k

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All eight channels of the DigiMAX mic preamp feature phantom power, limiting, basic EQ, and a 20dB pad. Not bad for a 1U box, eh? Plus you get output options for days. In addition to the eight 1/4" TRS analog outputs, there are eight channels of ADAT lightpipe out, making it an excellent front end for lightpipe-compatible I/O audio cards. If you like, you can equip the DigiMAX with four stereo output channels of AES/EBU or S/PDIF via optional breakout cables.

[PROS & CONS]

Eight-channel mic preamp with limiting, phantom power, and multichannel digital output.

Pros: Good-sounding preamp. Excellent limiter. Flexible clocking options. Quality A/D converters.

Cons: Rear-panel phantom power switch is hard to get at. No channel inserts. Limiter threshold knob setting is difficult to see from a distance.

VITAL STATS

Analog I/O inputs: 8 balanced XLR mic ins, phase reverse on channels 1 and 2; 2 unbalanced 1/4"; outputs: 8 balanced 1/4"

Digital outputs ADAT optical (8 channels); DB-9 connector for attaching optional S/PDIF or AES/EBU output cables

Resolution 16-, 24-bit

Sampling rates 32, 44.1, 48kHz

Word clock in and out on BNC

Options 4 (stereo) channel AES/EBU output cable ($39.95); 4 (stereo) channel S/PDIF output cable ($39.95); rack adapter for power supply ($29.95)

Dimensions/weight 19" W x 1.75" H x 7" D; 15 lbs.

There's no shortage of stand-alone and computer-based digital audio recording systems out there that won't break the bank. With the advent of these affordable yet powerful systems, a need has emerged for peripheral devices that give them more, or just better quality, inputs. It's not uncommon for stock stand-alone hard disk multi-tracks or PCI audio interfaces to come equipped with only a handful of mic preamps (or sometimes none at all), much less phantom power. That's why the PreSonus DigiMAX is so cool. It's an ideal complement for anyone who needs to interface their digital recording equipment with eight high-quality microphone preamps (and possibly an instrument input or two) in a small package.

First Impressions

When I first pulled the DigiMAX out of the box I was surprised by how heavy it was for a single rack space device that's only seven inches deep. Its power supply is a separate box that connects to the DigiMAX via a special six-pin XLR connector. The power supply is a pretty hefty item as well, and it occupies 1/3 rack space (if you buy the optional mounting kit). The next thing I noticed was how attractive the box was with its silver brushed aluminum front panel, green LEDs that glow like cats' eyes in the dark, and shiny blue knobs. The eight individual channels are separated by a deep contour in the faceplate. Each channel features a dual concentric knob that allows for setting the microphone preamp gain and the limiter threshold. The gain knob settings are easily distinguishable at a glance, but the settings of the threshold controls are difficult to see.

The DigiMAX features a pair of buttons per channel that glow green when depressed. One button engages a 20dB pad while the other incorporates what PreSonus calls the EQ Enhance feature, which is actually a 4dB cut from 250Hz to 5kHz. This essentially scoops out a big chunk of the mids. To me the EQ Enhance seems to be one of those hit-or-miss features — you might like what it does for a signal or you might not. Fortunately, all it takes is a single push of a button to audition its effect.

Overview

The input section of the DigiMAX consists of eight XLR microphone inputs. The first two channels also feature 1/4" instrument inputs conveniently located on the front panel, as well as phase reverse switches. There's a 48-volt phantom power switch for each channel, but these switches are on the back of the unit, which makes them difficult to reach when the unit is rack-mounted. A limiter can be engaged on any channel simply by setting the threshold knob to a value below the peak signal. Each of the eight channels has three small LEDs on the front panel for metering purposes. The first LED turns green when a signal higher than –20dB is present on that channel. The second LED turns red when clipping occurs, while the third LED turns red when the limiter is working.

The digital output section of the DigiMAX features an ADAT optical connector along with a 9-pin D-sub connector. PreSonus offers optional breakout cables from the 9-pin connector to four pairs of either AES/EBU or S/PDIF. Both digital output connectors send all eight channels at 24-bit resolution.

The DigiMAX is fairly flexible when it comes to word clock. It can generate a 32, 44.1, or 48kHz clock source as well as sync to an external source. There are two BNC connectors on the rear panel for clock input and output. A button on the front panel allows the user to toggle through the three internal clock sources, while a second allows the selection of an external clock source.

In Use

My first test for the DigiMAX was to record a male vocal track. I used my trusty Beyer Dynamic MC834 large-diaphragm cardioid condenser microphone, and recorded through the DigiMAX to a Tascam MX2424 at 24-bit resolution. For the sake of comparison I recorded the same track seven times (DigiMAX with limiter, with EQ, with both, with neither, using a Mackie MS1402VLZ mic preamp, and using an Oram MWS with and without EQ). When I compared all of the tracks I was impressed with the results that came from the DigiMAX. As a straight preamp it offered a fuller, bigger, and plain better sound than the Mackie, and was very comparable to the Oram MWS without EQ. (Oram's Octasonic, which is an eight-channel preamp that uses the same preamp design as the MWS, is a close direct competitor to the DigiMAX). I have long been a fan of the Oram preamps, so for me to put the DigiMAX in the same class is quite a compliment. One limitation of the DigiMAX, though, is the lack of a way to insert an external EQ or compressor after the preamp but before the A/D converter. I found some situations where I would choose not to use the DigiMAX simply because I wanted to use an external processor and need flexibility.

The quality of the DigiMAX's A/D converters at 16- or 24-bit is nearly identical to that of the Tascam MX2424, which I consider to be outstanding and noticeably better than a Digidesign 888 I/O or a 16-bit ADAT. The limiter is exceptional; I was

amazed at its transparency when used sparingly to reduce peaks and increase the overall level without fear of clipping. When I pushed it harder I could hear the limiter working, but it wasn't the typical pumping, breathing, or sonic degrADATion normally associated with pushing a compressor or limiter too hard. The sound got fuller, punchier, and a bit edgier. When I pushed it real hard it got a little crunchy, but was still musical. I was blown away by the limiter, which proved to be invaluable in tracking all sorts of instruments and for a variety of musical styles.

In another test I recorded my Guild JF-30 acoustic guitar using a Royer SF-1 ribbon microphone. The SF-1 is a wonderful sounding mic, but it takes a little more gain than other mics. This particular passage was very soft, and I placed the mic a few feet away, so I needed to really push the DigiMAX to get a good level. The resulting sound was very clean and consistent. I was even able to use the limiter on the acoustic guitar without it becoming noticeable. I recorded some heavy strumming tracks and found the EQ Enhancement to be very cool, sort of a "Nashville sound."

The two 1/4" inputs are not only convenient for connecting instruments such as electric guitars or Wurlitzer EPs, they sound good too. For example, I plugged an electric bass into the instrument input and found the resulting sound to be very sweet. The limiter proved especially useful on bass guitar. But for recording drums or other highly transient instruments, the limiters truly shine.

Conclusions

When I first started recording with the DigiMAX I thought it would be a nice addition to a variety of computer/hard disk-based recording systems, and it is. But I also found it to be an excellent product that would be useful in most any recording application, regardless of whether I was outputting digital audio or feeding the inputs of an analog tape machine. The more I compared the DigiMAX against other preamps the more apparent its value became. This may not be the absolute best sounding mic preamp on the market, but it's my feeling you should expect to pay at least five times more per channel to get something that is notably better. Considering that every channel has its own limiter, the DigiMAX seems like an even better buy.