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Delta 1010

Tough power, tough package



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This may be the fastest I've ever been asked to review a piece of gear, and normally that would be a big drag. But I'm very excited to pass on the news about the new Delta 1010, from [M Audio](#). It's also a pretty easy review, because the thing is good sounding, rock solid, and incredibly simple to install and use. I've had two days with the unit, and I'm comfortable with all its features.

M Audio is the most recent alter-ego of our old friend Midiman, Inc. Their early line of "DMAN" cards and a variety of useful music techno-paraphenalia have won them many friends over the years. Although one of their early products, the second-generation [DMAN 2044](#), was problematic for some users, overall the Midiman line has represented tremendous value for the dollar and has enjoyed a great reputation among the user community.

At first glance, the Delta 1010 looks a lot like the Echo Layla. It has word clock i/o, S/PDIF, MIDI, and an eight-in, eight-out analog section (Layla is eight-in, ten-out). It breaks down into similar components: a PCI card, connecting cable, and outboard converter box.



M Audio Delta 1010

There are some layout differences. Where Layla has an aux analog i/o for channels 7 and 8 accessible from the front panel, the Delta 1010 features MIDI i/o in that spot. S/PDIF is located on the PCI card on the Delta. Layla puts S/PDIF on the converter box. Layla's analog section is software-switchable between +4 and -10 levels. Delta puts hardwired push-push switches next to each rear panel jack. Delta has an external power supply unit.

The Layla has an internal supply. A little different angle, different guts, but the same basic box with the same basic capabilities. Basically.

Great Tone-to-Ick Ratio

They're actually a little more different than they look. One area where Delta 1010 makes an obvious departure is 24/96 bandwidth throughout.

Now, I'm one of those guys that doesn't give a hoot about 96 kHz sample rates. If you've ever spent more than five minutes in front of a drummer, you don't hear those frequencies anyway. But the nice thing about the 24/96 hype is the accompanying design overkill it's driven in today's hardware choices. Converters designed to handle 24/96 are smooth as silk at 24/44.1, and Delta is no exception.

It sounds good. Very good. Despite the fact that there are no GigaSampler drivers yet ("They're coming in a matter of weeks," says Midiman Chief Engineer Bret Costin), I managed to patch up a 24 bit S/PDIF connection to my Layla, so I could monitor the GigaPiano through the Delta 1010's converters and do some comparisons.

Note to GigaSampler owners: The GigaPiano is one of the best soundcard testing tools you'll find. Here's why: As those pristine two minute notes die away, you will hear every molecule of ick in your system. The note begins descent into the ick, eventually disappearing beneath the surface of the ick, where it's finally heard no more, having lost its struggle. There's only ick. And you. Ick.

Delta 1010 has no perceivable ick layer. As I listened to those notes die away, cranked to eleven in my headphones, I heard the pure tone ring into absolutely dead silence. Or so I thought. When the note was over I lifted the piano key, and discovered that there was more silence below what I had perceived as silent. The note had not died. I cranked the headphones to thirteen, and let the note ring out again, holding it for a full three minutes. This time, at some point, the note DID die into full silence, but I was not able to determine the time of its disappearance.

I did several A/B tests, listening to every set of converters in the house, and the Delta was at the top of the heap. Compared to my faithful Layla, the sound from the Delta was a touch more transparent and a bit more focused. Compared to my ADATs and my Tascam DA30, well...there was no comparison. Delta had the highest tone-to-ick ratio of the bunch.

Specifications

Product specs bore me, but here they are, in case some of you might want some hard evidence:

Analog Audio

**Peak Analog Input Signal: +20.2dBu (+4dBu setting),
+2.1dBV (-10dBV setting)**

**Peak Analog Output Signal: +20.0dBu (+4dBu setting),
+2.0dBV (-10dBV setting)**

Dynamic Range:

Outputs: 108dB (a-weighted),

Inputs: 109dB (a-weighted)

THD (at 0dBFS):

Outputs: less than 0.0015%,

Inputs: less than 0.001%

Frequency Response: 22Hz - 22kHz, -0.3,-0.2dB

Input Impedance: 10k ohms minimum

Input Connectors: 1/4" female TRS-type, balanced or unbalanced

Output Connectors: 1/4" female TRS-type, balanced or unbalanced

Digital Audio

Digital Input Format: S/PDIF coaxial, 0.5V to 5V peak-to-peak.

Digital Input Sample Rate: 8kHz to 96kHz.

Digital Output Format: S/PDIF coaxial, 0.5V peak-to-peak;

AES/EBU data stream over S/PDIF coaxial.

Digital Output Sample Rate: 8kHz to 96kHz.

Word Clock Input Rate: 8kHz to 50kHz.

Word Clock Output Rate: 8kHz to 96kHz.

Adapter Resource Requirements

IRQ: One required

I/O Addresses: Four blocks: 32, 16, 16, and 64 bytes

DMA Channels: None required

There you have it. As you can see the specs look good. It sounds good. What do you want, Memorex?

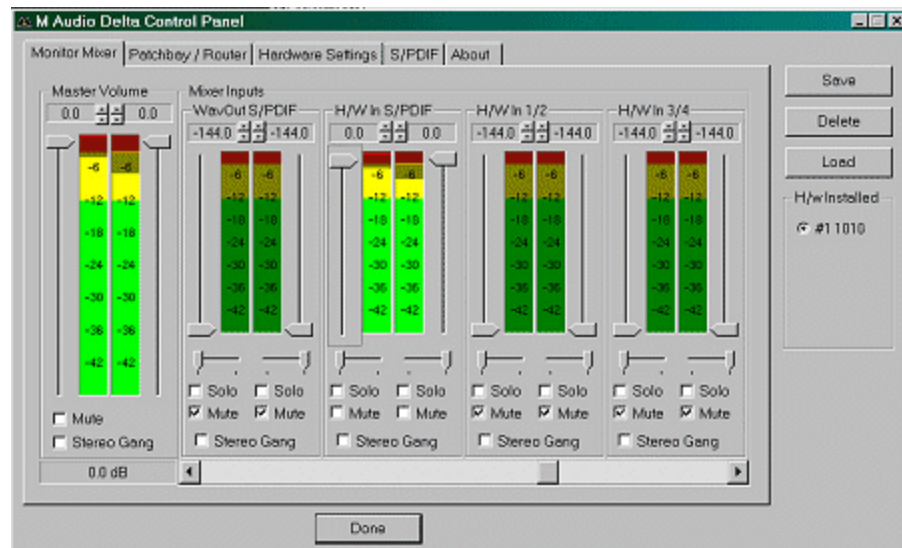
Sorry. I told you that specs bore me. These days everything you see has amazing specs. I get interested when things sound good and work right and actually live up to the numbers. I'm interested in the Delta 1010.

Control Panel

Here's special thing #2 that sets the Delta 1010 apart from the pack: the excellent control panel.

[Control Panel](#)

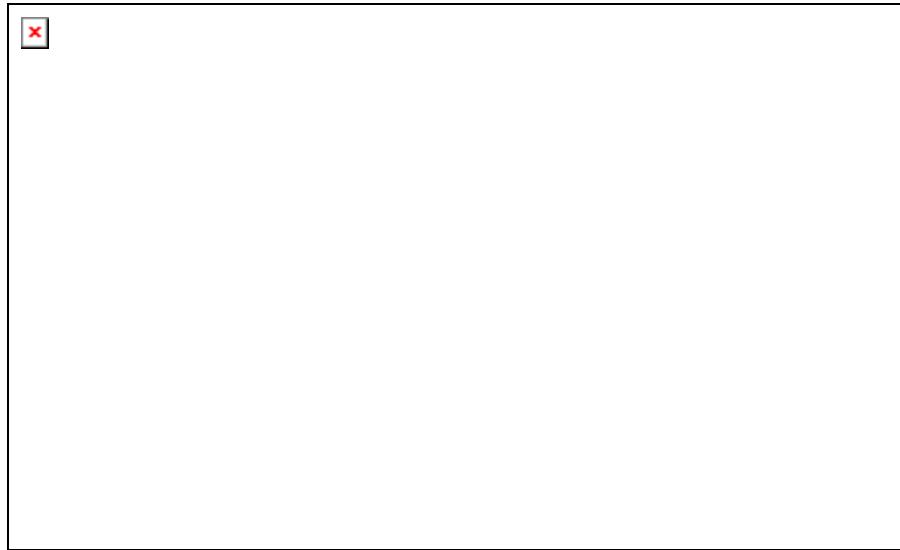
Here's special thing #2 that sets the Delta 1010 apart from the pack: the excellent control panel.



Control Panel: Monitor Mixer View

Look for it in the Windows Control Panel. Once you double-click the "M Audio Delta H/W" shortcut, you get a compact, tabbed control panel. First up is the MONITOR MIXER tab. Have a look at this, and make sure to scroll the Mixer Input section, so you see all the meters. Here's where the Delta begins to show a hint of its muscle. Remember what you

saw there, then move forward to the PATCHBAY / ROUTER tab. Now notice that just about anything can be patched to anything. This is standard stuff: any of the inputs can be patched to any of the outputs.



Control Panel: Patchbay / Router View

But also notice that Hardware Out 1 and 2, and S/PDIF Out can be patched to a device called MONITOR MIXER.

Now, let's backtrack to the MONITOR MIXER tab. Check out the layout and routing here once again. Get it? By combining the front end routing and mixing capabilities with the right hardware output combinations, you've got the ability to patch all sorts of noisemakers into the Delta - all at once. By setting levels and pans, and routing all this right back into the system, either via analog or digital streams, a number of different setup possibilities emerge.

For folks that don't have full blown consoles, this routing flexibility is a Godsend. Armed with a Delta 1010 and a nice set of mic preamps, one could do some pretty serious damage. That makes Delta a natural for various location tasks. It's not lost on us that the MIDI i/o found its way to the front panel, either. With the software synthesis market about to explode, Delta definitely wants to be your gig box of choice. The hardwired line level switches begin to make sense in this context. Mr. Monitor Mixer Man at Club DooDoo is probably not interested in exploring your Device Manager to match your gear to his board. He just wants to plug in and get on with it. I can definitely visualize a Delta living comfortably in a hardcore road rig.

Moving on to the HARDWARE SETTINGS tab reveals Master Clock designation, preferred sample rate, Word Clock-S/PDIF sample rate, driver synchronization, and DMA Buffer Sizes. Most settings are standard fare, but the DMA Buffer Sizes is a nice touch. Users with fast machines will be able to tweak these settings lower than default values to achieve lower latency. On my particular rig, tweaking the Wave buffer down to 16 milliseconds from the default 20 made Reaktor's latency improve dramatically. I had previously been forced to raise its latency a bit to avoid clicks, and was subsequently able to reduce it to BELOW the setting I started with. This is good news for DAW software users, too. A little experimentation with the Delta 1010's Buffer Sizes, and with the appropriate buffer sizes within audio applications can yield significantly lower latency than the out-of-box settings.

But before tinkering with these settings, check out another feature of the Delta Control Panel: you can save your current setup as a preset. Now might be a great time to do that, then tinker to your hearts content, knowing you can be back at ground zero in one click.

I have tested every feature of the Hardware Settings tab, and have yet to see anything fail to work. Word clock lock was on target, even when doing odd things like running a S/PDIF cable transfer but locking the converters to word clock synchronization. Everything just worked, no matter what I did. OK, I unplugged some cables and it quit working, but you'd expect that, right?

The S/PDIF page is standard fare. You get to choose settings for copy protection bits and an input selection for devices that feature both optical and coax S/PDIF interfaces. The Delta has only coax.

The ABOUT page splashes a gigantic M Audio logo, and links to the Midiman site if you're web-connected.

And that's that.

The Inevitable Comparison

Somehow, I feel like I'm shorting the unit, because I can just think of very matter of fact things to say. I also don't have much time - our dear Editor-in-Chief is calling me on the phone and demanding that I quit writing and hit send. But I don't want to. Not just yet.

I like Midiman, and I always have. They deliver a sensible product at a good price, always. They are sensitive to the needs of the market. They make some wonder-widgits that solve problems simply and effectively. They make some routing hardware that's as good as any on the market.

With they designed the Delta 1010, I think they must have taken a good hard look at what was working for people in the field, and then molded the common elements of those devices into a good solid tool. You see that workmanlike attitude reflected in the rugged, retro-industrial rack unit. The yellow LEDs indicating power status and MIDI activity emit a restrained glow that's very industrial looking, as is the stark graphic style beneath a thick layer of clear coat. There's a good variety of features, without ever crossing the line into minutia. The best interfaces, after all, don't require a lot of attention or adjustment. They just sit there and do there job.

As much as I didn't want to go here, you've got to at least address the question: what happens when you start comparing the Delta to the Layla? With the Delta 1010, you've got a solid 24/96 box that for all practical purposes is what we'd expect a "Layla 24" to look like--almost \$100 cheaper than the price of the current 20-bit Layla. **(Editor's note: Mr. Richardson made references to the lack of ability of the Delta 1010 to chase MIDI time code. As this is entirely incorrect, we have removed these references so as not to mislead readers.)**

(...) Layla offers more esoteric word clock options, and is able to utilize an oversampled "super" word clock mode to respond quickly to clock speed shifts. Of course, the other hardware must also supply or at least understand this protocol.

Common Complaint

I do have a bone to pick with the Delta, but I have the same issue with almost every audio interface.

Let's finish ALL the drivers BEFORE we release the box, OK?

For once, wouldn't it be great to see an audio interface like the Delta 1010 hit the market with a complete set of drivers?

(Editor's note: the entire Delta series currently has driver support for Windows 95/98, Mac, NT, Windows 2000, Asio 1and Asio 2, Direct X, Gigasampler, and EASI. In this light, we

have deleted references to drivers which were not available at the time of the review).

OK. I'm off the soap box. One can't discuss any audio technology without being very grateful for the tools we work with. (...) The Delta sounds great and does everything it promises to do, right out of the box. Given the few qualifications I've mentioned, I can think of no reason the Delta 1010 does not deserve our highest recommendation. (...) And finally, the feature set, layout, and internal routing flexibility seem to me particularly well suited for use in live and location work, possibly making the Delta 1010 the interface of choice for a monster road-rig.

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