



## EIGENLABS EIGENHARP PICO

What do you get when you ditch the keyboard and cram as many control options into a MIDI instrument as possible? Eigenlabs have a few answers to questions seldom asked.

Text: Brad Watts

These days, everyone has an angle on controlling computer-generated sounds. However, for the most part, MIDI-based control of software-based instruments has centred on the age-old keyboard paradigm. It's not surprising really – an individual keyboard key is basically a switch after all, and a familiar one at that. Press it and you get a note. But once you add velocity sensitivity, and perhaps some form of aftertouch, you've taken that particular form factor to its limit. Then there are drums – a frightfully simple triggering situation with a dozen or so pitches to worry about. Things like guitar MIDI controllers are a more complex affair, relying on hexaphonic pickups and the need to 'track' inordinate amounts of pitch-bend information. There are, it should also be noted, occasional attempts at corraling the art of the woodwind instrumentalist into the world of MIDI. Akai went down this path years ago with the EWI range of wind controllers, a game they're still chipping away at with the EWIUSB 4000. Yamaha also showed some interest with its WX5 MIDI clarinet, and of course instigated breath controllers on the DX7 years ago. But the issue (and limitation) with all these devices is that they emulate instruments that have existed for centuries, millennia even! Perhaps in this day and age there might be other avenues to pursue? After seeing the Eigenlabs Eigenharp Pico I believe this to be true.

But first a little modern history: Eigenlabs is a British company, founded by John Lambert in 2001, with an aim to produce the world's most expressive electronic musical instrument. It wasn't until 2009 that the company released its first instrument, the Eigenharp. Eigenlabs offer three styles of Eigenharp: the Alpha, the Pico, and the Tau. It's the diminutive Pico that's the focus of this review, measuring approximately 335mm in length – about the length of a standard primary-school issue English recorder. When unfolded, the mouthpiece adds another 150mm to the Pico's length. It's a handsomely constructed unit, consisting of a rectangular aluminium sleeve with all electronics sealed away from curious fingers. One end of the Pico accepts the removable mouthpiece, while the other accepts a mini-USB cable for connection to your PC or Mac – a three metre USB cable is also provided. On the rear-side of the Pico there's a removable plastic clip offering two hooks that come into play when holding the Pico like a typical woodwind instrument. This also provides an anchor point for the USB cable. Remove the clip and the Pico can sit flat on a tabletop.

### PICO-LOWDOWN

Around the front of the Pico is where we find the actual control buttons, and this is where similarities with traditional musical instruments and MIDI controllers disappear. As you'll see from the image, 18 trigger buttons grace the front surface. Initially one imagines these to be mere velocity-sensitive triggers, much the same technology as a MIDI keyboard or drum controller,

but there's a lot more going on here. Each of these rubberised pads is a remarkably well-engineered device... I'll explain.

While each pad will of course trigger a note and the registered velocity, they can also be wiggled laterally in any direction, somewhat like a short and stubby joystick. In addition to transmitting note information, velocity and pressure, each pad can register and transmit MIDI continuous controller or pitch information in north/south and east/west directions. Each pad samples its current setting 2000 times per second with 10-bit (1024 step) resolution. Getting the picture so far? These aren't anything like your typical keyboard controller keys or triggers – there are five avenues of MIDI information that can be streamed from each pad. Add the 18cm ribbon controller and the breath controller and you've got what's possibly *the* most expressive MIDI controller available. You'll notice the pads are laid out in two rows without any delineation or indication of semitones – it's up to the player to invent and develop their own technique. Hey, this is a completely new instrument after all.

The Pico arrives with a number of accoutrements: two mouthpieces for the breath controller so you can avoid sharing your current ailment with your collaborators, a lanyard for swinging the Pic from your neck, saxophone style, and an 8GB USB memory stick containing the requisite software installation to drive the Pico.

Initially the software for the Pico only supported Mac OSX, but Eigenlabs recently released a Windows 7 compatible version. One should note that the software is an intrinsic component of the package. The unit doesn't actually produce any sound under its own steam – it must be connected to a host computer. Using Soundfont compiled sound-sets, the software also searches your system for any Audio Unit plug-ins you might have installed. These can be integrated into patches, and like many of the Pico's operating features, can be recalled and instigated via the Pico itself. Using the Pico to control software instruments within your favoured DAW is also possible, but you must have the 'EigenD' application running and set up an IAC bus within the OSX AudioMIDI Setup application. Eigenlabs supplies all the relevant information and Help files to get this happening.

In use I have to say the Pico gets some getting used to, and yes, I all did my interpretations of the Star Wars cantina scene music. On a more serious note, the Pico is an extremely innovative instrument. The number of continuous controller messages this thing puts out is largely impossible with any other style of MIDI controller. Then, when you consider much of this data can be output on a per-note basis, you realise just how powerful and expressive the Eigenlabs instruments can be – startlingly different and primed for new and innovative approaches to performance. ■

### NEED TO KNOW

**Price**  
\$759

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Crossroad Guitars  
(07) 3805 8049  
www.guitar-market.com.au  
www.crossroadguitars.com

#### Pros

Extraordinarily different.  
Excellent performance tool.  
Superbly made.  
Available in silver, black, and now pink!

#### Cons

Takes more than the usual setup procedure.  
Not inexpensive.

#### Summary

The Eigenlabs Pico goes where no other MIDI controller goes... and it's uncharted territory out there. Players will ultimately determine how this innovative instrument develops and where it takes computer-based performance, as is the case with any of the Eigenlabs instruments.