Lynx Studio Technology
LynxONE PC sound card

BY DAVE MARTIN

A minimalist design with an emphasis on sound quality

At a list price of $549, this half-length PCI card from Lynx Studio Technology offers two channels of 24-bit analog I/O, stereo AES/EBU I/O, and word clock in and out. While the LynxONE does also include dual MIDI ports, these features suggest what it was designed for: high quality audio transfer.

If you need more I/O, up to four LynxONEs can be installed in a computer using internal clock connectors.

Spec

The analog section is built along minimalist lines, under the premise that the best sounding audio path is the simplest. Two 24-bit analog inputs and outputs can be set for either +4 dBu or -10 dBV levels through software. Their performance is specified at an impressive <0.0025% THD+N with a dynamic range greater than 103 dB.

The analog circuitry connects to Crystal Semiconductor 24-bit 128X oversampling, delta-sigma converters. These chips allow sample rates from 8 kHz to 50 kHz and bit depths from 8 to 24, and the LynxONE can work at sampling rates up to 96 kHz. A low jitter phase-locked loop (PLL)-based sample clock generator is part of the card; it can function as either a master or slave, and it can lock to AES or S/PDIF signals, word clock, and other standard clock references.

The LynxONE can also transmit and receive MIDI Time Code over the two MIDI ports. These ports provide up to 32 MIDI channels with 64 byte receive and transmit buffers.

To conserve real estate, the card itself has only two connections to the outside world: a 25-pin D-Sub for audio I/O and a 15-pin D-Sub for MIDI and clock I/O. Included with the LynxONE are two breakout cables: one for audio and one for MIDI and word clock.

The audio harness uses balanced XLR connectors for analog and digital I/O; you'll need adaptors to use the card with S/PDIF format devices. The MIDI/Clock harness is two feet long, allowing some working room behind the CPU, and the audio harness is a generous six feet.

Also included is a Mixer application. This program controls many of the card's functions, including volume, trim (either +4 dBu or -10 dBV), sample clock generation,

digital format, and input monitoring. The mixer application also includes peak level meters.

You can use the analog and digital I/O simultaneously, for 4-channel operation. The card can also be used as a low latency stand-alone A/D-D/A converter; the hardware itself has a latency of only one sample period, but the converters have latency of their own. In practice this works out to a 1.3 ms latency at 44.1 kHz.

When using the LynxONE, you can select either the analog or digital inputs as the monitor source and mix that signal with the analog outputs, the digital outputs, or both.

Installation

The LynxONE comes with drivers for Windows 95, 98, and NT 4.0 running on either Intel or the DEC Alpha platform. The minimum computer system required for the LynxONE is a 90 MHz Pentium-class or Alpha processor with an EGA or VGA display and adapter, 16 MB of RAM, Windows 95 or Windows NT 4.0.

However, the company *recommends* at least a 166 MHz Pentium-class or Alpha processor with an SVGA display and adapter, 32 MB of RAM, Windows 95 or Windows NT 4.0. I tested the card on a 450 MHz Pentium II with 256 Meg of RAM, running Windows 98, which meets both the minimum and the recommended configurations.

Installing the LynxONE one is as simple and painless as one could hope. Following the instructions in the manual, I inserted the supplied floppy disk, ran the setup program, shut down the computer, installed the card into an empty slot, and turned the computer on.

Plug and Pray actually worked! Windows 98 found the LynxONE card and asked for a driver location. The setup program installs the LynxONE drivers in C:\Windows\System, So I typed that in and restarted the computer. Everything worked; it took more time to run a cable harness from the CPU to my console than it took to install the card.

In use

Throughout an extended use period in my studio (which will be the subject of an upcoming DAW Diary), the LynxONE has been a solid performer. It's extremely

clean, very clear, and amazingly accurate. The card has also been rock solid with a wide range of programs, from editing programs like Wavelab and Sound Forge to ACID, Cubase VST, and Cakewalk Pro Audio.

For the analog I/O alone, the LynxONE seems to me to be an excellent value. I've tried running consumer-type sound cards in a studio environment, and the LynxONE is head and shoulders above them sonically. And since the rest of my studio is balanced +4 dBu, it's a distinct advantage to have a PC sound card that integrates easily into the patchbay.

I've used the digital I/O on the LynxONE a couple of different ways: with a TC Electronic Finalizer on either the AES input or output of the LynxONE (depending upon whether I wanted the Finalizer processing before or after editing) and to transfer tracks to and from a Panasonic SV-3800 DAT machine. Both worked great, with no pops or glitches in the audio.

The LynxONE worked equally well as a MIDI card, with no glitches attributable to the card or the LynxONE software. And the clock seemed to work just fine when I slaved my DA-88s to the Work Clock output of the card. (I typically use the clock in a Digidesign Universal Slave drive as the master clock for the tape machines; the clock in the LynxONE seemed to work as well as the USD.) The one missing thing I'd find convenient for the LynxONE to have is the ability to lock to SMPTE directly rather than via MTC, but that would have added to the cost and complexity of the product.

Bottom line, my experiences with the LynxONE card have been uniformly good. It's done everything asked of it in an exemplary manner.

Price: $549

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Dave Martin (martin@recordingmag.com) has managed to hold his clients at bay long enough to finish moving his company into a huge new studio in Nashville.