

PRO AUDIO REVIEW

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equipment
review

Lynx Studio Technology LynxONE Digital Audio Card

by Loren Aldrin

The stereo digital audio card was one of the earliest products in the computer-based digital audio realm. I had one in my computer long before there were such things as plug-ins, ASIO drivers and monster 24-channel digital interfaces. While much has changed in the industry during the last decade, the stereo digital audio card continues to be a popular (and fast-selling) product.

The LynxONE digital audio card dropped into a crowded field and quickly distinguished itself as a serious, flexible recording tool geared toward the audio or audio-for-video professional.

Features

The LynxONE (\$549) is a small PCI card that works with PC computers running Windows 95, 98 or NT. It offers balanced XLR inputs and outputs, digital I/O on AES/EBU connectors, word clock in and out and 32 MIDI channels. If you're wondering how Lynx Studio Technology packed all those connectors onto one card, the answer lies in the pair of breakout cables that attach to the back of the card.

The LynxONE card has two breakout connectors — one carries all the analog and digital audio, the other carries word clock and MIDI. This dual-connector scheme is a good one, as people using the board for audio only can leave the second cable off to minimize clutter.

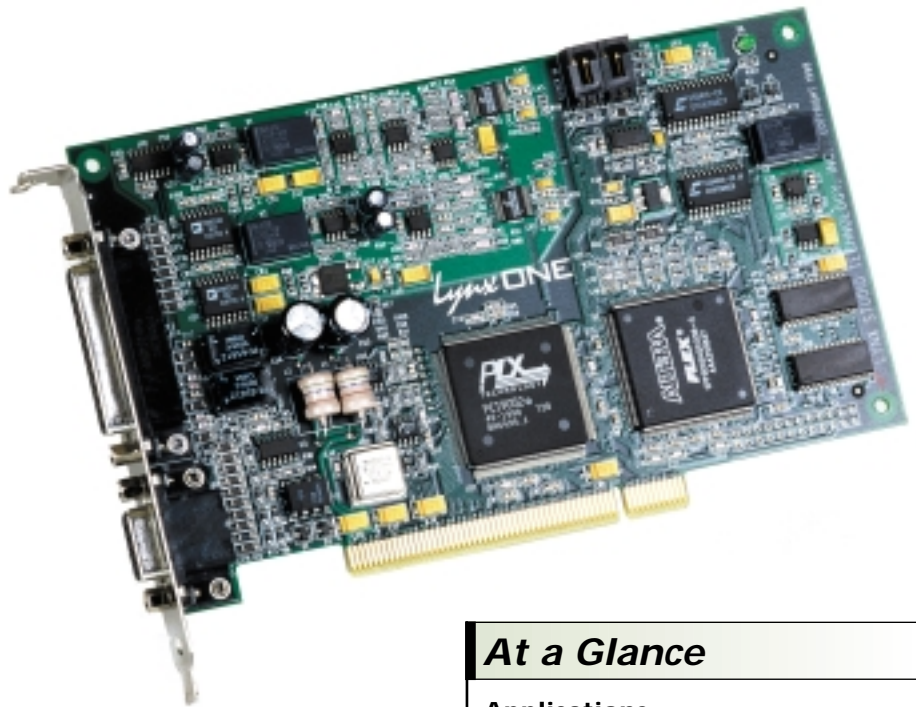
One last pair of connectors sits on the top of the card itself. These internal clock-in and clock-out jacks allow multiple Lynx cards to be slaved together for sample-accurate recording and playback. In addition to working well in multiples, the LynxONE

card coexists quite peacefully with standard Windows sound cards.

Lynx supplies mixer software to control the LynxONE outside whatever recording application happens to be running. The LynxONE software puts a small icon in the Windows taskbar; right-clicking the icon lets you control a few key features of the board, while a double-click launches the full application.

The LynxONE mixer offers four stereo meters, one for each digital and analog input and output. Below each meter is a fader pair for digitally attenuating input or output levels. When these faders are at any setting but unity gain, the fader "slot" turns red, indicating that audio data is being changed.

This kind of attention to detail is evident



At a Glance

Applications:

Studio recording; audio-for-video

Key Features:

48 kHz/24-bit conversion; stereo XLR analog I/O; 96 kHz/24-bit AES/EBU digital I/O; word clock I/O; low-latency monitoring circuit; 32 channels MIDI I/O

Price:

\$549

Contact:

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in other places as well. In addition to showing when the digital input is locked to a valid clock source, an indicator blows the whistle on various fault conditions at the digital input. These include problems due to

Product Points

Lynx Studio Technology LynxONE Digital Audio Card

Plus

- Great sonics
- Low-latency hardware monitoring
- Flexible, professional I/O and sync
- Easy install and no crashes

Minus

- Software metering lacks functionality
- Monitor controls confusing at first

The Score

A full-featured, pro-quality stereo sound card that rises to the top of its class.

a bad cable, as well as biphasic, parity or CRC errors. This information is especially handy when trying to track down a problem in the digital signal chain.

Other controls in the LynxONE mixer panel include sample clock selection, AES/EBU or S/PDIF digital mode (the latter requiring XLR-to-RCA converter cables), +4 dBu or -10 dBV level trim, monitor and mute controls and a Calibrate Converters button. This last button takes less than a second to adjust DC offset in the converters.

With the amount of signal delay (latency) added courtesy of the Windows operating system, monitoring becomes a crucial issue. Unless you can play along with a quarter-second delay, you'll appreciate the direct monitoring functions of cards like the LynxONE. Few people will find the Lynx card's 1.3 millisecond delay a problem.

The mixer software lets you select the desired input to monitor (analog or digital) and which output it should be mixed with (analog or digital). Unfortunately, you cannot control the level at which the input signal gets mixed back with the output. Lynx did equip the LynxONE with handy toggle buttons to control automatic monitor muting during record and playback.

In use

I was immediately impressed with the quality of the LynxONE package, and the manufacturer's attention to the smaller details. The user's guide is clearly written; installing the Lynx mixer software and card into my Micron Max system took all of two minutes. Having spent weeks in the past trying to get comparable products working properly, I appreciated the hassle-free installation. Lynx seems to take great pride in the quality of its code, which pays off in easy

installs and crash-free operation.

Another nice touch of the LynxONE is the length of its supplied breakout cables — the audio cable is a full six feet long, and the MIDI/word clock cable is about two feet. These longer cables get the connectors out from behind the computer, which should mean less crawling around on the floor. Thank you, Lynx.

In operation, the LynxONE's mixer application is easy to use. Attenuation faders are paired in stereo by default, but this pairing can be shut off globally or overridden by temporarily holding down the shift key. For easy monitoring, you can set the mixer screen to always float on top of other applications, and strip it down so just the meters are showing. Most of the software's functions are simple and self-explanatory.

The only real exceptions are the LynxONE's monitoring controls, which can be a little confusing. At first glance, one may think the monitor buttons select the monitor input instead of the output, but this is incorrect. You actually select the monitor source with a menu in a different area of the

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screen. Better interface design (perhaps with a tiny signal path chart) would make things more clear. A software help function would also be a nice addition to complement the one-line descriptions that appear when the mouse pointer hovers above any of the LynxONE mixer controls.

Sonically, the LynxONE is top-quality. Its converters sound very smooth, accurate and neutral. One could use this card for a big-buck master session or blockbuster movie without any reservations. Converter technology has finally reached a place where most 24-bit cards in this price range offer extremely good performance for project and pro-studio applications. It wasn't long ago that 24-bit, 96 kHz recording was something engineers only dreamed about. Now, virtually anyone can record with this level of fidelity.

When it comes to stray radio-frequency noise, there are few environments less con-

verter-friendly than the inside of a computer, causing many designers to use external converters for optimum noise performance. External converters usually outperform internal types in the area of signal-to-noise. The internal converters on the LynxONE card brave the RF maelstrom, however, turning in a respectable 99 dB (or better) signal-to-noise ratio spec.

Though I can see both sides of the internal vs. external debate, any recording device with a three-digit S/N ratio spec will likely be the quietest component in the studio. Whether it's worth paying the extra money for externally housed converters is a decision only the buyer can make.

Videographers will no doubt love the LynxONE. Its word clock input will sync to everything but a VHS deck's four-digit counter, including 13.5 MHz and 27 MHz clocks, normal word clock and Superclock (256x).

About the only thing I was unhappy with in the LynxONE package was its metering. Some recording software is rather lame in its metering, and it's nice when the digitizer's software control panel can fill the gap.

Though the LynxONE's 20-segment meters look nice, they're lacking in a few key areas. For starters, the LynxONE's meters don't function unless instructed by the recording software. You have to engage record or level-monitor mode to see anything on the LynxONE's mixer. The meter ballistics are pretty slow and percussive peaks can clip the converters before the meters know what hit them. Some sort of extended (or infinite) peak hold would be nice, as would a numeric headroom indicator. Come to think of it, a numeric attenuation readout for the faders would be handy as well.

It's worth noting that the LynxONE was rather unforgiving where clipping was concerned. Some digitizers let you get away with mild clipping and the result is pretty much inaudible. The LynxONE, on the other hand, generated anything from a loud pop when briefly overdriven to severe, grating distortion. This anomaly was fixed via a software update from Lynx that was supplied within a day of its discovery.

Summary

With the LynxONE, Lynx clearly set out to create more than just another "me too" stereo sound card. The 24-bit, 96 kHz LynxONE is a solid, well-designed digital audio card with several nice touches. It sounds great, works right out of the box, and offers the kind of I/O and sync options professionals expect. That it does all this for a little more than \$500 (street price) is even more impressive. All considered, the LynxONE stereo audio card is a class act.