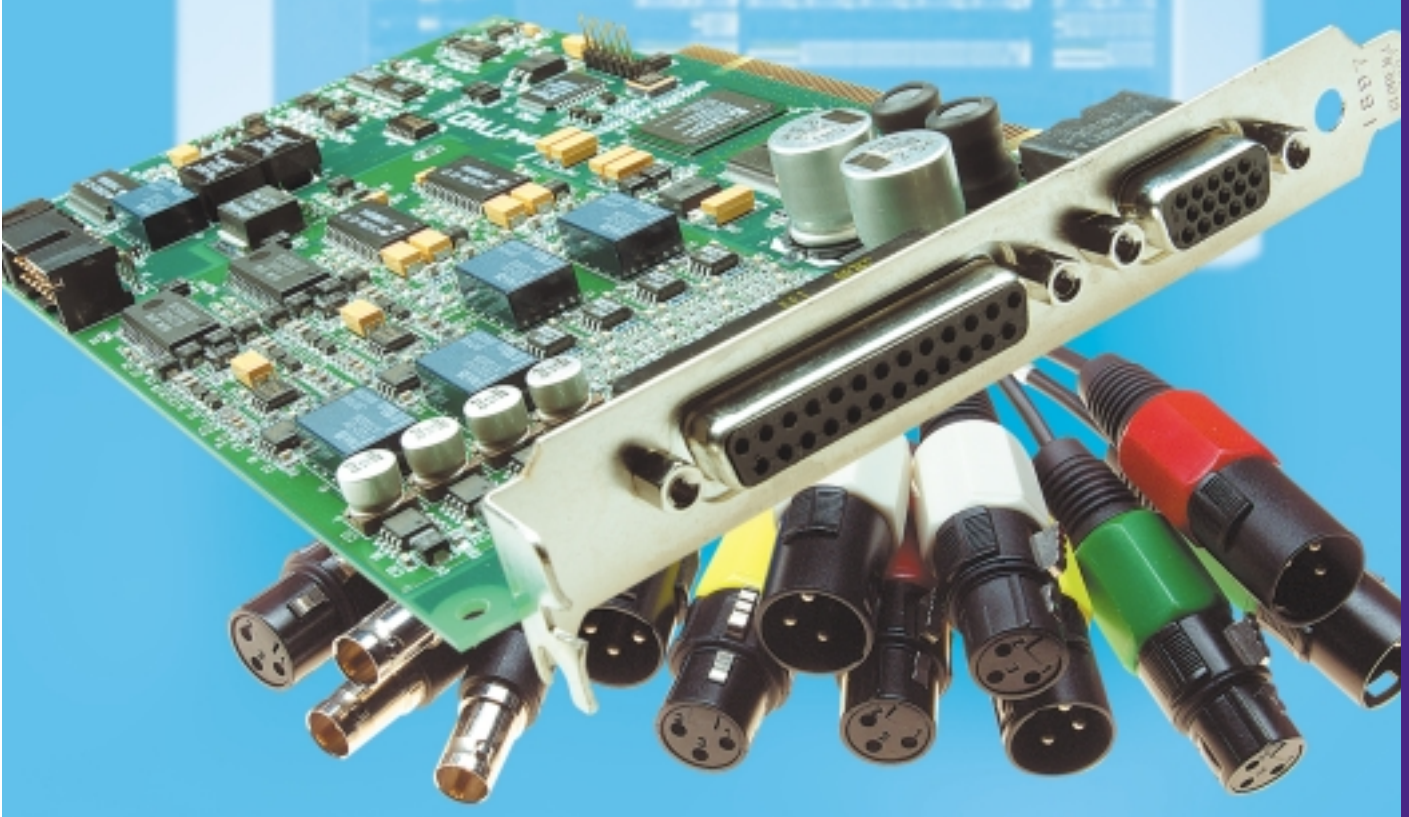
# LYNX AUDIO REFERENCE INTERFACES

lynxONE

lynxTWO



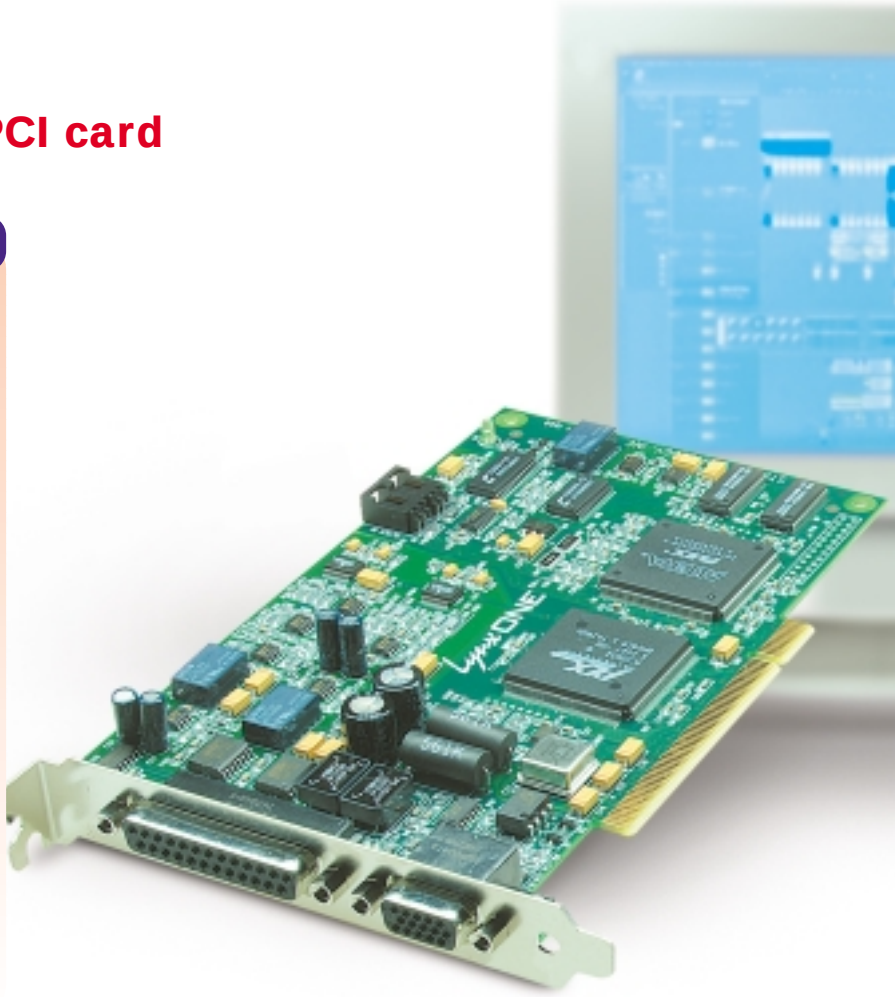
HI-DEFINITION AUDIO REFERENCE INTERFACES FOR CRITICAL RECORDING • EDITING • BROADCAST • CD AND DVD MASTERING AUDIO RESTORATION • SOUND FOR PICTURE • MIDI SEQUENCING

FIRST WE LISTEN

# LYNX AUDIO REFERENCE INTERFACES.

LynxONE

## 24-bit Digital Audio / MIDI PCI card



## KEY FEATURES

- Two 24-bit analog inputs and outputs with sampling rates up to 50kHz
- +4dBu or -10dBV nominal levels
- AES/EBU or S/PDIF digital I/O, supporting up to 96kHz audio
- Independent 24-bit audio stream architecture for simultaneous 4-channel operation
- Low-jitter phase-locked loop (PLL) sample clock
- Highly accurate synchronization to clock references and other LynxONE cards for multiple card operation
- Low-latency dual MIDI ports
- Windows 95/98/ME MME, DirectSound & ASIO 2.0 Drivers
- Windows NT/2000 MME Driver
- Macintosh ASIO 2.0 Driver
- LynxONE mixer application for complete software-controlled configuration
- Balanced audio and MIDI/clock cables included
- Half-size PCI Card

## LynxONE The new standard in interface hardware for audio and MIDI workstations


The LynxONE combines studio quality 2-channel analogue I/O, bit-perfect AES/EBU and S/PDIF digital I/O and 32 channels of low latency MIDI to create a new standard in interface hardware for audio and MIDI workstations.

Compatible with all popular Windows-based audio editing and MIDI sequencing software packages, the LynxONE can be installed in minutes, delivering exceptionally high levels of performance in critical audio recording and editing, CD mastering, broadcast, audio restoration, sound for picture and MIDI sequencing applications.

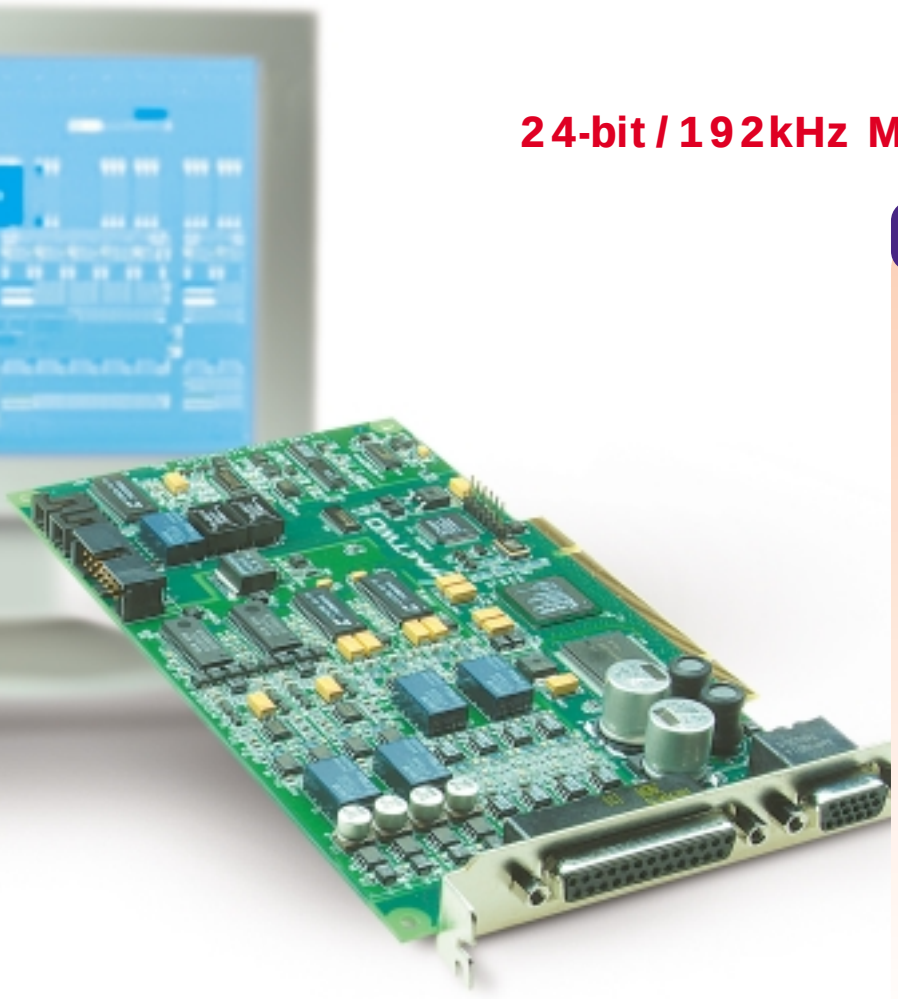

Two channel 24-bit delta-sigma A-D and D-A converters and a simple analog signal chain ensure exceptional sound quality and if you are working in an all-digital environment, the LynxONE delivers bit-perfect digital I/O at sample rates up to 96kHz, software-selectable via the LynxONE mixer application to support either AES/EBU or S/PDIF formats. This flexible mixer application also provides keyboard and mouse control over the sample clock generator, monitor source, analog trim and levels of all four channels, with peak level metering. A low-jitter PLL sample clock allows the LynxONE to be used as a slave or master timing source, enabling up to four cards to be linked together for multichannel operation.

Two independent MIDI ports provide 32 channels of low-latency MIDI I/O, with real-time transfer of Note On, Note Off and MTC messages over the PCI bus for accurate timing and synchronization in music composition and MIDI sequencing applications. The LynxONE comes complete with professional analog, digital and MIDI/clock cables for easy integration into your existing setup.

# SONIC PURITY FOR YOUR COMPUTER.

LynxTWO

## 24-bit / 192kHz Multichannel Audio Interface



## KEY FEATURES

- 24-bit analog inputs and outputs with 3 options: 4 in / 4 out, 2 in / 6 out, or 6 in / 2 out
- Sampling rates up to 200kHz
- +4dBu or -10dBV line levels per channel pair
- AES/EBU or S/PDIF digital I/O, supporting up to 96kHz audio, with subcode and channel status support
- Two LStream™ expansion ports support Lynx, ADAT, TDIF and other multichannel modules, each with 8-channel 24-bit/96kHz operation
- Independent multichannel operation supports 8 input and output wave audio streams simultaneously
- Low-jitter phase-locked loop (PLL) sample clock
- Highly accurate synchronization to clock references and composite video
- Accurate internal and external clock frequency measurement system
- SMPTE time code
- Windows 95/98/ME MME, DirectSound & ASIO 2.0 Drivers
- Windows NT/2000 MME and ASIO 2.0 Drivers
- Macintosh ASIO 2.0 Driver
- 32-channel LynxTWO mixer application for complete software-controlled configuration
- Balanced audio and sync cable sets included
- Half-size PCI Card

## LynxTWO 24-bit / 192kHz performance for multichannel recording and mastering

The new LynxTWO incorporates the latest generation 24-bit/192kHz converter technology to create a PCI audio card which rivals the performance of many hi-end studio converters. A choice of three multichannel analog configurations makes it ideal for DVD-authoring, multichannel recording, mastering, broadcasting, synchronization and video applications, with non-audio digital I/O support provided for Dolby® Digital and HDCD. Analog I/O configurations are; 4 in / 4 out ('A' model), 2 in / 6 out ('B' model), or 6 in/ 2 out ('C' model), each with line levels of either +4dBu or -10dBV, selectable in channel pairs through the mixer software. This 32-channel mixer application also controls the card's routing, monitoring and sample clock settings.

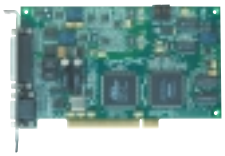
The LynxTWO has one digital input and one digital output, supporting both AES/EBU and S/PDIF formats at 16, 20 and 24 bit depths, and features a sample rate converter for up to 3.1 rate conversion from the digital input signals. Two LStream™ expansion ports support multichannel interface modules, with each port offering 8 input and 8 output channels of 24-bit/96kHz operation. The internal port allows data routing and synchronization between multiple LynxTWO cards, while the external port allows the connection of Lynx, ADAT, TDIF and other multichannel interfaces for great system flexibility.


The LynxTWO's powerful synchronization and time code facilities include an LTC reader and generator, which accommodates all standard frame rates, and a low-jitter sample clock generator, which is capable of locking to NTSC or PAL video signals and to standard reference and word clock signals.

Balanced audio and sync cable sets are included.

# TECHNICAL DATA

## LYNX AUDIO REFERENCE INTERFACES



**LynxONE**

### LynxONE Specifications

**Analog I/O**
Number / Type . . . . . Two inputs and two outputs / cross-coupled electronically balanced or unbalanced, XLR connectors on audio cable
Level . . . . . +4dBu nominal / +20dBu max. or -10dBV nominal / +6dBV max.
A / D and D / A Type . . . . . Crystal Semiconductor, 24-bit, 128X oversampling, delta-sigma
Sample Rates . . . . . 8kHz to 50kHz, including all standard rates with high-resolution adjustment
Bit Depth . . . . . 8, 16, 24 or 32 bits

**Analog Performance**
(measured in 24-bit mode with card installed in computer)
Frequency Response . . . . . 20Hz - 20kHz, +0 / -0.35dB
Dynamic Range . . . . . >103dB, A-wtd., analog in to analog out using -60dBFS measurement method
Signal-to-Noise . . . . . >99dB, A-wtd., analog in to analog out
Channel Crosstalk . . . . . <-103dB, analog in to analog out, 1kHz signal @ -1dBFS
Input THD+N . . . . . -93dB (0.0022%) typ., 1kHz signal @ -1dBFS, 22Hz - 22kHz BW, analog input to digital output
Output THD+N . . . . . -96dB (0.0015%) typ., 1kHz signal @ -1dBFS, 22Hz - 22kHz BW, digital input to analog output

**Digital I/O**
Number / Type . . . . . One input and one output AES / EBU or S / P DIF format, transformer coupled, XLR connectors on audio cable
Sample Rates . . . . . 32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz
Bit Depth . . . . . 8, 16, 24 or 32 bits

**MIDI I/O**
Number / Type . . . . . Two ports each with input and output / standard opto-isolated, 5-pin female DIN connectors on MIDI / Clock cable

**Clock I/O**
Number . . . . . External: one BNC input and output on MIDI / Clock cable
Internal: one input and output on board-mounted headers
Level / Impedance . . . . . TTL / 75Ω
Input Frequency Range . . . . . 25kHz to 27MHz

**Connections**
Audio Port . . . . . Bracket-mounted 25-pin female D subminiature connector for L / R analog in, L / R analog out, digital in and out
MIDI / Clock Port . . . . . Bracket-mounted 15-pin high-density female D subminiature connector for MIDI port 1 in and out, MIDI port 2 in and out, clock in and out

**Cables**
Audio (included) . . . . . Six foot, 25-pin male D-sub to (3) male XLR and (3) female XLR connectors, shielded twisted pair cabling
MIDI / Clock (included) . . . . . Two foot, 15-pin high-density male D-sub to (4) 5-pin female DIN connectors with shielded twisted pair cabling and (2) female BNC connectors with 75Ω coaxial cabling

**Software**
Windows 95 / 98 / ME Drivers . . . . . MME, DirectSound and ASIO 2.0
Windows NT / 2000 Drivers . . . . . MME
Macintosh Drivers . . . . . ASIO 2.0
LynxTWO Mixer Application . . . . . Provides complete control of digital mixer and all hardware settings.

### LynxTWO Specifications

**Analog I/O**
A Model . . . . . Four inputs / four outputs
B Model . . . . . Two inputs / six outputs
C Model . . . . . Six inputs / two outputs
Type . . . . . Electronically balanced or unbalanced, XLR connectors on L2Audio Cable
Level . . . . . +4dBu nominal / +20dBu max. or -10dBV nominal / +6dBV max., software selectable in channel pairs
A / D and D / A Type . . . . . 24-bit, multi-level, delta-sigma
Sample Rates . . . . . 8kHz to 200kHz, including all standard rates with variable adjustment
Bit Depth . . . . . 8, 16, 24 or 32 bit file types

**LynxTWO**

**Analog In Performance**
(measured at 44.1kHz sample rate, 24-bit, card installed in computer)
Frequency Response . . . . . 20Hz - 20kHz, ±0.05dB at 44.1kHz sample rate
Dynamic Range . . . . . 115dB, A-wtd.
Signal-to-Noise . . . . . 114dB, A-wtd.
Channel Crosstalk . . . . . <-120dB, 1kHz signal @ -1dBFS
THD+N . . . . . -104dB (0.0006%), 1kHz signal @ -1dBFS, 22Hz - 22kHz BW

**Analog Out Performance**
(measured at 44.1kHz sample rate, 24-bit, card installed in computer)
Frequency Response . . . . . 20Hz - 20kHz, ±0.05dB at 44.1kHz sample rate
Dynamic Range . . . . . 116dB, A-wtd.
Signal-to-Noise . . . . . 116dB, A-wtd.
Channel Crosstalk . . . . . <-120dB, 1kHz signal @ -1dBFS
THD+N . . . . . -100dB (0.001%), 1kHz signal @ -1dBFS, 22Hz - 22kHz BW

**Digital I/O**
Number / Type . . . . . One input and one output, AES / EBU or S / P DIF format, transformer coupled, XLR connectors on L2Sync Cable
Sample Rates . . . . . 32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz
Sample Rate Conversion . . . . . Supports conversion ratios up to 3:1 on digital input, 128 dB dynamic range
Bit Depth . . . . . 8, 16, 24 or 32 bit file types
Control / Status . . . . . Complete subcode and channel status support

**LStream Expansion Ports**
Number . . . . . One external and one internal. Supports Lynx ADAT, TDIF, and other multichannel expansion modules
Type . . . . . High-speed serial, eight channel input and output (each port), 24-bit data, 96kHz rate

**SMPTE Time Code I/O**
Type . . . . . LTC receiver (in) and generator (out), BNC connectors on L2Sync Cable
Frame Rates . . . . . 24, 25, 29.97, 30Hz - drop and non-drop
Input Sync Rate . . . . . 1 / 30 to 80 times nominal frame rate

**Clock I/O**
Number . . . . . External: one input and output, BNC connectors on L2Sync Cable
Internal: one input and output on board-mounted headers
Type . . . . . Input: word clock, 256X word clock, 13.5 and 27MHz video clocks, NTSC or PAL composite video;
Output: word clock. TTL (clock signals) / 1Vpp (video) 75Ω

**On-board Digital Mixer**
Channel Capacity . . . . . 32 input channels, 16 sub outputs
Resolution / Dither . . . . . 32-bit / TPDF, Shaped TPDF or RPDF
Monitor Mixing . . . . . Any input to multiple outputs
Metering . . . . . Peak levels to -120dB on all inputs and outputs

**Connections**
Audio Port . . . . . Bracket-mounted 25-pin female D-sub connector for analog audio input and output
Sync Port . . . . . Bracket-mounted 15-pin high-density female D-sub connector for digital input and output, sync in and out

**Cables (Included)**
L2Audio Cable . . . . . 25-pin male D-sub to male and female XLR connectors on six-foot shielded twisted pair cabling
L2Sync Cable . . . . . 15-pin high-density male D-sub to (1) male and (1) female XLR on six-foot shielded twisted pair cabling and (4) female BNC connectors on two-foot 75Ω coaxial cabling

**Software**
Windows 95 / 98 / ME Drivers . . . . . MME, DirectSound and ASIO 2.0
Windows NT / 2000 Drivers . . . . . MME
Macintosh Drivers . . . . . ASIO 2.0
LynxTWO Mixer Application . . . . . Provides complete control of digital mixer and all hardware settings.

**General**
PCI Bus . . . . . Version 2.2 compliant
Data Transfers . . . . . Up to 132 Mbytes / sec using custom 16-channel, zero-wait state, scatter-gather DMA engine; bus mastering

**LStream Expansion Modules**
(Optional, for LynxTWO LStream port)
LS-ADAT . . . . . Provides eight-channel ADAT optical I / O or two-channel S / PDIF optical I / O
LS-TDIF . . . . . Provides eight-channel TDIF I / O

Specifications are preliminary and subject to change.

Dealer Stamp

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