# lucid

Make your computer audio come clean.

BRIDGING MULTIPLE WORLDS

The mission of Lucid Technology is to develop innovative products that address your emerging digital audio needs. Most of our design engineers are musicians, so we make this promise with the same kind of passion you bring to your work. Our expertise covers every aspect of the design and manufacturing of digital and analog signal processing products. So whether your next project is a CD, jingle, soundtrack, corporate video, or multimedia presentation, try doing it using Lucid products. They provide the perfect bridge between your audio, your computer, and your creativity.

You're a professional. You record in the **digital** domain because of the great freedom and flexibility it offers. The **challenge** is to preserve the clean, pristine quality of your sound when converting **between** analog and digital equipment. That's why we developed the **Lucid** family of professional digital audio components. Our rack-mounted, 20-bit A/D and D/A **converter** delivers crystal-clear signals in both directions. Our digital audio I/O cards produce exacting **transfers**. And soon to come are groundbreaking products that fuse together emerging technologies from the computer and audio fields. Each Lucid product is designed to be powerful, streamlined, and immaculate above all else. Because that's the very **heart** of digital audio recording. What could be **clearer** than that?
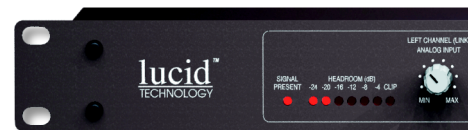
ADA1000

Professional-quality analog and digital transfers – for a song.

YOU DON'T have to pay top price to get first-class quality. The ADA1000 offers full-powered, 20-bit analog-to-digital and digital-to-analog conversion technology for a very affordable cost. Whether you work as a musician/producer or in a broadcast production studio, you can improve your jobs and your budget dramatically using the ADA1000.

The sounds of silence.

Housing is a key advantage of the ADA1000. Sound cards with on-board converters place their chips inside the computer, a very noisy environment for such critical components. But the ADA1000 is a clean and quiet, externally mounted device. Since we build our products with the best chips in the industry, you can count on a wide dynamic range, lower distortion, and imperceptible noise.

The quality you demand.

When it comes to dynamics, the ADA1000's over-sampling 20-bit delta/sigma technology approaches 100dB of A-weighted dynamic range in both analog-to-digital and digital-to-analog signal paths. All the while providing superior stereo imaging and clarity. Just compare the sound of the ADA1000 with the 16-bit and 18-bit converters built into today's workstations, signal processors, and digital multitracks. Or try to get a professional line level of +4dBu into or out of a sound card with on-board converters.

Fits into any studio.

The ADA1000 connects to any AES/EBU or S/PDIF digital port. You also get industry-standard XLR and ¼'' connectors for interfacing with your balanced or unbalanced analog equipment.

From analog to digital…

Select from three sample rates—48kHz, 44.1kHz, or 32kHz—or lock the A/D converter to an external AES/EBU reference signal. Either way, calibrated front-panel LED indicators show you exactly where to set the analog input controls to optimize the conversion process for low noise and wide dynamic range.

…And back again.

Going back to analog, the ADA1000's D/A circuitry automatically locks to the sample rate of the incoming digital bit stream. And another front-panel LED confirms that a digital signal is present. What's more, you can drive inputs of any impedance using balanced and unbalanced output jacks.

Key Features

· +4dBu signal level interface

· AES/EBU and S/PDIF digital I/O with true 20-bit resolution using delta/sigma technology

· 48kHz, 44.1kHz, and 32kHz sample rates, plus the ability to lock to an external AES/EBU reference signal

· Industry-standard XLR and ¼'' connectors supporting balanced and unbalanced connections

· Calibrated front-panel LED indicators for displaying left and right analog input levels

· 1U rack-mountable design
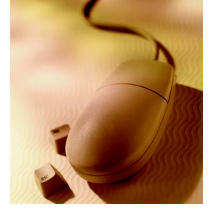
PCI24 and NB24

Low-cost cards for high-quality jobs.

HERE IS a truly inexpensive way for professionals to transfer digital audio to and from Macintosh computers. The PCI24 and NB24 are 24-bit plug-in cards that work, respectively, with PCI or NuBus Macintosh computers. Use them to make direct connections from your Mac to a DAT machine, outboard A/D and D/A converter, sampler, or any other digital audio device with industry-standard prosumer S/PDIF ports. As an added bonus, the PCI24 offers professional AES/EBU ports.

Direct digital transfer.
With the PCI24 and NB24, your signals remain in the digital domain as you transfer them out of your computer. These cards were designed to work with outboard converters like the ADA1000, so A/D and D/A conversion is external to the computer. As a result, you get high-resolution sound without second-generation noise and distortion.

Wide-ranging compatibility.
The PCI24 and NB24 integrate seamlessly with a wide variety of leading audio editing and music sequencing software. We continually upgrade the cards'

software drivers to ensure that they work with new software releases. For an up-to-date list of applications supported, please visit our Web site at **www.lucidtechnology.com**.

Flexible enough for many frequencies.
The PC124 supports sample rates of 48kHz, 44.1kHz, and 32kHz, and it can convert a 48kHz input to 44.1kHz on the fly. What's more, it can up-sample input rates as low as 8kHz to 32kHz, 44.1kHz, or 48kHz. For its part, the NB24 will lock to virtually any incoming sample rate from 22.05kHz up to 48kHz. And its user-selectable output (playback) sample rates include 22.05kHz, 32kHz, 44.1kHz, and 48kHz.

The future is here.
Both cards host a 24-bit DSP (digital signal processing) chip. Although most of today's software programs are limited to 16-bit storage, you're ready to seize the additional dynamic range whenever your software evolves to support larger word sizes.

Don't throw away that Mac!
The NB24 was designed to help you get the most from the Mac you already own. So you can continue to use an older NuBus Mac as a digital audio workstation. No other product on the market can revitalize a NuBus Mac in this way.
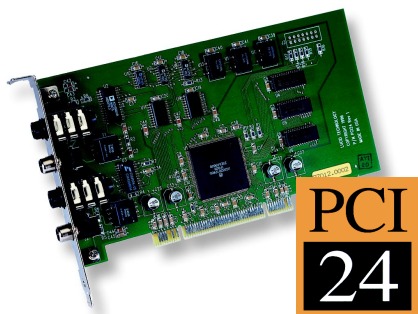
Key Features
· AES/EBU and S/PDIF digital I/O

· 48kHz, 44.1kHz, and 32kHz sample rates, with real-time sample rate conversion on inputs

· Works with Lucid ADA1000 or any outboard A/D and D/A converter, including DAT machines and CD players

· Uses precision clock oscillators for low jitter

· On-board 24-bit DSP chip
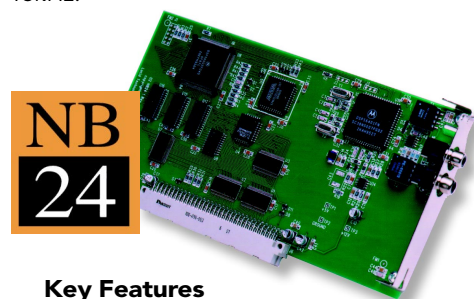
Key Features
· S/PDIF digital I/O

· 48kHz, 44.1kHz, 32kHz, and 22.05kHz outputs, with input range from 22.05kHz to 48kHz

· Works with Lucid ADA1000 or any outboard A/D and D/A converter, including DAT machines and CD players

· Uses precision clock oscillators for low jitter

· On-board 24-bit DSP chip

ADA 1000

PCI 24

NB 24

ADA1000 A/D and D/A converter

· Frequency response
  — For 44.1kHz and 48kHz sample rates:
     20 Hz - 20kHz (+/-1dB)
  — For 32kHz sample rate: 20Hz - 15kHz (+/- 1dB)

· Signal-to-noise ratio
  — A/D section: >95dBFS, A-weighted
  — D/A section: >90dBFS, A-weighted

· Analog input connectors:
  Balanced XLR and balanced/unbalanced $^1/_4$" TRS

· Analog input impedance:
  20kΩ balanced, 10kΩ unbalanced

· Maximum analog input level: +25dBu balanced

· Analog output connectors: Balanced XLR
  and unbalanced $^1/_4$"

· Analog output impedance: 580Ω balanced

· Maximum analog output level:
  +25dBu balanced

· Digital I/O connectors:
  AES/EBU XLR and S/PDIF RCA/coaxial

Compatible digital audio I/O cards

· Lucid PCI24 and NB24

· Digidesign Audiomedia II and III

· Digital Audio Labs I/O Card-D

· AdB Multi!Wav Digital PRO

· Frontier Design Group WaveCenter

· Zefiro Acoustics ZA2

· Other cards with AES/EBU or S/PDIF connectors

PCI24 digital audio I/O card

· Digital I/O connectors: AES/EBU $^1/_4$"
  TRS and S/PDIF RCA/coaxial

· Input dynamic range: 120dB

· Output dynamic range: 144dB

· Input sample rates:
  32kHz, 44.1kHz, and 48kHz

· Output sample rates:
  32kHz, 44.1kHz, and 48kHz

· Sample rate conversion (digital input
  only): Input range 8kHz - 48kHz
  converted to 44.1kHz or 48kHz

· Size: Conforms with Apple's short
  PCI card specification

Compatible software

· BIAS Peak version 1.0 through 1.6

· Macromedia SoundEdit 16 version 2.01
  through 2.07

· Steinberg Cubase VST (ASIO) version
  3.02 through 3.5

System requirements

· Power Macintosh with an
  available 7" PCI slot

· CPU speed greater than 75MHz for
  stereo applications and greater than
  120MHz for multi-track applications

· 16MB RAM (32MB recommended)

· Mac OS 7.5.5, 7.6.1, or 8.0

· Sound control panel 8.0.3 or greater

NB24 digital audio I/O card

· Digital I/O connectors:
  S/PDIF RCA/coaxial

· Input dynamic range: 144dB

· Output dynamic range: 144dB

· Input sample rates: 22kHz - 48kHz

· Output sample rates:
  22.05kHz, 32kHz, 44.1kHz, and 48kHz

· Size: Conforms with Apple's short
  NuBus card specification

Compatible software

· BIAS Peak version 1.0 through 1.6

· Macromedia SoundEdit 16 version 2.01
  through 2.07 and Deck II version 2.2
  through 2.6.1

· Opcode AudioShop and Studio Vision
  Pro version 3.0 (stereo only)

· Digidesign Session 2.0 and Protools
  Powermix version 3.2

· Steinberg Cubase VST 3.01

· Emagic Logic Audio version 2.5

System requirements

· Macintosh with an available
  7'' NuBus slot

· CPU speed greater than 20MHz for
  stereo applications and greater than
  50MHz for multi-track applications

· 12MB RAM (24MB recommended)

· Mac OS 7.5.x, 7.6.1, or 8.0

· Sound control panel 8.0.3 or greater

· Apple Sound Manager 3.1 or greater
  (for pre 7.5.3r2 Mac OS)

For maximum performance, use the ADA1000 with the Lucid card of your choice. Order these products from your favorite reseller, or call 425.742.1518 for more information.

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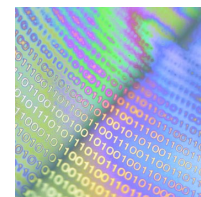
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