

# PRO AUDIO REVIEW

Gear & Software Reviews For The End-User

REPRINTED FROM MARCH 2006

WWW.PROAUDIOREVIEW.COM

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**L**ynx Studio Technology designs and builds professional audio products for recording studios, project studios, post production studios, home studios, and live concert settings. The Lynx Aurora provides exceptional A/D and D/A conversion, flexible routing capabilities, I/O expansion options, remote control functionality, and maximum channel capacity within a small, single rackspace chassis. There are two versions of the Aurora available, the eight-channel Aurora 8 (\$2,195) and the 16-channel Aurora 16 (\$3,295).

## FEATURES

The Aurora supports 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz and 192 kHz sample rates and it can sync to external AES/EBU signals, word clock, or expansion devices. It supports both single-wire and dual-wire AES operation (most devices support only one). The unit allows the control of parameters, clock settings, mixing/routing, and mixer scenes via remote control which is possible with a Lynx AES16, MIDI-equipped Mac or PC, or via infrared.

## Fast Facts

### ■ Applications:

*Studio, broadcast, post production, sound reinforcement*

### ■ Key Features:

*Eight-channel, 16-channel; 24-bit; 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4, 192 kHz sample rates; SynchroLock technology*

### ■ Price:

*Aurora 8 - \$2,195, Aurora 16 - \$3,295*

### ■ Contact:

*Lynx Studio Technology at 949-515-8265, [www.lynxstudio.com](http://www.lynxstudio.com).*

## Lynx Aurora Converter

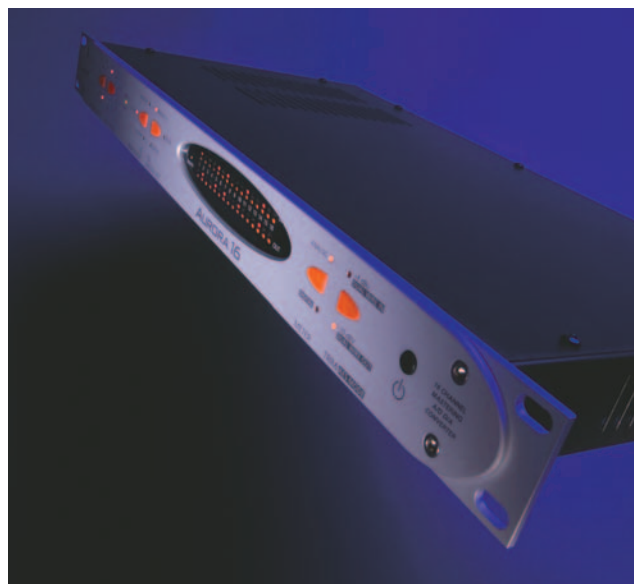
Windows CE software allows control of Aurora via an IrDA equipped Pocket PC.

The Aurora's analog I/O can be used with balanced or unbalanced line level devices operating at a nominal trim level of +4dBu or -10dBV (switchable in banks of four channels). The analog outputs are capable of delivering +20 dBu signal levels in the +4dBu trim setting.

The Aurora incorporates Lynx's SynchroLock technology, which provides unmatched tolerance to jitter when synchronizing to external clocks. This makes it an ideal solution for situations where noise sources are abundant, or where long cable runs are required. The SynchroLock output can also provide a clean and accurate clock for other connected audio devices.

The Aurora's front panel controls provide access to the most frequently required parameters and allows for effective, independent operation. The Sample Rate button selects sample rate when the Aurora is set to Internal for Sync Source. When the Aurora is slaving to an external clock source, the LED for the measured sample rate illuminates.

The Sync Source button selects the clock source that drives the Aurora sample clock generator. The options are Int Clock (derived from the onboard crystal oscillator), Ext Clock (applies the signal from the word clock input), Ext/2 Clock (applies the signal from the word clock input running at half the desired sample rate), AES A and AES B Clock (uses the signal from



the AES I/O Port A or Port B Digital Input) or LSLOT Clock signal (from an LSLOT/LStream card installed into the LSLOT expansion port).

The SynchroLock LED shows the status of the SynchroLock clocking system. A flashing LED indicates that the incoming clock signal is being analyzed. It typically takes one to two minutes to achieve final lock. The Aurora can be used prior to a locked state, but the jitter reduction is significantly enhanced when lock is achieved. A solid LED indicates that the clock is locked and the Aurora is ready to use. No LED signifies that SynchroLock is disabled by remote control or the source is outside of SynchroLock range and the Aurora has reverted back to the wide-range analog PLL. By coupling statistical analysis with low-noise clock generation techniques, SynchroLock is capable of attenuating jitter on incoming AES/EBU signals by a factor of 3000:1 (compared to typical attenuations of 100:1 or less for most professional analog phase-lock loops).

The To Analog Out button selects the signal source that will be routed to the analog outputs (either Analog In, AES In, or LSlot In) and the To Digital Out button selects the signal source that will be routed to the digital outputs (again either Analog In, AES In, or LSlot In). The IR/MIDI LED illuminates to indicate activity from the MIDI input or IR transceiver.

Each channel has a peak meter that displays the instantaneous peak level of audio being sent to the Aurora analog or digital inputs. The intensity of the lower row of orange LEDs indicates signal strength. The upper row of red LEDs indicate signal level above -1 dB FS. The Meter button determines whether the peak meters display input activity for the digital or analog inputs and it also determines the behavior of the Trim/AES Mode controls. When the meter select switch is set to analog, the Trim/AES Mode button allows the nominal trim level to be set for the analog inputs and outputs to either +4dBu or -10dBV. When controlling the unit from the front panel, this setting impacts all channels of input and output together, but when controlling the unit remotely, the analog inputs and outputs can be altered in banks of four channels.

The Power button controls the standby state of the Aurora. When the front panel LEDs are not lit, the Aurora is in standby mode. In this state the Aurora is not functional and is using a minimal amount of power. When the power button is pressed, front panel LEDs will illuminate indicating that the Aurora is now ready for use. To completely power down the Aurora, it must be unplugged from the AC power source.

The rear panel of the Aurora has MIDI IN and MIDI OUT connectors to provide connectivity to external equipment via standard 5-pin din MIDI cables. When connected to a computer with an installed MIDI Interface, the Aurora firmware can be updated remotely, or the MIDI version of the remote control software can be used.

Analog input and output and AES/EBU digital I/O are provided via 25-pin D-sub connectors. The LSlot Expansion Port allows

for the installation of the LSlot or LStream expansion card, used for expanding Aurora's interface options. Currently, the LT-ADAT expansion card is available to provide ADAT lightpipe I/O. Other formats will be released in the future. Word Clock In and Out are provided via BNC connectors.

The Aurora's remote control software allows users to access operational parameters, view real-time level meters for all inputs and outputs, save scenes, and route any input to any output from a convenient, easy to use interface. To use the software, the computer must either be equipped with the Lynx AES16, a functional MIDI interface, or IrDA port. For live or remote recording situations, Lynx has developed a unique software interface allowing complete parameter control via infrared from a standard Pocket PC.

## IN USE

Lynx sent me an AES16 card to interface the Aurora 8 with my DAW. It installed so easily that I actually spent more time removing my dual 2GHz Mac G5 from its shock-mount rack than I did installing the card and its drivers. The card ships from the factory with Windows firmware installed so the firmware has to be updated before it can be used on a Mac but this is a simple process that is explained very clearly in the card's documentation. The entire process took about 20 minutes and then I was ready to rock.

I spent substantial time listening to and comparing several prerecorded pieces of audio of varying sample rates, some individual tracks and some complete mixes, through the converters of the Lynx Aurora, the iZ RADAR and the Digidesign 96 I/O. I was very impressed with the sound of the Aurora. I preferred the sound of the iZ RADAR at 44.1 kHz and 48 kHz but the Aurora was the winner at every other sample rate (and that says a lot because I love the RADAR!). The Aurora has amazing high and low frequency definition and a notable sonic depth.

I put the box to work recording a high-resolution (24-bit, 192 kHz) Nuendo tracking

session and it performed flawlessly. At this resolution I couldn't believe the quality of the sound reproduction. Every nuance of the recording was clear as day.

I only have a few complaints with the Aurora. The metering with the external control software is excellent but the metering on the Aurora's front panel leaves a lot to be desired. For those using the Aurora as a standalone converter more accurate metering would come in handy. I was also disappointed with the inability to easily interface the Aurora with Pro Tools or with a laptop computer. Currently the only way the Aurora can be used with Pro Tools is via lightpipe or AES/EBU. I would like to see Lynx release a Pro Tools HD LSlot card that allows Pro Tools to view the Aurora like another 192 or 96 I/O. I would also like to see either a PCM/CIA LSlot card that allows the box to interface with a laptop via the PCM/CIA slot. *[Lynx says: Lynx is currently developing several LSlot interfaces for Aurora, which will allow Aurora to be used in many popular formats. Firewire has already been announced with a 3rd quarter of 2006 introduction- Ed.].*

## SUMMARY

After using the Lynx Aurora for several weeks, I have no doubt that it is one of the finest sounding A/D and D/A boxes in existence today and its price tag is literally a fraction of many of its competitors. Lynx has combined rigorous component selection, custom firmware programming, and input from a seasoned engineering team to achieve a product with an amazing sound quality. The unit is the perfect solution for stereo or multichannel music production or mastering or simply as the front end for digital audio workstations, digital mixers, or modular recording devices and its price points and feature set make it a great option for anyone in need of pristine A/D and D/A conversion.

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