LX-MADI – Multichannel Sound Card

Key Workflow: Guarantee ultra-low latency and perfect signal integrity in mission critical applications for broadcast automation and on-air, video and post production

The LX-MADI sound card performs ultra-stable 24/7 record/play operations with sub-millisecond round trip latency on its PCI Express interface. Its hardware-based architecture maintains performance regardless of the computational load of other applications running on the host system. This guarantees continuous quality of service in all demanding broadcast automation and on-air, video and post production workflows.

At a glance

The LX-MADI sound card delivers ultra-low latency and high stability for mission critical, 24/7 applications

- Record/play 64 optical MADI (AES10) channels with sub-millisecond round trip latency on PCI Express interface
- Provides real time Multichannel audio digital interface with external equipments to broadcast automation and on-air, video and post production applications
- Controls MADI channels from appropriate ALSA and WASAPI / DirectSound and ASIO drivers in Linux and Windows environment

Key features

- MADI interface: 64 in / 64 outputs MADI (AES10) channels on Optical multimode interface
- Sub-millisecond round trip latency
- WordClock input and output
- Automatic backup switching between clock sources
- PCI Express interface
- Drivers: ASIO, WASAPI / DirectSound, ALSA
- For Windows 10, 8 and 7 32/64bits, Windows server 2003/2008, Linux
- Designed for 24/7 mission critical operations
- High reliability with inbuilt FPGA technology

Configuration

- Bus/Format: PCI Express(R) x1 (compatible x1, x4, x8, x16 slots)
- Size: 111.15 mm x 167.65 mm x 20 mm
- Power requirements (+3.3V/+12V): 0.4 A / 0.12 A
- Operating: temp / humidity (non-condensing): 0°C / +50°C • 5% / 90%
- Storage: temp / humidity (non-condensing): -5°C / +70°C • 0% / 95%

Inputs & Outputs

- Connectors
  – 1 optical connector for MADI In/Out (multimode, 1300nm)
  – 1 BNC for Word Clock In / Out
- MADI (Multichannels Audio Digital Interface) inputs and outputs: 64 /64 Inputs / Outputs (mono) or 56 /56 Inputs / Outputs at 48 kHz sampling frequency and 32 /32 Inputs / Outputs at 96 kHz sampling frequency
- Word Clock input or output:
  – BNC connector, Input or Output position selectable by software.
  – Input : TTL , impedance selectable by jumper (75 Ohms / HighZ).
  – Output : Max 5 Vpp, 75 Ohms output impedance
- Clock sources
- Internal or Word Clock or MADI input
- Local clock precision : better than 10 ppm
- Automatic backup switching between MADI, Word Clock and Internal clock sources

- **Sampling frequencies**
  – From local clock: 44.1 kHz 48 kHz, 96 kHz
  – From Word Clock: 44.1 kHz, 48 kHz, 96 kHz
  – From MADI: 44.1 kHz, 48 kHz, 96 kHz

Development environments

- Latency and PC interface: Round trip time down to 0.8 ms
- Supported operating systems: Windows 10, 8 and 7 32/64 bits, Windows server as of 2003/2008, Linux
- Supported drivers: ASIO, WASAPI / low latency WDM DirectSound, ALSA