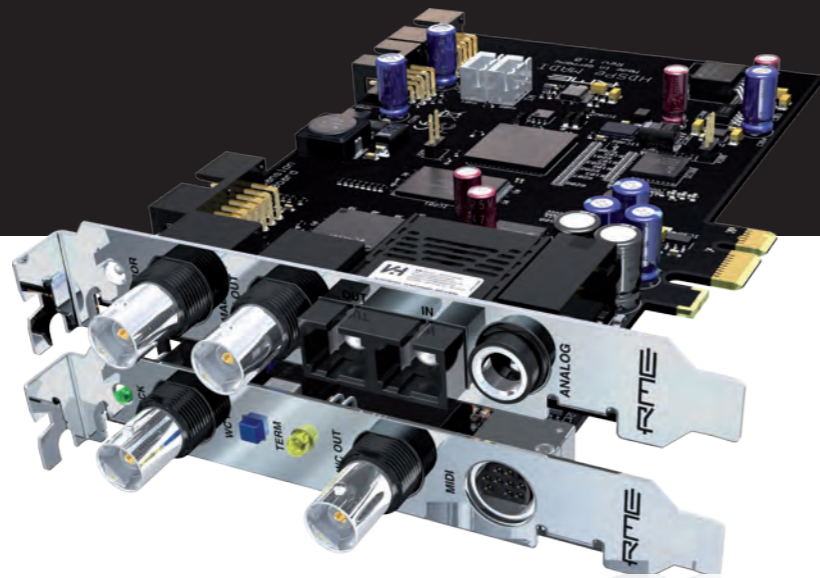


HDSPe MADI

128-Channel 192 kHz MADI PCI Express Card



Connectivity

- 64 Input / 64 Output channels
- 1 x MADI I/O (optical and coaxial)
- 1 x Stereo Analog Out
- 2 x MIDI I/O (5-pin DIN)
- Word Clock I/O (BNC)
- optional: HDSP TCO

The HDSPe MADI is RME's innovative and outstanding PCI Express solution for MADI interfacing and turns every computer into a powerful Digital Audio Workstation. HDSPe MADI is based on the award-winning Hammerfall technology and represents the top model of this world-wide successful card line. A PCI version is available.*

HDSPe MADI is fully compatible to all devices with MADI interface, providing no less than 64 channels of 24-bit audio at a sample rate of up to 48 kHz, 32 channels at up to 96 kHz and 16 channels at up to 192 kHz. The card supports 56 and 64 channel modes, and double and single wire technology (96k frame) for 96 kHz. As usual with MADI, transmission is done via a single line, either coaxial with BNC plugs or by fiber cable. So 100 m (BNC) and 2000 m (optical) cable length can be achieved. The optional Time Code Module (TCO) for synchronization to LTC and video is also supported.

The expansion board carries Word Clock I/O (BNC) and MIDI I/O. The MIDI I/O offers two completely independent MIDI inputs and outputs via breakout cable (4 DIN sockets). A third virtual MIDI port provides a direct transmission of MIDI signals - invisibly in the MADI data stream.

Remote Control Center. The card's embedded MIDI transmission can be used to remote control RME devices without any additional cabling besides the MADI connection. RME's MIDI Remote control software for Mac and PC may use any existing MIDI port within the system to perform remote control and status requests of other RME devices.

While many MADI devices require an additional clock line, HDSPe MADI uses SteadyClock™ to extract the reference clock at lowest jitter directly from the MADI signal, making long-distance connections even more convenient. The Word Clock input automatically detects and processes Single, Double or Quad Speed signals.

A native PCI Express core and the new faster bus improve operation at lowest latencies, making it the perfect partner for live recording and live mixing applications. The integrated analog monitor output for easy control of all input and output signals is equipped with the low-latency converter technology of the ADI-8 QS, guaranteeing stunning SNR and THD values.

Integrated DSP mixer. The card's hardware-based TotalMix routes and mixes 64 inputs and 64 playback channels completely independent to 64 physical outputs, turning the card into a powerful router/mixer that can be used in many different ways, like:

- MADI optical patchbay and router
- MADI coaxial/optical or vice versa converter and splitter
- MADI redistributor, patchbay and router

For Windows
and Mac OS.

Technologies

MADI Multinorm
MADI Quad Wire
MADI Redundancy
MIDI over MADI
Quick Boot
Intelligent Clock Control
SteadyClock™
SyncCheck™
SyncAlign®
Cascadable

The HDSPe MADI combines ultimate driver technology with the highest number of audio I/O channels ever implemented in a PCIe-card solution – ready to fit into the DAW application of your choice.



Furthermore, the DSP hardware calculates RMS and peak level meters for all audio channels, without any measurable CPU load.

Up to three HDSPe MADI cards can be used simultaneously, providing up to 192 inputs and 192 outputs on a single workstation. The card uses the same driver as other HDSP(e) series cards. These cards can be used simultaneously for ADAT, AES/EBU and analog I/Os all in one single machine.

Features

- Any settings changeable in realtime
- Automatic intelligent master/slave clock control
- Extremely low latency (8 buffer sizes) down to 1.5 ms
- Transfer of MIDI data alongside MADI
- 2 independent MIDI I/Os (breakout cable incl.)
- SteadyClock™: for highest jitter suppression and clock regeneration, super-stable digital clock

Specifications

- 1 Lane PCI Express endpoint device (no PCI Express to PCI bridge), revision 1.1., 2.5 Gbps line speed
- Packet-based full-duplex communication (up to 500 MB/s)
- Input Word Clock: BNC, Signal Adaptation Circuit (functional from 1.2 Vpp input signal), switchable termination
- Output Word Clock: BNC, low-impedance driver stage, 4 Vpp into 75 Ohms, short-circuit-proof
- Sample rates: 44.1, 48, 88.2, 96, 176.4, 192 kHz, variable (Sync/Word Clock)

* HDSP MADI . the PCI version

Compared with the HDSP MADI (PCI version), the PCI Express card offers new features: Support of sample rates up to 192 kHz (HDSP MADI: 96 kHz), more functions in TotalMix (phase and internal loopback per channel, +6 dB gain for the hardware outputs), and a direct support of the Time Code Option.

- Available drivers: Windows 2000/XP, Vista 32/64 (multi-client operation of ASIO 2.0, WDM, GSIF); MAC OS X Intel from 10.4 (Core Audio / Core MIDI)
- Quick Boot: Onboard memory for the last setting
- Comes with DIGICheck: the ultimate measurement, analysis and test tool
- direct support of HDSP TCO (Time Code Option)

- Sync sources: MADI coaxial, MADI optical, Word Clock, internal
- Sample rate range:
MADI: 32 - 96 kHz, Word Clock: 27 - 200 kHz
- Varipitch: by input signal or Word Clock
- Jitter: < 1 ns, internal and all inputs
- Jitter sensitivity: PLL operates even at 100 ns Jitter without problems