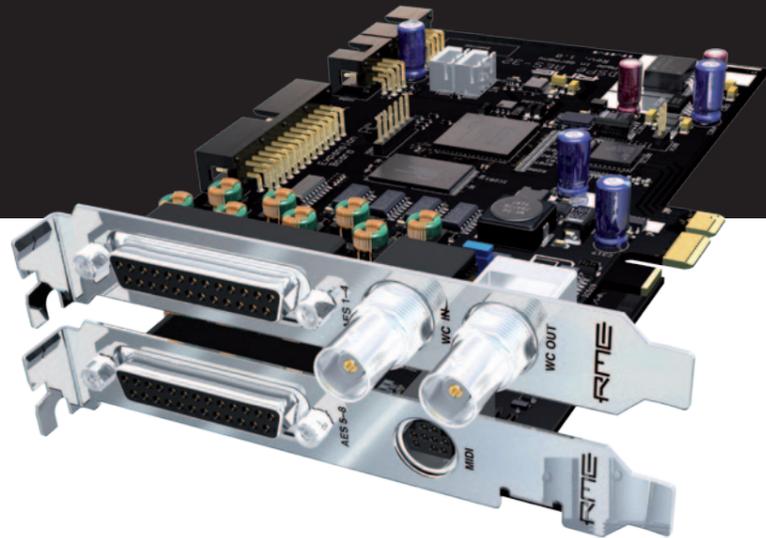


# HDSPe AES

32-Channel 192 kHz AES/EBU PCI Card



## Connectivity

16 Input / 16 Output channels

8 x AES/EBU I/O (2 x D-sub25)

2 x MIDI I/O (5-pin DIN)

Word Clock I/O (BNC)

optional:

HDSP TCO

BOB-32 Breakout Box

The HDSPe AES provides eight AES inputs and eight AES outputs (16 channels each) even at the highest sample rate of 192 kHz. It supports Single, Double and Quad Wire transfer and the conversion between these formats. The two slot PCI Express card is also equipped with two MIDI I/O ports and Word Clock I/O. The Word Clock input adapts to Single, Double and Quad Speed signals automatically. A PCI version (HDSP AES-32) with identical features is also available.\*

The card's main board carries Word Clock I/O and a 25-pin D-sub connector, providing audio channels 1 to 8 with four AES inputs and four AES outputs in the standard TASCAM pinout format. Its Word Clock input operates with Single, Double and Quad Speed signals automatically. The expansion board adds audio channels 9 to 16 and a connector for the MIDI breakout cable with two MIDI I/Os.

The card uses a newly developed genuine PCI Express core, which consequently takes full advantage of the new format, achieving significant performance gains in multi-track audio and lowest latency.

**Integrated DSP mixer.** The hardware-based TotalMix with 42 bit internal resolution is used to route or mix all 16 inputs and 16 playback channels freely to 16 physical outputs, offering extraordinary monitoring capabilities. Up to 8 fully independent stereo submixes can be created. Routings can be copied and pasted, faders ganged and grouped, which, along with the amazing matrix window, turns the HDSPe AES into a powerful and easy-to-use redistributor, patchbay, router, converter, and splitter. TotalMix is fully MIDI-controllable and calculates RMS and peak level meters for all audio channels in hardware, with no measurable CPU load.

**The Time Code Option (TCO)** can be used with the HDSPe AES to sync to LTC and video. Thanks to SteadyClock™, the TCO not only extracts absolute positions from LTC, but also a very clean low-jitter Word Clock from LTC and video.

**BOB-32.** An optional 19" breakout box is also available. Its innovative design features XLR I/Os that can be accessed from the front or rear in a rack, according to the user's choice. BOB-32 provides D-sub connectors with Tascam and Yamaha pinout, therefore can be used with other devices as digital rack breakout box as well.

Up to three HDSPe AES cards can be used simultaneously on a single workstation. The card is based on the same driver architecture as the HDSP(e) MADI and the HDSP AIO mastering card. Thanks to RME's flash update technology, future firmware improvements, adjustments, and bugfixes can be installed easily at any time.

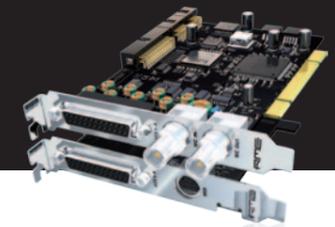
For Windows  
and Mac OS.

## Technologies

Quick Boot  
Intelligent Clock Control  
SteadyClock™  
SyncCheck™  
SyncAlign®  
Cascadable

The perfect solution for professional users in the fields of broadcast, TV, theater, stage/PA - and in any pro-audio studio with the typical RME features and quality.

\* HDSP AES-32 the PCI version



The HDSPe AES in- and outputs can be easily equipped with standard XLR-breakout cables via standard 25-pin D-sub AES/EBU connectors in TASCAM pinout format. TASCAM to Yamaha pinout cables and format converters are also available. Your Premium Line dealer offer various cables - 192 kHz ready - in different lengths (ALVA cableware).



ALVA breakout cable D-sub25 to 4 x XLR-3 female + 4 x XLR-3 male  
Available with 1m, 3m and 6 m length.



ALVA breakout cable D-sub25 male to D-sub25 male  
Available with 1m, 3m and 6 m length.

## Features

- Support for 192 kHz at full channel count
- Extremely low latency (8 buffer sizes) down to 1.5 ms
- Quick Boot: Onboard memory for the last setting
- 2 independent MIDI I/Os (breakout cable incl.)
- Zero Latency Monitoring (ZLM) for latency-free submixes and perfect ASIO Direct Monitoring
- SteadyClock™: for highest jitter suppression and clock regeneration, super-stable digital clock
- 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)
- Comes with DIGICheck: the ultimate measurement, analysis and test tool

## 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), termination via jumper
- Output Word Clock: BNC, low-impedance driver stage, 4 Vpp into 75 Ohms, short-circuit-proof
- Sync sources: 8 x AES, Word Clock, internal
- Varipitch: by input signal or Word Clock
- Sample rates: 32 kHz up to 192 kHz, variable (Sync/Word Clock)
- Sample rate range: AES: 28 - 204 kHz, Word Clock: 28 - 204 kHz
- Jitter: < 1 ns, internal and all inputs
- Jitter sensitivity: PLL operates even at 100 ns Jitter without problems