ADI-192 DD

192 kHz 8-channel AES.ADAT.TDIF format/samplerate converter

Overview

The ADI-192 DD was designed to be the most powerful format and sample rate converter ever. Hence the ADI-192 DD not only features considerable improvements compared to the ADI-8 DD, but also adds a number of new and unique features:

- Supports 192 kHz with ADAT, TDIF und AES
- 8-channel sample rate conversion up to 192 kHz
- Sample Rate Conversion can be selected for AES, TDIF or ADAT
- 8-channel Sample Rate Conversion without phase errors (sub-sample synchronous)
- SteadyClock for maximum jitter suppression and clock regeneration
- Complete triple format converter AES/TDIF/ADAT with added SPDIF TOSLINK I/O
- Direct support for Double and Quad Wire, S/MUX and S/MUX4
- Also when using SRC
- Special TDIF word clock output
- Simplified and easy-to-use user interface

Connectivity

4 x AES/EBU I/O (XLR)
2 x ADAT I/O (optical)
2 x TDIF I/O (Sub-D)
1 x SPDIF I/O (optical)
1 x Word Clock I/O

Features

ADAT S/MUX and S/MUX4
Intelligent Clock Control
SteadyClock™
SyncCheck™
SyncAlign™

Features

The unit consists of three 8-channel format converters with 24-Bit audio resolution. The three output formats ADAT, TDIF and AES independently access the three input formats ADAT, TDIF and AES schematic view. Thanks to free selection of inputs, signals can be copied and distributed between all connected devices - without the need to change any cables. Four XLR AES/EBU inputs and outputs each, and two ADAT and TDIF inputs and outputs allow full 8-channel operation even at 96 kHz / 24-Bit. At 192 kHz, there are eight AES channels and four ADAT and TDIF channels. Switchable 24/192kHz sample rate converters allow 8-channel sample rate conversion and clock decoupling of the highest quality.

Due to the unlimited input selection, the unit not only transfers data to the same output format. For example it can be operated as quad AES/EBU sample rate converter.

Applications include:

- AES/EBU frontend for RME's digital I/O-cards (with ADAT optical I/O)
- TDIF frontend for RME's digital I/O-cards (with ADAT optical I/O)
- AES and ADAT frontend for DTRS machines
- 8-channel AES, TDIF and ADAT input and output for digital mixers with ADAT/TDIF port
- Operation of four SPDIF or AES devices with different sample rates in any digital audio network
- Converts Double and Quad Wire to Single Wire and vice versa, even with simultaneous sample rate conversion

48 LEDs clearly display the current status of the incoming and outgoing signals and the processing performed within the unit. The SyncCheck technology known from other RME devices indicates whether the input signal is locked and whether all inputs are sychronized. The AES output signal can be given a consumer or professional status. The first AES output (channels 1/2) is also available as optical TOSLINK.

Professionals will love the fact that the ADI-192 DD supports Double Wire, Quad Wire, S/MUX and S/MUX4, making it compatible to all methods of increasing sample rates by sample multiplexing on all platforms. The unit can also convert between these formats, even along with SRC. If more than 8 channels are required, several units can be cascaded and synchronized sample-accurately by word clock.

The ADI-192 DD also features an automatic distribution mode. If only one of the four AES inputs is used, the device will copy these two channels to the other three AES outputs.

RMEs SteadyClock(TM) guarantees excellent clock quality in every situation. Due to the highly efficient jitter reduction, any clock signal can be improved and refreshed, and subsequently be used as reference clock at the word clock output. Intelligent Clock Control (ICC) Intelligent Clock Control (ICC)

Our unique SyncCheck and AutoSync technology has evolved into the new Intelligent Clock Control of the Hammerfall DSP system. HDSP is the only digital I/O-system worldwide capable of measuring and displaying the frequency of all clock sources. Even word clock! Based on validity and current sample rate the system then decides which clock source should be used - fully automated and performed in hardware! With this the HDSP system offers the most easiest handling of the present clocks, although having a lot digital inputs, plus the most advanced support when configuring the clock setup. will retain the last valid sample frequency in case of a loss of the input signal. All settings are retained when the device is switched off.

Conclusion: The ADI-192 DD is the all-in-one solution for every application of format and sample rate conversion, from 2 to 8 channels. Its flexibility is unsurpassed and the price/performance ratio is simply sensational.

Tech Specs

Input AES/EBU: 4 x XLR, transformer balanced, highly sensitive input stage (< 0.3 Vpp), SPDIF compatible, max. 192 kHz Single Wire

Output AES/EBU: 4 x XLR, transformer balanced, 4.5 Vpp, max. 192 kHz Single Wire

Input ADAT optical: 2 x TOSLINK, 24-Bit, Bitclock PLL

Output ADAT optical: 2 x TOSLINK, 24-Bit

Input/Output TDIF: 2 x Sub-D 25 pin, 24-Bit

Input/Output SPDIF front: 2 x TOSLINK, 24-Bit, max. 192 kHz

Input Word Clock: Signal Adaptation Circuit (functional from 1.2 Vpp)

Output Word Clock: BNC, low impedance driver stage, 4 Vpp into 75 Ohms, short-circuit-proof

Sync sources: Internal, ADAT optical in, AES/EBU in, TDIF in, word clock in

Varipitch: by input signal or word clock

Sample frequencies: 444.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz, variable (sync/word clock)

Sample rate range: AES, word clock: 28 kHz-204 kHz, ADAT/TDIF 30 kHz - 54 kHz

Jitter: Internal clock < 1 ns, external clocks < 1 ns

Jitter sensitivity: all PLLs operate error-free even at 100 ns

Jitter suppression: >30 dB (2.4 kHz)

SRC dynamic ratio: 140 dB RMS unweighted, 143 dBA

SRC THD+N: < -140 dB

Sample rate ratio: max. 7:1 / 1:7

Power supply: Internal switching mode PS, 100V - 240V AC, 20 Watt

Dimensions: (WxHxD) 483 x 44 x 200 mm

Warranty: 2 years

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