



XAD+

High class analog to digital converter



A U D I O E X C E L L E N C E

The universal line level inputs up to +24 dBU maximum level

The XAD+ board is designed for connecting analog signal sources with line levels. The board offers eight inputs, is available with different connectors and uses the patented TrueMatch converter for outstanding audio values.

The XAD+ input card is equipped with Stage Tec's patented TrueMatch converter technology. Outstanding analog circuit design paired with modern DSP technology form the basis of these reference converters, which are characterized by minimal converter errors, very low distortion, excellent aliasing suppression and permanent self-calibration. Even at a sampling rate of 44.1 kHz, the transparency of the digitized signal exceeds the quality of conventional converters by far. The dynamic range of 133 dB is top worldwide; it is only surpassed by Stage Tec's XMIC cards. The board supports sampling rates of up to 96 kHz and can be used in a wide range of applications. Wherever line level inputs are required, they can be used flexibly. Their 8 channels per card represent an optimal order of magnitude, with which systems can be designed cost-efficiently.

The three versions available support the typical range of applications in the best possible way: boards with XLR connectors allow the construction of connection panels without further effort; the version with Sub-D connectors is the preferred solution for direct cabling within racks, and the version with RJ45 sockets is the intelligent solution for fixed installations with remote connection boxes.

Available in XLR, Sub-D and RJ45 versions

This module can optionally be supplied with different front panels, the electrical conversion remains the same. XLR sockets are suitable for constantly changing setups, while the Sub-D version is suitable for permanently wired installations. With the RJ45 version, four channels each are connected to one socket and enable fast and cost-effective cable laying with conventional Cat5 cables (or better). For signal sources to be connected locally via XLR connectors, the optional RJ45-ADP adapter circuit board is available, which converts RJ45 back to XLR.

AD conversion with 133 dB dynamic range and +24 dBU maximum level

With the XAD board, an otherwise unattainable dynamic range can be achieved as well as a high absolute input level can be fed in.

Transformer-insulated input stages

Stage Tec's transformer-insulated inputs have significant advantages over conventional circuits: They are insensitive to magnetic fields and have a lower distortion factor, especially at high and low levels and at low frequencies. They also offer high symmetry, galvanic isolation and a lower input capacitance.

Excellent linearity and permanent self-calibration

The Stage Tec TrueMatch converters operate according to the Delta Sigma principle and are therefore linear in design. The signals of the individual converter stages are compared with each other and irregularities that occur e.g. due to aging or heating of the components are corrected.

Supply of line sources on stage

With the growing number of electronic musical instruments and sound generators currently used by bands, DJ's, performance artists and even orchestras, the need for line inputs for analog signals continues to grow. Especially in the semi-professional musician sector it can happen that an instrument has only one headphone output, which has to serve as a signal source.

With the NEXUS XAD card, Stage Tec provides the non-plus-ultra analog line inputs: 8 mono channels on one card, TrueMatch(R) technology, an incredible dynamic range of 133 dB and a maximum level of +24 dBU are just a few of the outstanding characteristics.

High-quality line input in the recording room

In the recording studio, the XAD+ input board for NEXUS base devices is the tool of choice when it comes to converting line signals. With keyboards, drum machines or modeling amps, many devices with analog outputs are used in everyday production, whose signals need to be digitized to a high standard of quality. When using analog microphone preamplifiers, the subsequent conversion is also decisive for the successful detection of the sound sources and their further use in the digital range. Because with the unsurpassed dynamics and resolution of the XAD+ card, all nuances are captured.

Connections

Variant: XLR			
	2 x 8DU		
XLR female	8x	Line Level	Input
Variant: D-Sub 25			
	1 x 4DU		
D-Sub 25 Socked female	1x	Line Level	Input
Variant: RJ45			
	1 x 4DU		
RJ45	2x	Line Level	Input

Technical specifications

Configuration, available separately for each channel

Ground bonding, liftable, on the input port (XLR only)

A/D Conversion

Resolution	24-bit, 128 times oversampling
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
Latency	0.33 ms @ 48 kHz sample rate (typ.)

Audio Data

Input levels	0...24 dBu; adjustable in 1 dB steps via software
Dielectric strength	Signal wire to enclosure: < ± 200 V (DC) (common-mode signal); Signal wire to signal wire: < 20 V (AC) RMS; Shield to enclosure: < 48 V (DC) (open ground bonding)
Frequency response	20...20.000 Hz (-0,1 dB, +0,0 dB)
Input impedance	> 10 kOhm
CMR	115 dB @ < 100 Hz (typ.); 100 dB @ 1 kHz (typ.); 75 dB @ 15 kHz (typ.)
Gain	-20...+20 dB, adjustable
Distortion factor (THD+N)	0.001 % @ 24 dBu (typ.), 1 kHz; < 0.002 % granted; 0.01 % @ -25...+24 dBu (typ.); < 0.02 % granted; < 0.03 % @ -60 dBFS, 20...20,000 Hz
Dynamic range	133 dB (A) @ 0 dBFS = 24 dBu (typ.)
Idle channel noise	-129 dBFS CCIR-RMS (typ.)
Modulation noise	-130 dBFS CCIR RMS (typ., noise @ signal presence)
Crosstalk attenuation	> 130 dB (20...20.000 Hz)
HF resistance	HF-demodulation resistant according to IRT standards (»IRT-Pflichtenheft 3/5«) and European standards

Operation Conditions

Temperature range	0° C to +50° C
Max humidity	max. 90 %, non-condensing

Storage Conditions

Temperature range	-35° C to +70° C
Max humidity	max. 90 %, non-condensing

Power Supply

Voltage	+4,9...5,2 V
Current	800 mA, total

Mechanical Data

Weight	0.25 kg (XLR version incl. both 8 DU front panels: 0.426 kg)
Note	In the XLR version, the two front panels are connected with a ribbon cable.

Stage Tec NEXUS: A global reference!*



*The map shows selected reference locations. To date more than 1,000 Stage Tec NEXUS systems have been delivered and installed worldwide.

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