



# HXDA

High density digital to analog converter for stereo signals



A U D I O   E X C E L L E N C E

## The high-density output card for stereo line signals up to +15 dBU

The HXDA board is designed for the output of analog, 2-channel signals with line level. With 16 audio channels on only 4DU it is suitable for fixed installations requiring a large number of output channels.

This high-quality digital-to-analog converter is particularly suitable for applications in which many stereophonic signals are to be played out from the NEXUS system. The connections are balanced in pairs, whereby the transformer isolated output stages have a high symmetry and an especially low distortion factor. Their high audio quality is underlined by the short group delay and minimal converter errors. HXDA NEXUS cards are therefore ideally suited for a wide variety of applications.

The cards are available in two versions: The one with D-Sub connectors is intended for applications with firmly bolted cabling in racks or similar installations. Cards with RJ45 ports offer the possibility of having the domestic installation carried out with cost-effective S/STP or UTP multicores (CAT5) for applications with remote connection fields. Remote front panels with XLR connectors are available on request. The special Stage Tec circuits allow the use of longer CAT5 lines without loss of signal quality.

### **„Stereo version“ of the outstanding XDA+ converter card**

With a dynamic range of 120 dB (A) at a maximum output level of 15 dBU, this NEXUS board is a space-saving replacement for XDA+ when it comes to stereophonic signals.

### **High-density card with 16 audio channels - large quantities of outputs at a low price**

This board offers high channel density, which accommodates a large number of required inputs, especially in situations requiring portability or low weight.

### **Quality feature: Output transformer for every budget**

Despite the compact circuit design, each channel is transformer isolated. The input pairs (1/2, 3/4, etc.) share a common ground potential, since the module is intended for the connection of stereo and multi-channel devices. Stage Tec's transformer-insulated outputs have clear 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 output capacitance.

### **“Ground Lift“ disconnectable ground connection**

The connection to the common ground can be cancelled separately for each input pair (1/2, 3/4, etc.). This is done via DIP switches, which prevent the connection of the screen line to the internal analog ground.

### **Playback of high channel numbers in distributed loudspeaker systems**

In live or theatre situations, production or staging may require a large number of speakers to be fed with signals. With 16 output channels, the HXDA card offers many playout paths in a small space and is particularly convincing in such situations. There is a great need for outputs, especially at events with a complex sound concept such as delta stereo and the use of effect loudspeakers, as is usual for musical or film productions. For productions in the studio or on stage with orchestras or other groups of many musicians, additional output paths are increasingly required for headphones to perform in sync with pre-produced content. Often there is not much room for technology to fit into expansive sceneries and between lighting and effects technology. In switching rooms for radio operation, there is also usually no need for large XLR connections, especially in such large numbers, because the connections are made via multicore cables with D-Sub connectors. In combination with a 1U NEXUS base unit, which offers space for four HXDA cards in addition to one CPU and one fiber optic board each, 64 channels can be played out with the size of an ordinary 19" device.

## Connections

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

## Technical specifications

<b>Configuration</b>	
	short-circuit-proof insusceptible to inadvertent phantom-power routing analog mute when enabling or disabling the power supply
<b>D/A Conversion</b>	
Resolution	24 bit, 128 times oversampling
<b>Audio Data</b>	
Output level	0...15 dBu @ > 600 ohm load
Dielectric strength	Common-mode voltage: < ±200 V (DC), < 250 V (AC) (max. 60 s); ESD protection: 15 kV
Frequency response	20...20,000 Hz (+0, -0,2 dB), integrated DC filter
Output impedance	19 ohm (typ.)
CMR (output impedance)	> 60 dB@ 20...20,000 Hz; 90 dB@50 Hz (typ.); 80 dB@20 kHz (typ.)
Offset voltage	< 10 mV, typ. 0,1 mV
Amplification range	-63...15 dB, clickfree adjustment in 1-dB steps; plus muting
Distortion factor (THD+N)	typ. 0.001 %@15 dBu; < 0.01 %@-20...+15 dBu (typ.); < 0.02 % granted; <0.001 %@4 dBu (typ.); < 0.18 %@ -60 dBFS
Dynamic range	@0 dBFS = 15 dBu: 120 dB (A) (typ.); 117 dB(RMS) (typ.)
Idle channel noise	-116 dBFS (RMS) (typ.); -112 dBFS (CCIR 1K) (typ.); -101 dBFS (CCIR 2K RMS) (typ.)
Crosstalk attenuation	> 100 dB (@20...20,000 Hz), typ. > 130 dB
HF resistance	HF-demodulation resistant according to IRT standards (IRT-Pflichtenheft 3/5) and European standards
EMC	Compliant to EN 55022, Class B, and EN 55013
Sample rates	44,1 kHz, 48 kHz, 88,2 kHz, 96 kHz
Latency	< 0.23 ms@ 48-kHz sample rate
<b>Operation Conditions</b>	
Temperature range	0° C to +50° C
Max humidity	max. 90 %, non-condensing
<b>Storage Conditions</b>	
Temperature range	-35° C to +70° C
Max humidity	max. 90 %, non-condensing
<b>Power Supply</b>	
Voltage	+4,9...5,2 V
Current	0.8 A (idle), 1.5 A (max. load)
<b>Mechanical Data</b>	
Weight	0,23 kg

# 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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