



XAF

ADAT-Format I/O-Interface
Empowered



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

The NEXUS interface card for integrating external devices with ADAT Toslink port into the system

With an XAF card it is possible to integrate devices with a Toslink optical port in 8-channel ADAT format into a NEXUS network. The card has an input and an output and processes a total of 16 audio channels.

The XAF board offers a Toslink input and a Toslink output. Audio is transmitted in ADAT format so that a total of eight input and eight output channels can be connected to the NEXUS network via the board, while a DSP is integrated on the XAF board, which can handle requantization between 24, 20 and 16 bits if required. A dithering option is available to minimize quantization distortion in the form of overtones.

In addition, noise shaping can be activated to shift the noise energy to areas that are less sensitive to the human ear, and is optionally available with sampling rate converters that can be activated separately for input and output. It is possible to synchronize the output to the input directly on the board, but to convert the signals in the direction of the NEXUS network via the SRC.

Integrated DSP

When the audio signal is requantized to 20 or 16 bits, a dithering algorithm is executed to avoid rounding errors. In addition, the Noise Shaping function allows the noise energy to be shifted to an area where the human ear is less sensitive. These processes are calculated on an integrated DSP.

Optional sample rate converter

The optional sample rate converters in the inputs can be switched on manually or operated in auto mode; the board then automatically detects whether the incoming frequency corresponds to the NEXUS system clock.

Adjustable digital gain

For all inputs a digital gain with 20 dB of gain or attenuation adjustable in 1dB steps is available.

Switchable phase inverter

A phase inverter can be connected downstream of each input channel.

Connecting devices with ADAT optical interface to NEXUS networks

Although in use for a long time, the ADAT optical interface is still used as a digital multi-track interface for audio devices. With the XAF card, eight freely selectable audio channels can be output from the NEXUS network and incoming ADAT data streams can be received. The included sampling rate clock can also be used as a synchronous source for the entire NEXUS system.

Connections

| | | | |
|---------|---------|------|--------|
| XAF_01 | 1 x 4DU | | |
| Toslink | 1x | ADAT | Input |
| Toslink | 1x | ADAT | Output |

Technical Specifications

Characteristics

| | |
|----------------------|---|
| Data formats | ADAT |
| Audio data | 24 Bit, 20 Bit und 16 Bit |
| Sample rates | 44.1, 48 kHz; 32 kHz (special version); variable (w/ SRC) |
| Output configuration | Transparent forwarding of all ADAT-format user bits (with SRC disabled), re-quantization to 16-bit and 20-bit output formats using noise-shaping and dithering algorithms |
| Indicators | PLL-status LED |
| Gain | adjustable ± 20 dB for the inputs |
| Latency | 4 samples (w/o SRC); 0.7 ms (w/ SRC, typ.) |

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 | +4,75...5,25 V |
| Current | 500 mA |

Mechanical Data

| | |
|--------|----------|
| Weight | 0,235 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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