

ROSTEC Engineering

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ROSTEC DAA24, 24Bit Digital/Analog Converter for GPU frame

The DAA24 is a true 24-bit, 96 kHz stereo Digital/Analog Converter, using an advanced multi-bit Sigma Delta conversion with 128x oversampling and linear 8x interpolation filter. It features digitally controlled analog soft mute, a true balanced analog architecture with electrically balanced output buffers, out of band noise filtering and excellent linearity performance.

The AES input is transformer balanced and accepts sample rates up to 100 kHz. The digital input format conforms to the AES3, IEC60958 (S/PDIF) and EIAJ CP1201 interface standards.

The converter is designed to operate in a GPU frame environment, the frame supplying all the necessary power and interface connectors.

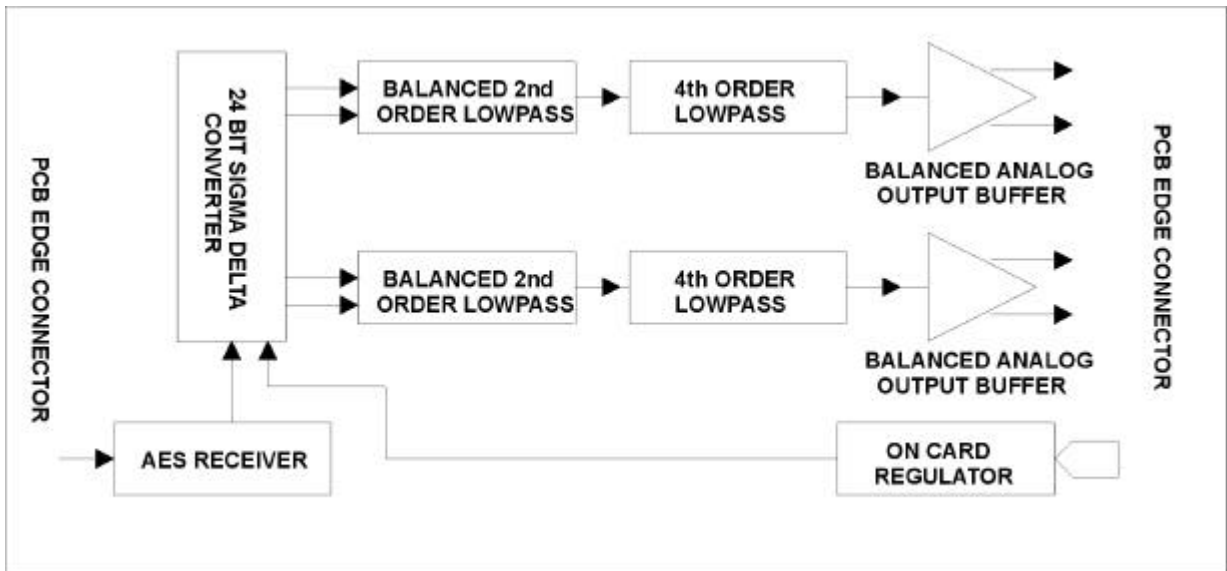
The DAA24 does not use GPU system clocks, and it does not require other modules installed in the GPU frame. All the necessary timing, system clocks and audio information is extracted from the incoming AES signal.

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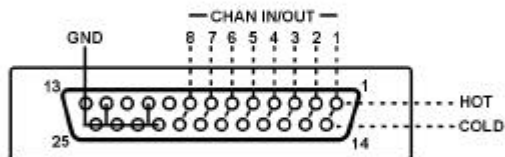
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Block Schematic:



IN/OUT CONNECTIONS DAA24

25 POLE SUB-D FEMALE CONNECTOR
AT THE GPU BACK PANEL



CHA Output: Hot pin1, Cold pin14, Gnd pin 15

CHB Output: Hot pin3, Cold pin16, Gnd pin17

AES Input: Hot pin8, Cold pin21, Gnd pin22

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Electrical specifications (typical):

Dimensions : GPU Card Standard

Weight :

Power requirements : +5V , +12V, -12V

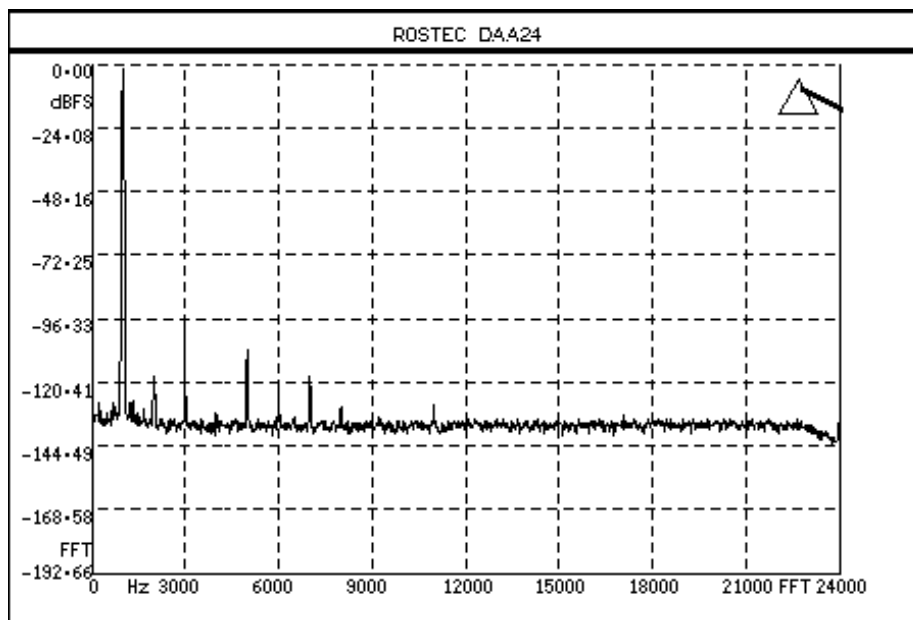
Digital Audio In : AES Transformer Balanced 110 Ohms.

Analog Audio Out : +18 dBu for 0 dBFS, 75 ohms electrically balanced

Audio specs:

- : Resolution 24 bit
- : Dynamic range 20-20 kHz, 115 dB A weighted
- : THD+N (Avg.) < -96 dB/1 kHz at -1dBFS, bandwidth 20-20kHz
- : Linearity better than 1dB, 0dBFS to -110 dBFS
- : Passband ripple: 0,005 dB
- : Stopband attenuation: >75 dB
- : Crosstalk L/R < -90 dBFS 20-20 kHz
- : Group delay 0,6 mSec

FFT analysis

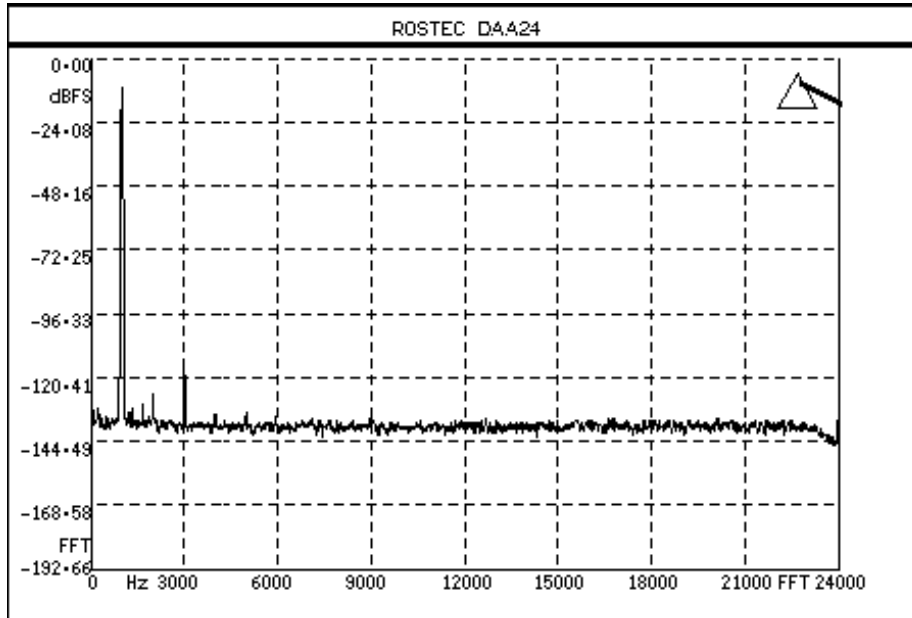


Output : 1 kHz, -1 dBFS at 48 kHz
THD+N : -96,30 dBFS, 20 Hz – 20 kHz unweighted

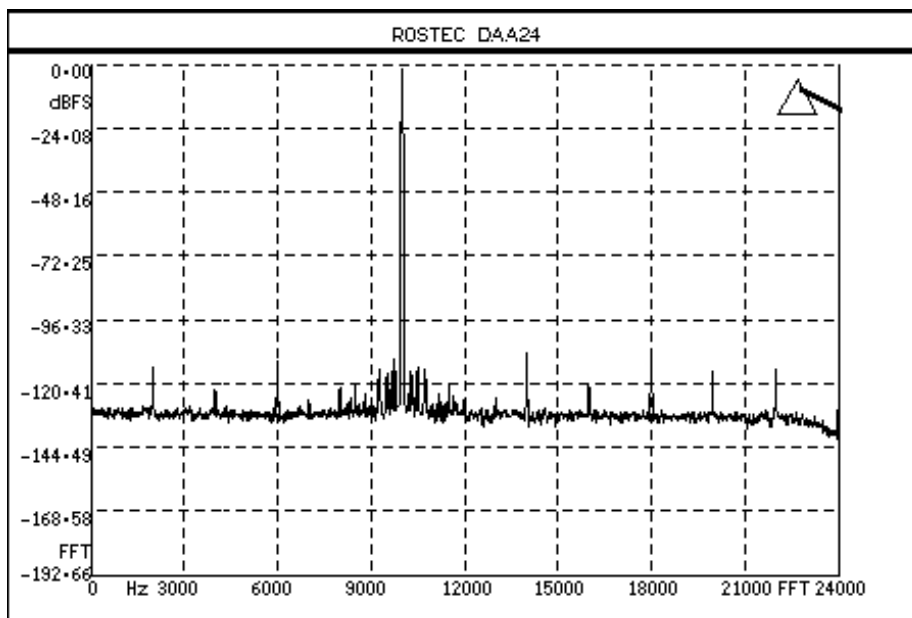
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Output 1 kHz, -10 dBFS at 48 kHz
THD+N -108,30 dBFS, 20 Hz – 20 kHz unweighted

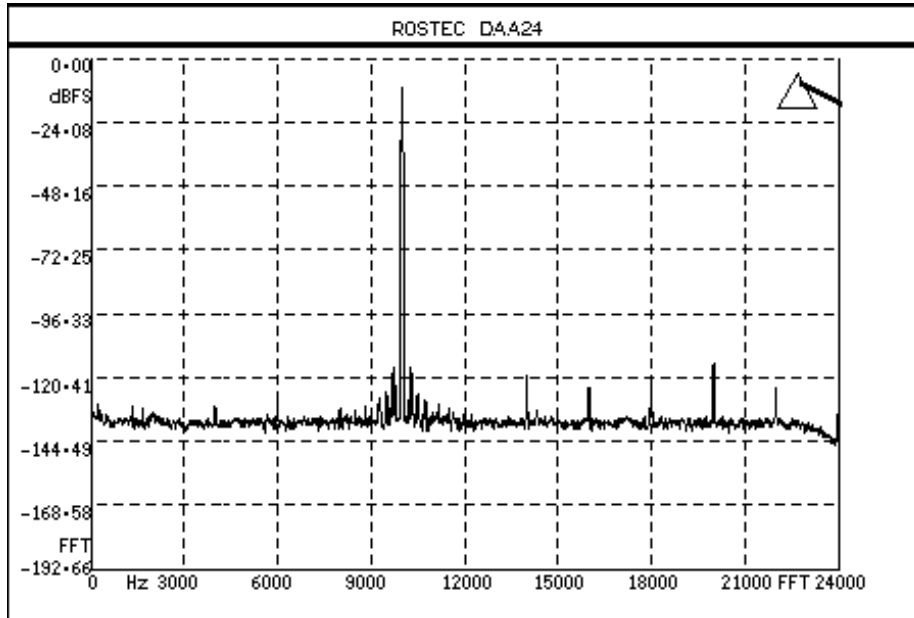


Output 10 kHz, -1 dBFS at 48 kHz
THD+N -95,74 dBFS, 20 Hz – 20 kHz unweighted

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Output 10 kHz, -10 dBFS at 48 kHz
THD+N -106,11 dBFS, 20 Hz – 20 kHz unweighted

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