MediaMatrix®
Peavey Electronics Corporation

Acoustic Echo Canceling Card — Data Sheet

Description

The NION NIO-AEC Acoustic Echo Canceling Card is a wideband echo canceling device with 8 mic/line-level inputs for use in NION DSP frames. Depending on the NION model, up to 4 NIO-AEC cards may be loaded in a NION DSP.

Features

- Eight analog mic or line-level audio input channels with 24 bit A/D
- Eight channels of wideband acoustic echo cancellation
- Acoustic echo cancellation can be applied to mic input or internal audio input channels (from NION)
- 48 and 96 kHz audio sampling rates supported
- High reliability DIN connector to backplane, using slide rail for alignment
- Mini-Euro connectors for easy input connection

Specifications

CATEGORY	INPUT CHANNELS	DESCRIPTION
AUDIO CHANNELS	8	Analog mic/line-level signals, selectable per channel, and AEC processing
FREQUENCY RESPONSE	20 ~ 20 kHz (+/-0.5 dBr)	Referenced @ 1 kHz, 22 dBu input level, via AEC processor
ANALOG INPUT: RELATIVE PHASE	+/- 0.4 degrees	20 Hz ~ 20 kHz, referenced @ 1 kHz, 22 dBu input level
ANALOG INPUT: THD+N	0.004%	22 kHz bandwidth measurement, +4 dBu signal with 20 dB Headroom
ANALOG INPUT: DYNAMIC RANGE	-110 dB	A-weight filter measure
ANALOG INPUT: CROSSTALK	-102 dB	20 Hz ~ 20 kHz, measured between channel pairs (1-2, 3-4, 5-6, 7-8) +33 to -42 dBu
PHANTOM POWER	48 VDC	Available on a per channel basis
MAXIMUM INPUT SENSITIVITY SETTINGS	+21 to -42 dBu	In 3dB increments, less than 1.0 dB error between settings
ANALOG GAIN	-3 TO +60 dB	True analog gain
LINE INPUT IMPEDANCE	5.3K Ohms	Effective for sensitivities of +33 dbu to +6 dbu
MIC INPUT IMPEDANCE	1.9K Ohms	Effective for sensitivities of +3 dBu to -42 dBu
EQUIVALENT INPUT NOISE (EIN)	-129 dBu	Referenced to +22 dBu input, 150 Ohms input termination, 22 kHz bandwidth measurement, Gain = 66 dB
SAMPLE RATE	32 kHz – 96 kHz	

Notes:
1. All specifications are typical for any channel(s).
2. All measurements are made with an AC line of 120 Volts rms / 60 Hz.
3. All measurements are made using 600-ohm balanced loads at 24 dBu full scale unless otherwise stated.
4. All measurements are made in the analog domain with gain/attenuation set for unity unless otherwise stated.
5. All measurements are made using 48 kHz sample rate.

Architect's & Engineer's Specifications

The mic/line-level input processing and acoustic echo canceling card shall be an eight discrete channel device designed to add mic preamps and/or line-level analog inputs to the NION DSP audio processing node. It shall also allow wideband acoustic echo cancellation to be applied to the mic input or internal audio input channels. The slide rail support industrial package is designed to easily install in one of the slots provided at the rear of the NION DSP audio processing node. The connection at the rear of the card shall use a DIN connector. Cards shall be available for mic and line-level analog audio with options for digital and proprietary audio transports. All card types shall include separate software devices for integration into the configuration file. The mic/line-level input processing and acoustic echo canceling card shall be the MediaMatrix NIO-AEC or approved equal.