Noise Inspector – I²S-Frontend

Noise is becoming more and more important for the product design and so is the localization of the noise sources a substantial point for the complete design process. Acoustic methods based on microphone arrays open the possibility of representing directly the acoustic sources on the objects by overlaying acoustic results on optical pictures. The **Noise Inspector** is a **modular**, **extremely flexible** acoustic camera with which you can minimise development times for your products and increase your competitive position. Due to the exact and clear visualisation of the noise sources, the development can react quickly. The system guarantees precise and uncomplicated determination of acoustic sources, also convincing through its **really low costs.**

There are several methods available for processing the microphone signals. Beside the **standard Beamforming**, **orthogonal Beamforming, MUSIC, Capon, DAMAS and RB (Rotating Beamforming),** which is used for measurements in the far field, the **Nearfield Acoustic Holography (SONAH**) is a very efficient method for applications in the acoustic near field and for low frequency noise sources.

These methods in combination with the most flexible hardware you are able to find always the best solution for your technical challenge.

The **Noise Inspector** is unique:

- Far- and Nearfield System in ONE-System
- unique & "your own (LabVIEW)" algorithms
- **World Wide Best Price!!!**

I²S-Frontend

Channels	40 / 64
Sample Rate	48 kHz / 25 kHz
Resolution	24 bits
Simultaneous Sampling	Yes
Interface to PC	Ethernet
Sensor Connector	8 mics to one RJ 45 plug
Power Supply	9-30 V DC
Power Consumption	< 5 W
Length	230 mm
Width	185 mm
Height	58 mm
Weight	2 kg

MEMS-Microphones (or all hardware with I²S-Interface)

Resolution	24-bit
Interface	I²S
High SNR	61 dBA
High Sensitivity	-26 dBFS
Flat Frequency Response	from 60 Hz to 15 kHz
Housing	1/2''

The CAE Laboratory Array:

Standard-Size	800 mm x 800 mm
Material	aluminium
Weight	1,3 kg
Number of microphone-position	64
Expandable with add. arrays	Yes
Tripod	Aluminium

CAE
Software & Systems

National Instruments hardware:



Fig. 1: I²S-Frontend



Fig. 2: I²S-Frontend



Fig. 3: I²S-Frontend (only for size comparison)



Fig. 4: MEMS (I²S-Interface)



Fig. 5: System

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