AVAD3: Detector for Audio-visual Signals from the Cockpit

The Ultimate Sensing System for Capturing Alerts from Driver Assistant Systems Like Line Keeping or the Automatic Emergency Brake Assist for Euro NCAP Testing

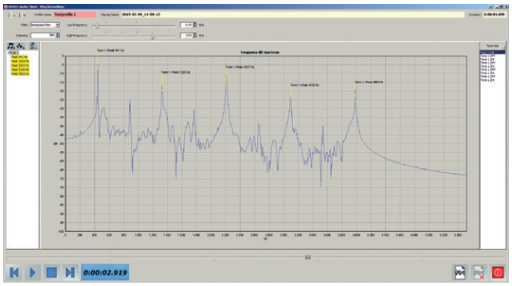
The AVAD3 is capturing acoustic and optical alerts and signals from the combined instrument. It outputs triggers to the TTL, LAN and CAN when it recognises changes in forms and colours of defined icons or when tones are identified.
The latency of the resultant output is only within a few ms.
The core of the AVAD3 is a very fast high end processor for the analysis of the images and tones which is packed with all signal conditioning and I/O-modules in a robust automotive box.

Picture
Camera and microphone are mounted close to the combined instrument with a suction cup. There is no interaction during the trip.

AVAD3: Features and Specification

- Extreme short latency times (typ. 2-4 ms)
- Frame rate 100/200 Hz; CAN-output rate max. 200 Hz
- Configuration with Internet Browser
- The AVAD3 is immune to vibrations in Theo vehicle
- Configurations can be saved for later use
- Delay time between alert and trigger output to TTL, LAN and CAN within a few ms
- Crash detection via I/O-input
  Status inputs to control event control o set markers
- Easy control during test rides

Configuration for changes of the shape or the colour of the icon

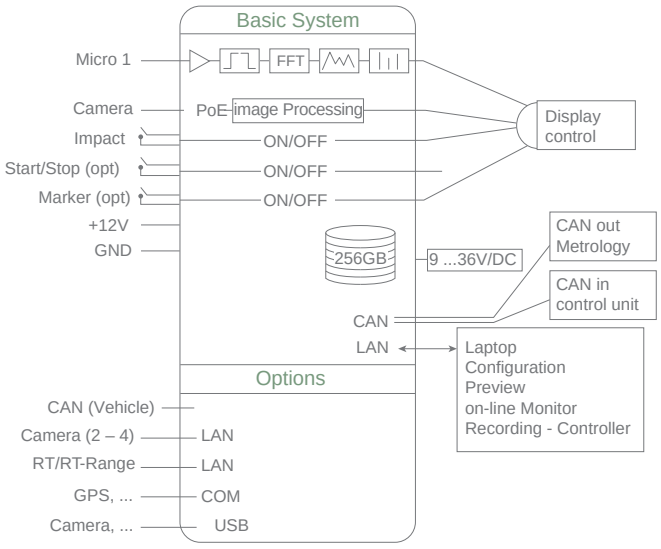


Selection of the frequency and amplitude of tones from a signal spectrum

Due to high processor performance of the AVAD3 a number of various options can be implemented:

- 1 – 4 Cameras for event controlled recording in and around the vehicle
- CAN input for status and control information from the vehicle control units
- Triggering of bit patterns from Theo control units of the car with latency time calculation
- LAN interfaces for RT und RT-Range data recording
- GPS for time synchronisation and position recording
- General data recording from other LAN-, CAN- devices

Block diagram AVAD3



With these and even more features, the AVAD3 can be used for long term test runs in the public traffic for testing driver assistance systems. The AVAD3 can also be used on simulation benches for testing latencies between control device and the dashboard.