All in One
Data Logging
Without Compromise

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March 20, 2012
Overview

• Automotive trends electric/electronics
• Meeting the needs of different user profiles
• Data logging without compromise
• Technical data and interfaces
• Configuration, analysis, control & packages
Trend in Automotive E/E

1. Driver assistant systems (video-based and autonomous functions)
2. Increasing and more complex communication systems (by-wire, distributed functions)
3. Vehicle dynamics (active chassis functions)

Higher requirements on test & validation!

Need for intelligent data acquisition systems (DAS)
Different Needs

Overall data recording

• Validation of connected vehicle bus systems

• Access to the signal’s history

• Access to the signals before and after triggered events (pre- and post-triggering)

• Huge quantities of recorded data

Functional data recording

• Selective data recording, not everything

• Recording just the error conditions

• Data for specific analysis required e.g. CCP/XCP

• Data transfers shall be fast and in small and limited quantities
Comprehensive and intelligent recording of all bus systems and FAS information, analog and digital signals

High logging bandwidth for video-based driver assistant systems

Intelligent functions
Filter & trigger, DB integration, diagnostics over CCP & XCP and user apps
Solution: Hybrid Concept

Onboard Diagnostics
- CCP/XCP

Database
- FIBEX/CANdb/
- AUTOSAR TL/MCD3 ODX

Get-It-All

Intelligent Logger
- Filter & Trigger
Get-it-All Recording

- Independent unit which records all bus systems and D/A-inputs (FPGA-based)
- Precise time stamping of all messages and events
- Direct connection and logging of LVDS camera systems (in preparation)

Mass storage
- Logger is equipped with a SSD mass storage and CompactFlash slot
- Data exchange over CF card, Ethernet and USB
Intelligent (Selective) Logger

• The intelligent unit has full access to the „Get it All“ data stream (Intel Atom based)
• The intelligent logger has transmit access to Fx, CAN and Serial bus systems
• Configuration of bus interfaces can be done via FIBEX
• Intelligent and additional features: Diagnostics over CCP/XCP, user-code based pre-processing /pre-analysis
Key Features

**TTX Datalogger:**

- Simultaneous, extensive data logging with a central time stamp (1 µs accuracy)
- Configurable power management
- Filters, triggers, pre-analysis
- Diagnosis
- Open data format
- Integrated CCP/XCP master
- Freely programmable
- Wake-up recording
Technical Data

General

- Power supply: 9 V to 32 V (load dump protected)
- Voltage drop 5.6 V up to 30 s
- Power consumption in use: 20 W (typically)
- Operating temperature range: -40 °C to +75 °C
- Robust automotive-compliant housing
- 2 lockable robust connectors

Intelligent Part

- Intel® Atom™ Processor Z520 @ 1.6 GHz
- 512 MB DDR2
- 4 GB Onboard SSD/Flash Memory
- OS: Linux
Automotive Interfaces

Variant MOST

- 12 x CAN (4 HighSpeed and LowSpeed switchable)
- 3 x FlexRay (2 channels synchronous/asynchronous)
- 12 x LIN
- 6 x RS232
- 15 x Analog Input (12Bit)
- 15 x Digital Input (Interrupt)
- 3 x Analog Output/6 x Digital Output
- 2 x 100 MBit Ethernet (in preparation)

Variant BASIC

- 1 x MOST25, SPY-Mode
- 1 x MOST150, SPY-Mode
- 4 x LVDS (with Repeater)
- 1 x NTSC (with Repeater)
- 12 x CAN (4 HighSpeed and LowSpeed switchable)
- 3 x FlexRay (2 channels synchronous/asynchronous)
- 12 x LIN
- 6 x RS232
- 15 x Analog Input (12Bit)
- 15 x Digital Input (Interrupt)
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User Interfaces

On-logger display and control unit

- Easy to use control with keys and display
  - Status informationen
  - Start/Stop
  - Selection of configurations
  - Place markers/setting of triggers
- Free programmable soft keys/call-up of programm codes
External control of logger

1. Remote control
   • Identical with the on-logger display and control unit
   • Interfaces for CF card and USB flash drive

2. Control over Ethernet
   • API for test bench automation

3. Web server (in preparation)
Configuration

Windows-based configuration tool

- Measurement configuration/hardware
- Configuration transfer to the data logger
- Import of FIBEX, CANdb and ASAP2 databases
- Signal/PDU Layer generation and export to the signal database
- Support for user-code programming via C-Code templates
- Data retrieval and conversion in various output formats
Data Analysis

- Import DLL for CANoe provided by Vector Informatik
- Open data format: TTL
- Data export feature via PC tool (ASC, IMG…)
- Open XMLRPC for remote control
- Open API for user applications
TTXDataLogger: Product and Variants

Hardware

- TTXDataLogger BASIC
- TTXDataLogger MOST
- TTXDataLogger Video

Software Options

- GSM
- GPS
- WLAN
- Remote Control
- XCP
- CCP
- Complex Filter & Trigger
- Diagnosis

1 via expansion slots
2 external hardware

Optionally In Preparation