

# Hardware Interface for MOST

The development, simulation, testing, and maintenance of mobile MOST networks require high-performance, robust and user-friendly hardware interfaces. The very fast MOST interface VN2610 is here the ideal solution for use with notebook or desktop PC.

## The Highlights at a Glance

- > Supporting all channels of the MOST bus with a high bandwidth (control messages, asynchronous and synchronous channels)
- > Sending and receiving asynchronous packets of any length
- > Control and asynchronous spy for logging of all messages
- > Simultaneous operation of MOST node and MOST spy
- > Data transfer of the synchronous channel to and from the PC with optional Rx time stamps
- > One optical S/PDIF input and output; 16 bit stereo, with optional sample rate conversion (selectable)
- > Temperature range -20 °C..+70 °C
- > Wide voltage range (startup 7 V..50 V, operation 5 V..50 V)
- > USB 2.0 port (USB 1.1 with reduced bandwidth)
- > Accurate time stamps (1 µs) and low reaction times (typ. < 5 ms)
- > MOST Limited Physical Compliance certified
- > Compatibility with the XL-Interface-Family
- > Supported by the XL-Driver-Library

## Features and Advantages

Due to its USB 2.0 access the MOST interface VN2610 provides high data throughput and short response times. Of course, it is fully compatible to its predecessor, the VN2600. Additionally the VN2610 has an optical S/PDIF input and output with integrated sample rate converters (selectable). For analysis or further processing the synchronous channels can also be transferred via USB to and from the PC with full bandwidth. While receiving data, an optional overhead mode with time stamps allows assigning control messages to the synchronous data.

With its wide supply voltage range the VN2610 ensures sufficient reliability in analysis, especially during cranking tests in the vehicle. Due to the certification of the MOST Cooperation the compatibility to existing components is guaranteed.

The VN2610 can be synchronized with additional Vector CAN, LIN and FlexRay interfaces. Together with CANoe and CANalyzer, the VN2610 provides effective development and analysis of all vehicle bus systems in the network.

You can use the XL-Driver-Library and the MOST Analysis Library for the integration in your own application.

## Functions

- > Receiving all control messages and asynchronous packets without influencing the MOST bus (spy mode)
- > Sending and receiving of control messages as well as of asynchronous packets of any length as a node
- > Access to the audio channels via headphone output or LineIn or alternatively via S/PDIF input and output, as well as to all synchronous channels via USB
- > Access to the current Allocation Table
- > Time synchronization to other Vector interfaces (together with CANoe or CANalyzer)
- > Wide voltage range (operation 5 V..50 V, start-up 7 V..50 V)

## Application Areas

The VN2610 is suited for all MOST application areas. In combination with CANoe.MOST and CANalyzer.MOST you can easily create and send messages to bus participants in the node mode.

Simultaneously, you can record (spy mode), filter, display and log all bus messages of all bus participants conveniently.

You can analyze multi-channel synchronous data streams with or without time stamps and generate test signals for the synchronous channels in the PC – and that via USB. This allows for example:

- > Logging of the complete MOST data communication for offline analysis and error logging for suppliers
- > Test of transfer functions of digital-analog or analog-digital converters
- > Implementation of optimized flash algorithms with full bandwidth in production (1..60 bytes)
- > ECU diagnostics via hidden communication in idle synchronous channels
- > Implementation and test of DTCP algorithms with the PC
- > Creation of test signals of any complexity

In gateway development, you can precisely synchronize the timestamps of CAN, LIN, and FlexRay messages to those of the MOST messages, e.g. for monitoring signal paths or flow delays.

By using the programming language CAPL in CANoe/CANalyzer you can emulate an ECU functionally and connect it to the MOST ring via the VN2610 as a virtual ECU.

# VN2610 – USB Interface for MOST

The MOST Interface for USB 2.0 with byte accurate PC Access to the synchronous Channels

## Technical Data

MOST controller	OS8104
Operating modes	Master, Slave, Spy, Bypass
Spy for the control and asynchronous channel	Can be activated in parallel to other modes or separately
Control messages (Master/Slave)	Up to 985 msgs/s (Tx), Up to 1453 msgs/s (Rx)
Control messages (Spy)	Full bandwidth (3000 messages/s)
Asynchronous packets (also Spy)	Packet length up to 1014 bytes up to 9600 packets/s (Tx), up to 25000 packets/s (Rx), up to 1.45 MB/s (Tx and/or Rx)
Synchronous channels	USB: 1..60 byte per frame, Tx and/or Rx, with optional Rx time stamps 1 x Line In, 1 x Line Out, 1 x S/PDIF In, 1 x S/PDIF Out
Master frame rates	44.1 kHz and 48 kHz selectable
PC interface	USB 2.0 (USB 1.1 restricted)
MOST connector	MOST 2+0, Full Physical Compliant
Temperature range	Operation: -20°C..+70 °C Storage: -40°C..+85 °C
Operating system	Windows 2000, XP
Dimensions (LxWxH)	Approx. 140 x 105 x 32 mm
Power supply	Startup: 7 V..50 V, approx. 5 W Operation: 5 V..50 V, approx. 7 W
Time stamp accuracy	1 µs
Digital input/output	Optical S/PDIF, 16 bit stereo 44.1kHz/48 kHz
Sample rate converter	2 x for S/PDIF

### Included with Delivery

- > VN2610
- > Power supply 100..240 V AC
- > Power supply cable 1 m (with stripped end)
- > USB 2.0 cable
- > Fiber optic cable to connect to a MOST ring, with standard MOST 2+0 connector and two HFBR4531 plugs, 1 m
- > Fiber optic cable for connection to S/PDIF and Toslink devices, 5 m long
- > Two couplers for HFBR connectors
- > Drivers for Windows 2000, XP
- > XL-Driver-Library (32 bit driver library for C++, C)
- > Documentation

