

NovaCarts Automotive Ethernet

Automotive Ethernet is the communication cornerstone for data-intensive applications when it comes to driver assistance, autonomous driving and infotainment. As a member of the OPEN Alliance, MicroNova participates in the establishment of Ethernet-based communication as the standard for automotive network applications.

The NovaCarts Automotive Ethernet (NC-AutEth) software is used to simulate (sending and receiving) and track telegram-based communication via Automotive Ethernet. The powerful solution from the NovaCarts product family supports the 100BASE-T1 and 1000BASE-T1 protocols standardized by the OPEN Alliance. The MicroNova test systems are therefore ideally suited for simulating Automotive Ethernet networks – even at high data rates of up to 1 Gbit.

NC-AutEth also supports a wide range of hardware for connecting to the physical layer of Automotive Ethernet. These range from simple protocol converters to Automotive Ethernet switches from well-known manufacturers.

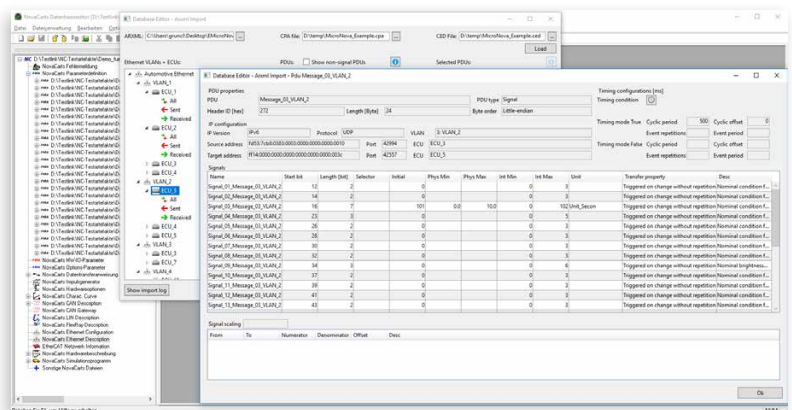
Highlights

- » Simulation of any number of Ethernet Control Units
- » Monitoring of PDU-based Ethernet traffic from Ethernet ECUs
- » ARXML support for AUTOSAR 4.2 and AUTOSAR 4.3
- » Support for all CompuMethods
- » VLAN support
- » Support of 100Mbit and 1GB automotive Ethernet
- » High performance implementation

Typical applications

NovaCarts includes numerous Ethernet protocols for simulation as standard. The clear user interface of the NovaCarts Automotive Ethernet software enables simple and fast creation of even extensive configurations and is easy to operate: Rest bus simulations or signal recording can be created automatically from ARXML files, whereby one or more ARXML files can be selected simultaneously.

Changes from the previous import – i.e. new or deleted Protocol Data Units (PDU) – are highlighted graphically and can be seen at a glance. This makes it easier to handle frequent changes during the development phase of ECUs. Once imported, recorded PDUs can be sent immediately or received PDUs can be displayed.

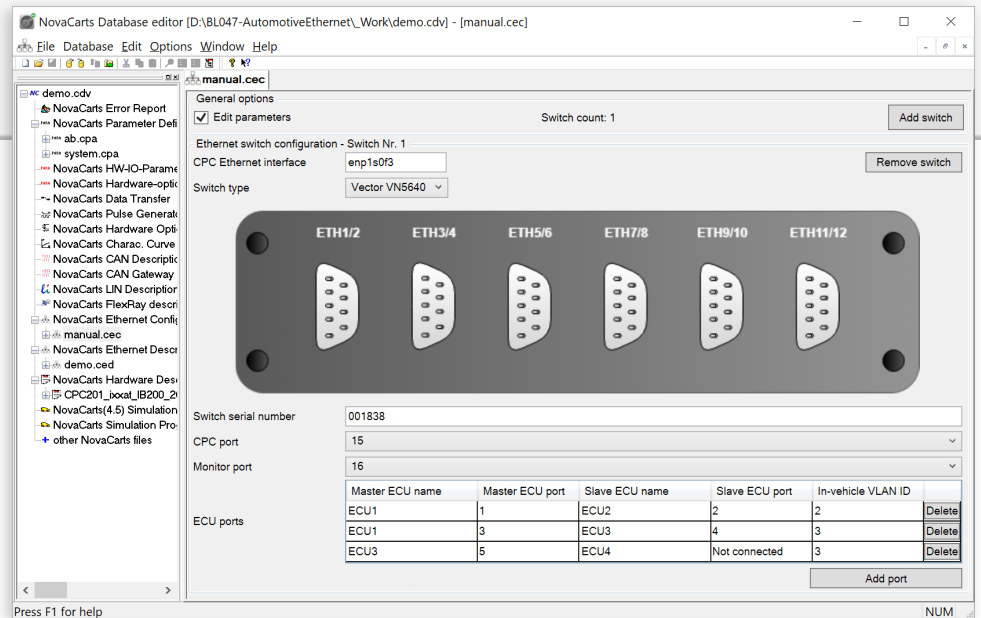


ECU view and PDU detail view

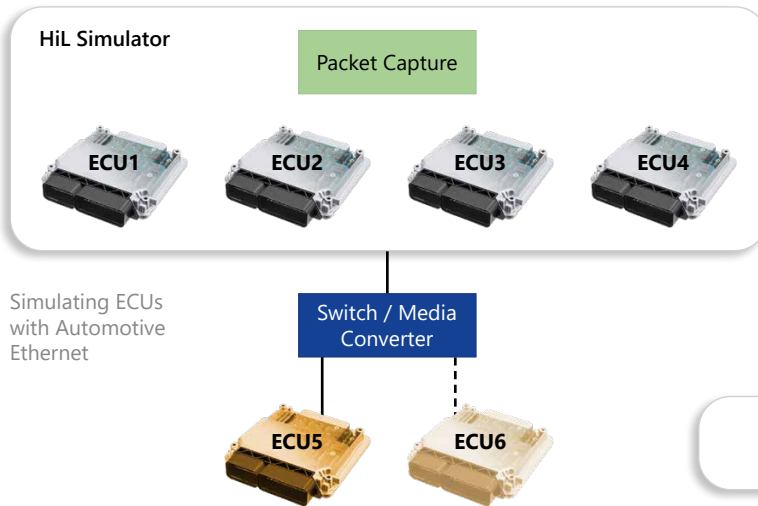
Data Sheet

Order number: **NC-AutEth**

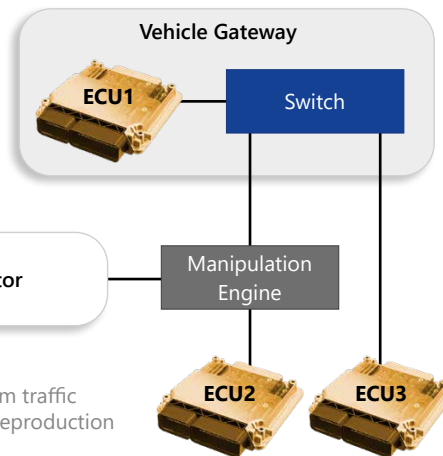
Data sheet version: **1V0**



Configuration interface for channel assignment for Automotive Ethernet



Simulating ECUs with Automotive Ethernet



Recording of telegram traffic between ECUs with reproduction in HiL

NC-AutEth can be configured for the application cases "Simulation of ECUs in the HiL simulator" and "Real-time monitoring of data traffic".

The NovaCards Automotive Ethernet software offers considerable computing power: The complete simulation for an Ethernet gateway, for example, only requires a CPU load in the lower two-digit percentage range on a single core of the simulation computer, meaning a single system can also simulate sophisticated configurations for complete vehicle groups.

Data Sheet

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Benefits

The NovaCarts Automotive Ethernet solution provides a powerful and flexible platform for simulating Ethernet-based ECUs. MicroNova is continuously developing its hardware and software and adapting them to new conditions in line with the dynamics in the field, e.g. new communication protocols or extended bandwidths. This enables companies to plan their use for the long term and thus protect their investments.

Features

- » Integration in NovaCarts database editor
- » Simple configuration
- » Manage changes in ARXML files
- » Simulate ECUs with Ethernet interfaces
- » Real-time monitoring of ECUs with Ethernet interfaces
- » VLAN support
- » 100BASE-T1 and 1000BASE-T1 support
- » ARXML support for AUTOSAR 4.2 and AUTOSAR 4.3
- » Support for VN5640 and various CISCO switches

Package includes:

- » NC-AutEth on data medium
- » User documentation on data medium