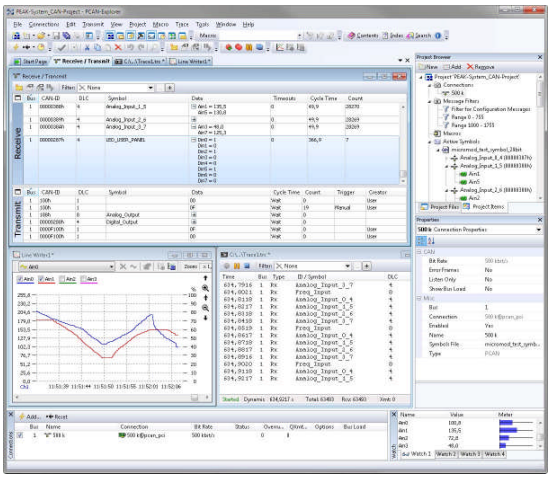
Peak PCAN-Explorer Software

COMSOL distributes the Peak System range of CAN Interfaces, Adapters, I/O Modules, Data Acquisition Systems and Supporting Software.

This leaflet describes the PCAN-Explorer package which provides advanced CAN test and diagnostic facilities as well as data acquisition and display capabilities. It can be extended to provide a GUI interface to a CAN system and also to support the J1939 standard.



Or follow these links for more information on:

Peak range of CAN Interfaces

CAN Data Acquisition Systems

CAN I/O Modules

Software Support for FMS

Cables and Adapters

Most of these items are available from our **Web Shop** for next day delivery.

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Using CAN

PEAK CAN Controllers

The Peak range of CAN interfaces provides simple and cost effective connections between PCs and CAN-networks and includes routers, extenders and adapters to the many CAN variants.

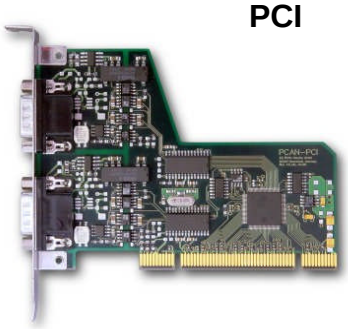
PCMCIA

USB

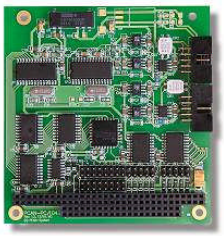
PARALLEL PORT

ISA

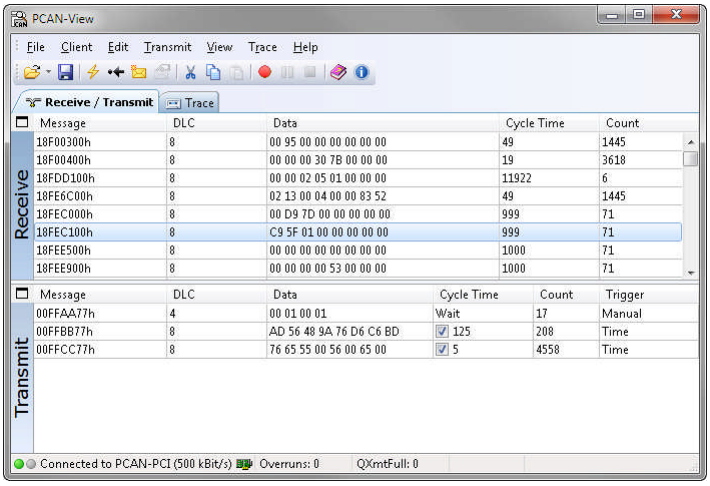
PCI



PC/104



PCAN interfaces support both 11 bit ID and 29 bit ID CAN specifications with a maximum speed of 1Mbaud. They use the SJA1000 CAN-controller and the 82C251 driver. The CAN-bus connection is via a 9-pin SUB-D plug, whose pin assignments conform to the CiA recommendation. No termination is included in the interfaces. Optoisolated versions are available if required and most interfaces can be supplied with one or two ports.



Drivers and supporting DLL's are included to allow operation under XP, Vista, Windows 7 and Linux in 32 and 64* bit modes. CE6.x support* for ARM and x86 is also available. (* most interfaces). Language support is provided for C++, C#, C++/CLR, Delphi, VB.NET, Java and Python 2.6.

A Windows package PCAN-View is included with all interfaces to allow the user to view messages on the CAN bus. All data is displayed in Hex and messages are timed and counted. A trace buffer allows messages to be recorded and saved to disk. Errors such as over-run and baud rate problems are reported. Messages can be user created and then sent as one-shot, repeating periodically or in response to a remote request (RTR).

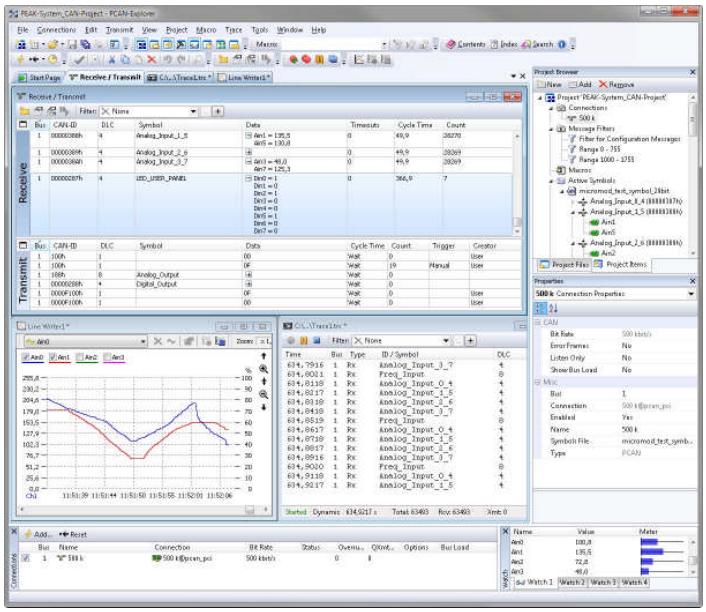
Industrial I/O Modules

These Industrial I/O modules are available in a number of useful configurations including signal conditioning and termination in an industrial case. Up to 8 10 bit analogue inputs, 4 PWM/frequency outputs (to 20KHz) and 8 digital ins and outs are available. At 51 x 60 x 20mm, they are suitable for a wide variety of applications. The electrical connections provide snap-in termination; with a screw connection as an option. A windows package is provided so that the user can set message ID and data layouts and conversion constants as well as setting report rates or reporting on change.

CAN Open firmware is also available if required.

PCAN-Explorer

This tool can be used as an advanced CAN bus traffic monitor. It provides the following features: Message identifiers can be given names avoiding having to remember each messages HEX value. Message data can be displayed in a wide range of formats including text, hex, signed, unsigned and floating point.



An extensive conditional macro language allows complex tests and simulations to be performed. Optional packages provide sophisticated graphing, CANdb data exchange, a visual GUI to control and display CAN data collection and a full J1939 symbol database simplifying control of ECU's.

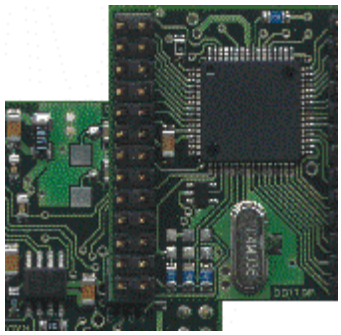
PCAN-FMS Toolkit

A special software package is available to support FMS and Bus-FMS standards. It logs and translates the CAN messages in real time providing the user with a "Dashboard display". The log can be replayed to a CAN bus or values can be set manually from a convenient Windows display for system simulation.

Data Acquisition Systems

Peak have a growing range of units designed to suite a variety of data acquisition requirements such as multi Thermocouple, A/D and D/A conversions and digital I/O. As well as data logging and mobile GPRS links there are also CAN Routers and filters. Some have full C programmability others only need simple windows configuration.

CAN MicroMod Boards



A flexible, small format, Analogue and Digital I/O board with a CAN-Bus interface.

The PCAN-MicroMod board can be plugged into an application to provide control and monitoring services via the CAN-Bus. It provides the following

- 8 analogue inputs, 10-bits resolution, Vref 5 V
- 8 digital inputs & 8 digital outputs
- 4 PWM / frequency outputs, with a range 1 Hz-20 kHz

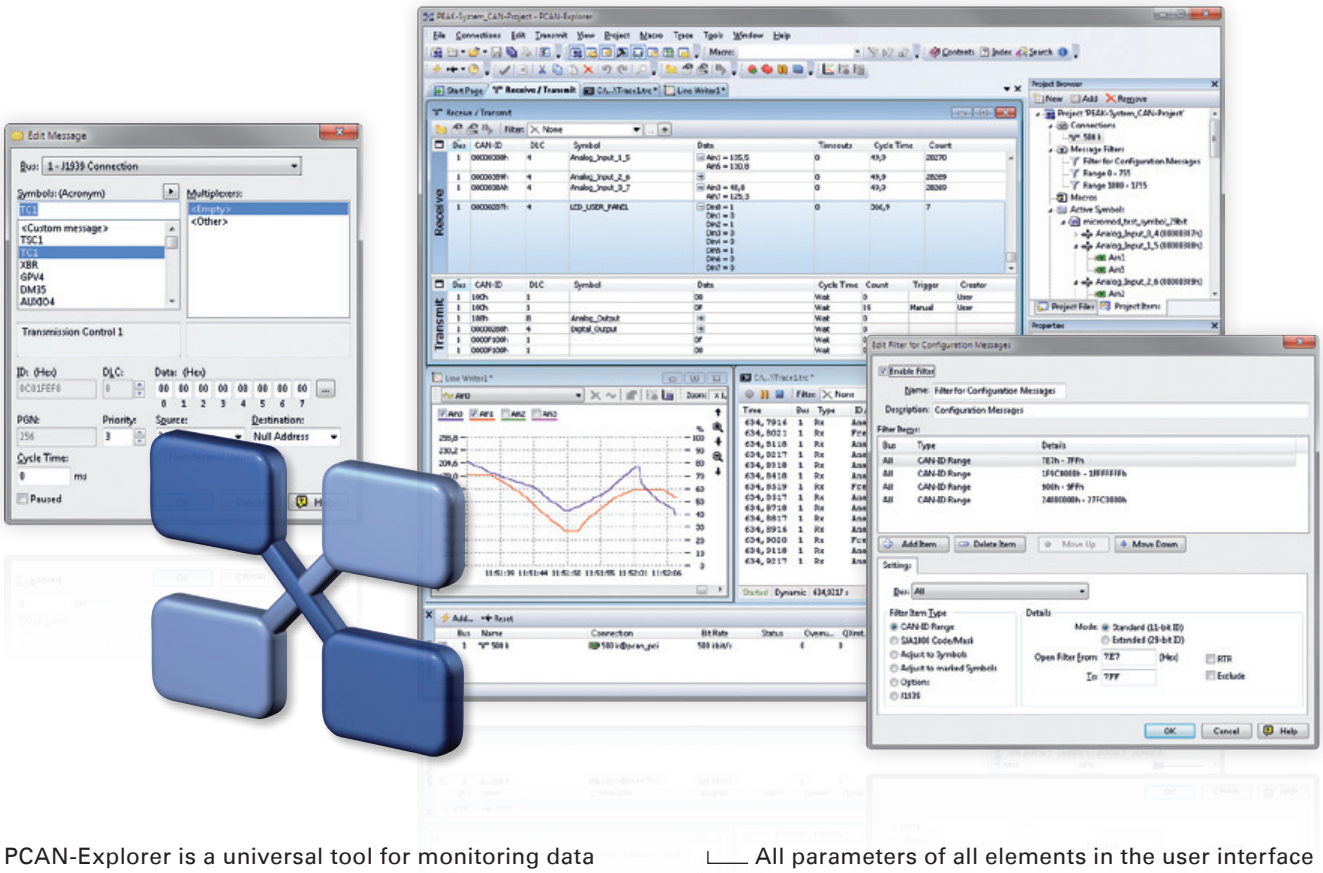
The integrated firmware provides simple configuration of the target system via a Windows utility program, the configuration data being sent to the board via CAN. No embedded programming skills are required to set up a system. Up to 32 PCAN-MicroMod boards can be put onto a single CAN network.

An optional evaluation board simplifies development of user designed carrier boards and also makes the MicroMod an ideal CAN evaluation tool.

Call or email us with your requirements.

PCAN-Explorer 5

Comprehensive CAN Monitor for Windows



PCAN-Explorer is a universal tool for monitoring data traffic on a CAN network. For easy and clear allocation of the individual messages, these can be identified as so-called symbols. The integrated VBScript support allows the creation of macros to automate complex tasks. The integrated data logger means that the data traffic of a bus can be recorded, analyzed, and stored. PCAN-Explorer is designed as automation server and can therefore be remote controlled through scripts.

Features

- All files and elements can be managed and saved in projects
- Project components such as CAN connections, symbol files and macros are clearly displayed and laid out in the project browser
- The new start page allows fast access to the most recently opened projects or files
- Simultaneous connections with multiple networks/ CAN interfaces of the same hardware type
- Connection window with an overview of all connections, complete with status, error counters, bus load, etc.
- All parameters of all elements in the user interface can be examined using a property window and edited if necessary.
- Multiple flexible filters can be configured and, for example, assigned to the transmit/receive window or the various different tracers
- Tabs to switch between the different Windows
- Flexible arrangement of the user interface using the dockable windows
- User-defined column display and arrangement in transmit/receive window
- J1939 support with the relevant add-in
- Display of received messages showing the ID, length, data bytes, number of messages received and receiving interval
- Simultaneous hexadecimal and symbolic representation of the details
- Display of remote frames, status reports of the CAN controller and, as option, CAN-bus error frames also
- Logging of time-outs
- Sending of messages at fixed intervals of time, manually or as reply to remote frames

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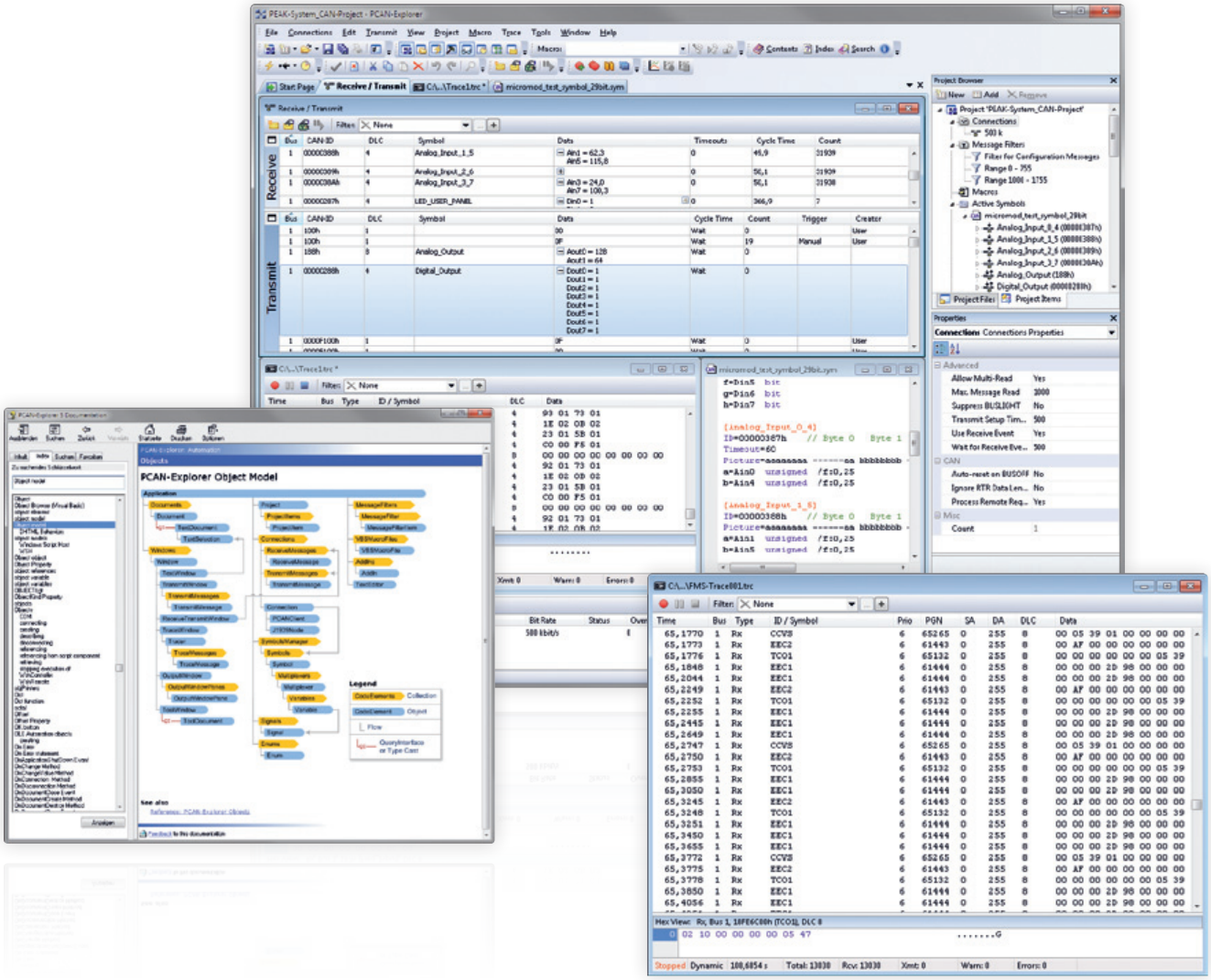

- Messages can be created as send lists, stored and loaded as desired, in order to e. g. emulate CAN nodes
- Periodical sending with up to 1 ms precision
- Easy creation of symbol files and macros using the integrated text editor with syntax highlighting
- User-friendly real-time monitoring of several signals via the watch window
- Extensive improvements to user guidance and interface compared to PCAN-Explorer version 4
- User interface language can be switched (German/English)
- Simple integration of external tools
- Integration of Add-Ins to upgrade functionality

Properties of the integrated, configurable PCAN-Explorer data logger:

- Operation of multiple tracers at the same time
- Variable buffer size
- Optional linear buffer or circular buffer
- Representation of the logged messages with time stamp, type, ID, length and data bytes
- Logging of errors that have occurred is possible
- Flexible storage possibility for the logged data in text form for importing into Excel or similar
- Filtering of the messages for logging through symbol definitions
- Subsequent examination of the logged data in the buffer via different symbol files

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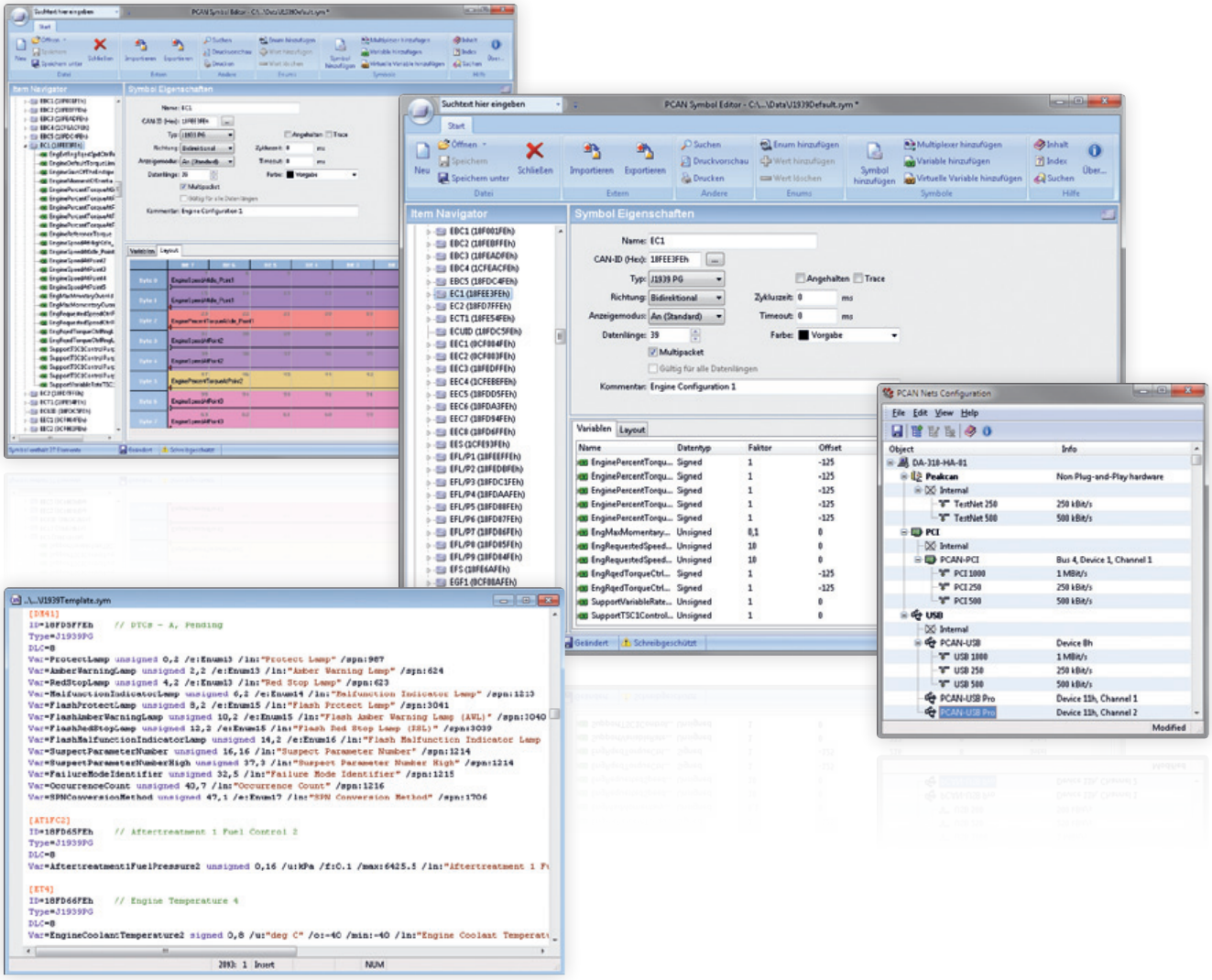

Function upgrade of the PCAN-Explorer with the integrated VBScript language:

- Creation of macros in VBScript with the integrated text editor
- Access with macros and scripts to almost all program elements via the PCAN-Explorer object model
- Ideal for creating test tools to implement or develop CAN systems
- Examples: sending of e-mails when a temperature is exceeded, starting of a test tool when a particular message is received, opening of an Excel sheet when an event occurs and saving of data in the individual cells
- Assignment of function keys with individual send messages or macros
- VBS scripts run in the background even without the PCAN-Explorer interface

Ordering information

Designation	Art. No.
PCAN-Explorer 5	IPES-005028

Scope of supply

- PCAN-Explorer installation CD including PCAN-Explorer Line Writer Add-in
- PCAN Symbol Editor for Windows (details on page 62)
- Documentation in HTML help format

System requirements

- Windows 7/Vista/XP (32/64-bit)
- At least 512 MB RAM and 1 GHz CPU

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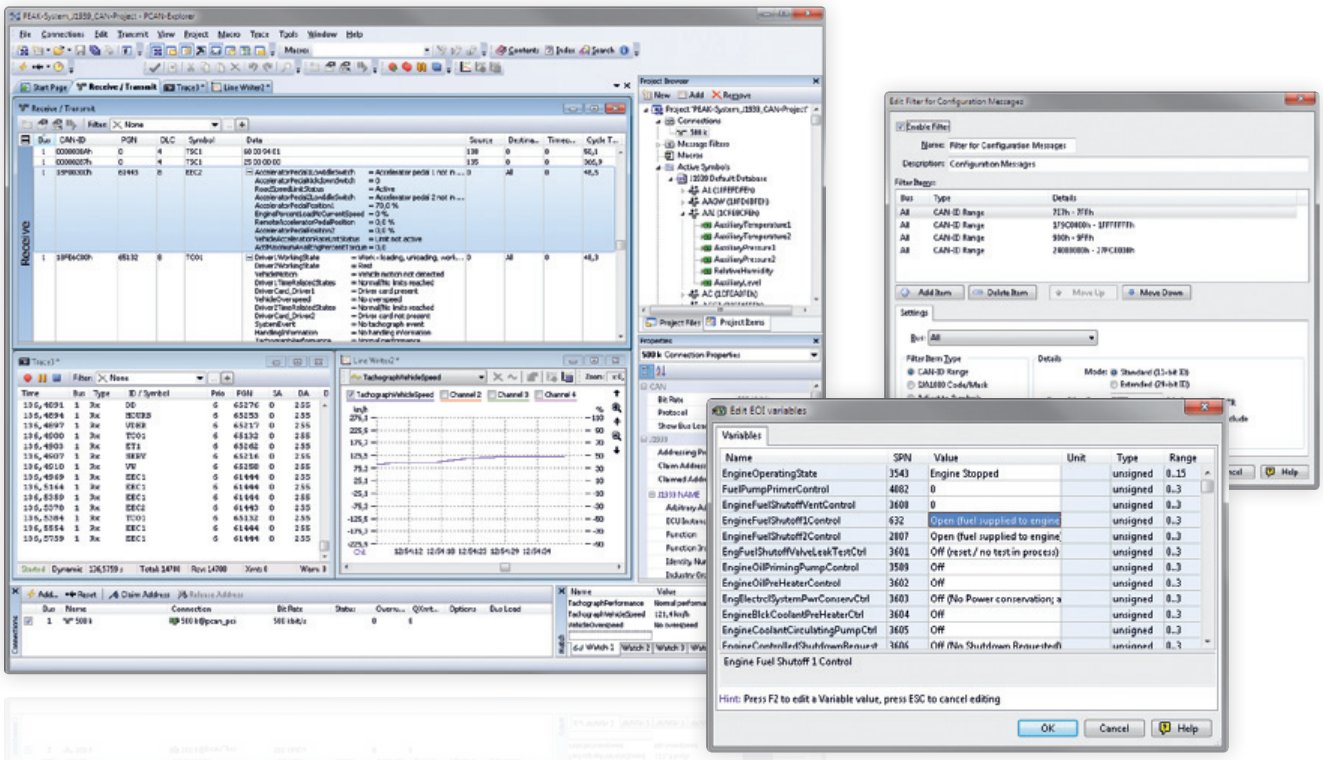
PCAN-Explorer Add-ins

Optional Function Upgrades for PCAN-Explorer



J1939 Add-in

The SAE J1939 network protocol describes communication on a CAN bus in utility vehicles for the transmission of diagnostics data and control information. It contains a complete network definition using 29-bit CAN-IDs (CAN 2.0B Extended Frame).

The J1939 add-in for PCAN-Explorer 5 supports all definitions established by the standard's parameter groups and provides a simple means of accessing the parameters. A complete database of all the definitions and the parameters contained is also supplied.

Features

- Support for all functions of the SAE J1939 network protocol
- CAN messages can be sent in broadcast form or targeted to individual control units (ECUs)
- Addressing of up to 254 ECUs
- Supports multi-packet messages

Ordering information

Designation	Art. No.
J1939 Add-in	IPES-005089

Scope of supply

- J1939 Add-in software
- Documentation in HTML help format

System requirements

- PCAN-Explorer 5
- Windows 7/Vista/XP (32/64-bit)
- At least 512 MB RAM and 1 GHz CPU

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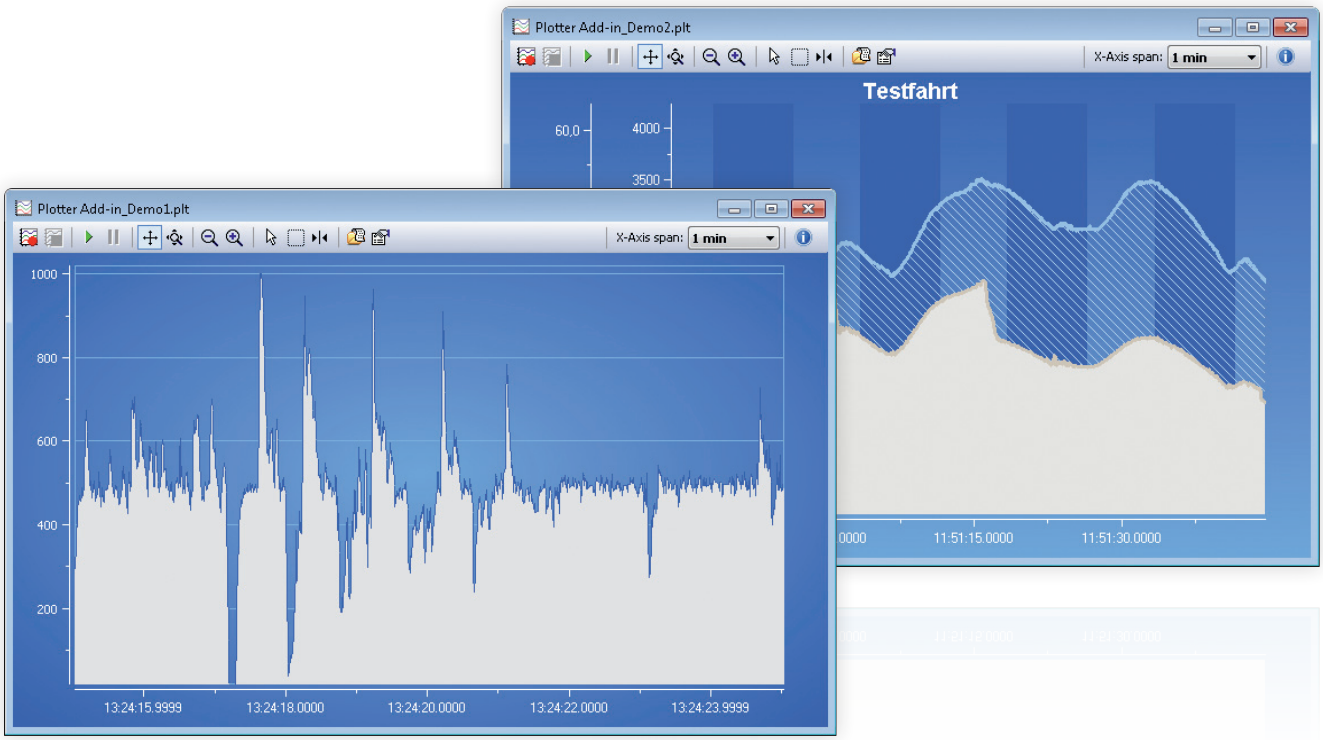
PCAN-Explorer Add-ins

Optional Function Upgrades for PCAN-Explorer



Plotter Add-in 2

The plotter allows the graphical representation of CAN data using any number of channels.

Features

- Real-time display
- Unlimited number of channels
- Unlimited number of Y-axes
- X-axis and Y-axes can be zoomed and scrolled quite freely, even during recording
- Labelling of time axis with absolute or relative time stamps
- Facility for automatic adaptation of axes to plots
- Reversible Y-axes
- Logarithmic scales
- Cursor display for plot measurement
- Export to EMF-, PNG-, BMP-, JPEG graphical formats
- Data import from the PCAN-Explorer Tracer
- Representation of limiting values and value ranges
- Comprehensive formatting options for representing the curves, axes and the plotter layout

Ordering information

Designation	Art. No.
Plotter Add-in 2	IPES-005087

Scope of supply

- PCAN-Plotter Add-in software

System requirements

- PCAN-Explorer 5
- Windows 7/Vista/XP (32/64-bit)
- At least 512 MB RAM and 1 GHz CPU

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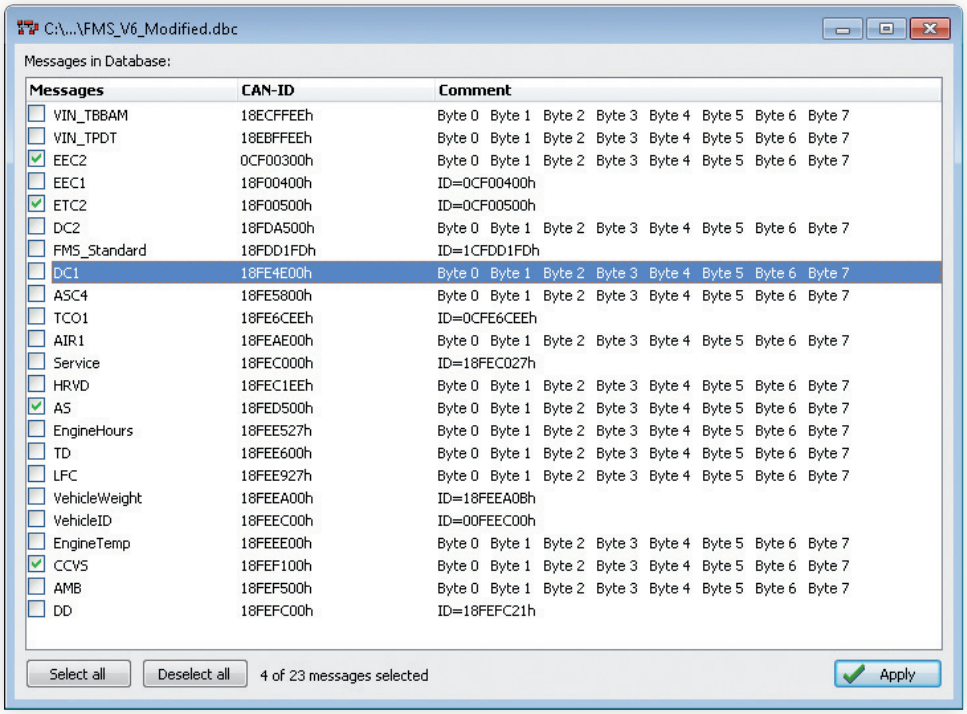
PCAN-Explorer Add-ins

Optional Function Upgrades for PCAN-Explorer



CANdb Import Add-in 3

The CANdb format is a common data description format for CAN bus information in the car industry.

CANdb Import allows the import of CANdb files. This is a useful function for all those who do not want to manually transcribe their database into the PCAN-Explorer symbol file format.

Features

- Opening of CANdb files (.dbc)
- Selecting of the messages for importing in a CANdb file
- Saves data using the project administration function in PCAN-Explorer
- Storing in the PCAN-Explorer symbol file format

Ordering information

Designation	Art. No.
CANdb Import Add-in 3	IPES-005086

Scope of supply

- CANdb Import Add-in software
- Documentation in HTML help format

System requirements

- PCAN-Explorer 5
- Windows 7/Vista/XP (32/64-bit)
- At least 512 MB RAM and 1 GHz CPU

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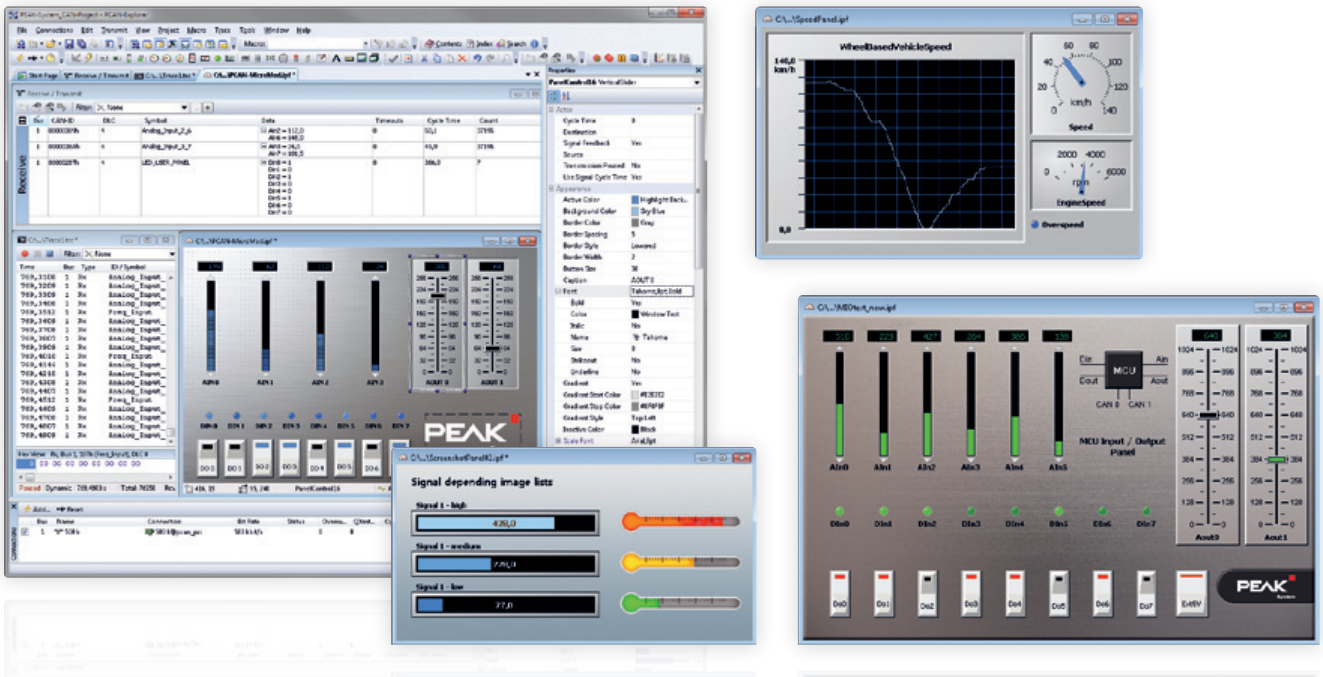
PCAN-Explorer Add-ins

Optional Function Upgrades for PCAN-Explorer



Instruments Panel Add-in 3

The Instruments Panel Add-in allows the graphical representation of digital and analog signals using different display instruments. The integrated input options and controllers mean that signals can also be produced on the CAN bus, allowing easy simulation of complex CAN applications.

Features

- Representation of analog and digital signals from received CAN messages using different display instruments
- In addition to potentiometers, switches, and sliding controllers input fields can be used to generate CAN messages
- Selection and configuration of multiple elements at the same time
- Extensive configuration of the properties of one or more elements using the new property window
- The new Instruments Panel object model enables complete automation using COM and scripts
- Representation of different scenes on the same panel during running time
- Signal-dependent display of image lists and scenes
- Free positioning of the instruments using drag & drop, or numerical inputs for spot-on positioning
- Loading and storing of complete panel configurations

Ordering information

Designation	Art. No.
Instruments Panel Add-in 3	IPES-005088

Scope of supply

- Instruments Panel Add-in software
- Documentation in HTML help format

System requirements

- PCAN-Explorer 5
- Windows 7/Vista/XP (32/64-bit)
- At least 512 MB RAM and 1 GHz CPU

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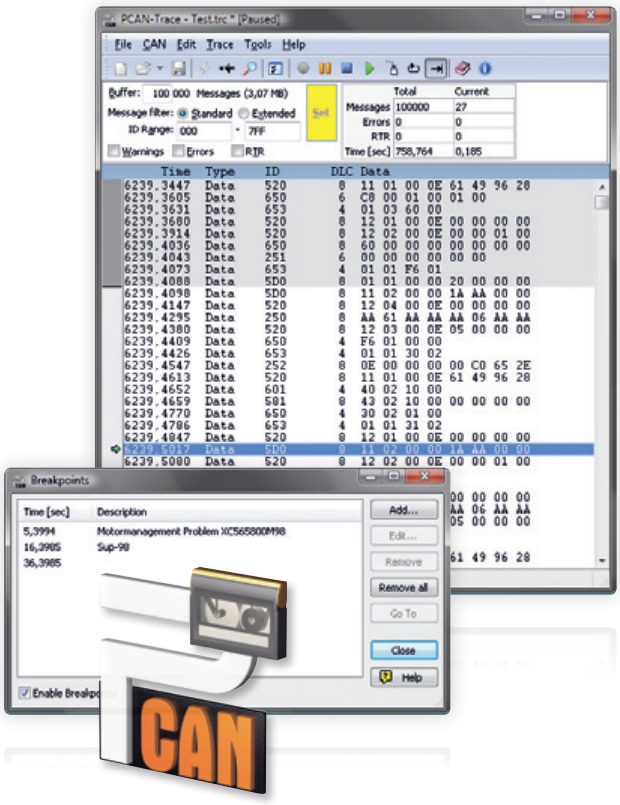
PCAN-Trace

Comprehensive Data Logger for CAN Messages

The PCAN-Trace program is a data logger for up to 9,999,000 CAN messages. It enables CAN messages to be quickly recorded, saved, and even played back on the CAN bus. The program displays the number of received messages, and identifies the types of the messages (data frame, error frame, RTR frame).

CAN messages can be recorded or replayed in linear or ring buffer mode. PCAN-Trace also provides an option to play back CAN messages in single step mode.
You can also simplify analysis and tracing by setting playback mode breakpoints.



Features

- Log facility for up to 9,999,000 CAN messages
- Choice of linear buffer or ring buffer (in receive and playback mode)
- Displays number and type of received CAN messages
- Adjustable message filter
- Support for 11-bit and 29-bit IDs
- Facility to play back CAN messages that have been recorded using PCAN-Explorer, even in single-step mode
- Breakpoints can be used in playback mode
- Integrated online help
- Received data can also be viewed in a text editor

Ordering information

Designation	Art. No.
PCAN-Trace	IPES-002027

Scope of supply

- PCAN-Trace installation CD (in English)
- Documentation in HTML help format

System requirements

- Windows 7/Vista/XP (32-bit)
- At least 512 MB RAM and 1 GHz CPU

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