

# **Vehicle Network Toolbox™**

## **Release Notes**

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*Vehicle Network Toolbox™ Release Notes*

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# R2013b

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**Version: 2.1**

**New Features: Yes**

**Bug Fixes: No**

## **Support for additional National Instruments CAN devices that use NI-XNET driver**

You can now use Vehicle Network Toolbox™ with NI CAN devices that use the NI-XNET driver including NI PCI-8511, NI PCI-8512, NI PCI-8513, NI PXI-8511, NI PXI-8512, and NI PXI-8513.

## **Support for PEAK-System CAN interface devices**

You can now use Vehicle Network Toolbox with PEAK-System devices including PCAN-USB, PCAN-USB PRO, PCAN-ExpressCard, PCAN-PCI, PCAN-PCI Express, and PCAN-cPCI families.

## **Support for additional Kvaser devices**

You can now use Vehicle Network Toolbox Kvaser Blackbird V2, Kvaser Leaf Light V2, and Kvaser Mini PCI Express devices.

## **Support for additional Vector devices**

You can now use Vehicle Network Toolbox Vector VN7600 device.



# R2013a

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**Version: 2.0**

**New Features: Yes**

**Bug Fixes: Yes**

## **XCP on CAN protocol support**

You can now use XCP over CAN to communicate with your vehicle network.

## **MATLAB functions for transmitting and receiving XCP messages**

You can now use new MATLAB® functions to transmit and receive messages on your vehicle network using XCP.

## **Simulink XCP blocks for connecting a model to a CAN bus or ECU**

You can now use new Simulink® XCP blocks to build a model that communicates with a CAN bus or an ECU.

## **XCP MATLAB functions and Simulink blocks for reading and writing dynamic DAQ and STIM lists**

You can now use new MATLAB functions and Simulink XCP blocks to read data acquisition lists and write data stimulation lists to an XCP channel.

## **XCP seed and key support for controlling access to a secured ECU**

You can now use seed and key security to control access to your ECU using XCP over CAN.

## **A2L description file support**

You can parse an A2L file and also use it to create XCP channels connected to a CAN device.

# R2012b

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**Version: 1.7**

**New Features: No**

**Bug Fixes: Yes**

## **Old Message Filtering Functions Removed**

**Compatibility Considerations: Yes**

The following filtering functions have been removed:

- `filterAcceptRange`
- `filterBlockRange`
- `filterReset`
- `filterSet`

Use these new message filtering functions instead:

- `filterAllowAll`
- `filterAllowOnly`
- `filterBlockAll`

### **Compatibility Considerations**

You cannot access any of the old message filtering functions. Replace all instances of the old functions with the new functions.

## **Support for Vector VN1600 series CAN interface devices**

You can now use the VN1600 series devices for CAN communication using the Vehicle Network Toolbox.

# R2012a

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**Version: 1.6**

**New Features: Yes**

**Bug Fixes: Yes**

## **New UserData Property**

You can now attach custom information to a CAN channel, message, or database using the new UserData property.

## **New discard Function**

You can now use the discard function to clear all available messages on a CAN channel without restarting the channel.

## **Enhanced Sampling Time Field in Vehicle Network Toolbox Simulink Blocks**

You can now use MATLAB variables to represent sampling time in Vehicle Network Toolbox Simulink blocks.

## **receiveRaw Function No Longer Available** **Compatibility Considerations: Yes**

You can no longer access receiveRaw and canMessageCompatibilityMode functions in the MATLAB workspace.

## **Compatibility Considerations**

You cannot access direct signal properties as of R2012a of Vehicle Network Toolbox. Update your code to access physical signal values through the Signals property of message objects.

## **New Hardware Support for Kvaser Devices**

New hardware support was added for Kvaser Memorator R SemiPro, USBcan R, and Eagle devices.

# R2011b

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**Version: 1.5**

**New Features: Yes**

**Bug Fixes: Yes**

## **New CAN Message Replay and Logging Simulink Blocks**

You can now log and replay CAN messages from your Simulink Model using the CAN Log and CAN Replay blocks.

## **New CAN Message Filtering Functions**

**Compatibility Considerations: Yes**

You can use these functions to filter standard and extended CAN messages:

- `filterAllowAll`
- `filterAllowOnly`
- `filterBlockAll`

## **Compatibility Considerations**

The following message filtering functions will be removed in a future release:

- `filterAcceptRange`
- `filterBlockRange`
- `filterReset`
- `filterSet`

You will see a warning when you use these functions. Use these new filtering functions instead.

## **New Platform Support for 64-bit Windows for Vector and Kvaser Devices**

You can now use Vector and Kvaser CAN devices with Vehicle Network Toolbox on a 64-bit Windows® system.



## **Support Added for Custom Receive and Transmit Blocks**

You can now create your own Receive and Transmit blocks that communicate with unsupported hardware. You can use these custom blocks with the available Vehicle Network Toolbox Simulink blocks.

## **Enhanced canMessageImport Function**

The canMessageImport function now import messages faster from Vector and Kvaser log files.



# R2011a

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**Version: 1.4**

**New Features: Yes**

**Bug Fixes: Yes**

## New Hardware Support for National Instruments CAN Devices

Vehicle Network Toolbox supports NI CAN devices. You can use these devices for CAN communication in the toolbox and with CAN blocks in Simulink.

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**Note** For a complete list of supported hardware, visit the Vehicle Network Toolbox product page at the MathWorks Web site [www.mathworks.com/products/vehicle-network](http://www.mathworks.com/products/vehicle-network).

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## Message Filtering Option in the CAN Tool

You now have the option to filter incoming messages in the CAN Tool and display only the messages you want to see, using message IDs. See “Monitoring Vehicle CAN Bus” for more information.

## Deployable Code Generation in the CAN Blocks

You can now generate code from Simulink blocks in Vehicle Network Toolbox. Models containing the CAN Receive, CAN Transmit, and CAN Configuration blocks run successfully in Accelerator, Rapid Accelerator, External, and Deployed Modes. These blocks also now support using the Simulink Coder™ packNGo function.

## **receiveRaw function Removed** **Compatibility Considerations: Yes**

The `receiveRaw` function no longer works in the current release of Vehicle Network Toolbox.

## Compatibility Considerations

You cannot access direct signal properties or use the `canMessageCompatibilityMode` function to restore access to direct signal properties starting with the current release of Vehicle Network Toolbox.

Update your code to access physical signal values through the `Signals` property of message objects.



# R2010b

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**Version: 1.3**

**New Features: Yes**

**Bug Fixes: Yes**

## **New canMessageImport Function**

The new `canMessageImport` function allows you to import CAN messages from Vector or Kvaser CAN log files.

## **Enhanced CAN Tool**

The CAN Tool includes many enhancements such as:

- A redesigned, flexible interface
- Ability to decode messages attached to CAN database files

## **Enhanced CAN Channel for Event-Based Message Transmission**

Use the `transmitEvent` function in MATLAB to enable messages for event-based transmission.

## **Enhanced CAN Channel for Periodic Message Transmission**

Use the `transmitPeriodic` function in MATLAB to enable messages for periodic transmit. You can also configure the CAN Transmit block to send messages periodically.

## **New Hardware Support for Kvaser Devices**

Vehicle Network Toolbox supports the following additional Kvaser CAN devices:

- PCIEcan HS/HS
- PCIEcan HS



# R2010a

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**Version: 1.2**

**New Features: Yes**

**Bug Fixes: Yes**

## New Hardware Support for Kvaser Devices

Vehicle Network Toolbox supports Kvaser CAN devices, including these products:

BlackBird	PC104
LAPcan	PC104+
LAPcan II	PCcan
Leaf	PCican
Leaf Light	PCicanx
Leaf Light Rugged	PCican II
Leaf Professional	PCicanx II
Leaf SemiPro	USBcan
Memorator	USBcan II
Memorator II	USBcan Rugged
Memorator Professional	USBcan Professional

You can use these devices with the Vehicle Network Toolbox`tm_vehiclenetworktoolbox`; and the CAN block library.

For a complete list of devices, see the Supported Hardware page at the MathWorks® Web site.

## Enhanced Toolbox and Block Library Performance

The toolbox now transmits, receives, and processes messages at a faster rate. The Transmit and Receive blocks transmit and receive messages at a faster rate.

## Removal of the `receiveRaw` Function

**Compatibility Considerations: Yes**

The `receiveRaw` function will be removed in a future release. In earlier software versions, the `receiveRaw` function expedited receive capability with minimal processing time and maximized message throughput. With enhanced toolbox performance this capability is no longer required. Performance of the standard receive function is significantly increased and you can use it to receive all messages.

**Compatibility Considerations**

The `receiveRaw` function will be removed in a future release. You will see a warning when you use this function. Use the `receive` function instead.

**New Signals Property for CAN Message Functions****Compatibility Considerations: Yes**

The Signals property displays each physical signal as defined for a CAN message in the CAN database. The Signals property is not applicable if you are not using a CAN database.

Signals displayed by the Signals property replaces access to direct signal property display of CAN messages. It has also increased the toolbox performance and the throughput of the message receive and transmit functions.

**Compatibility Considerations**

Direct signal properties will no longer appear in a message output. Use the new Signals property to access physical signal values. Update your code if you are using a CAN database and direct signal properties. Refer to the Signals property for more information. It is recommended that you update your code and use the new Signals property because all access to direct signal properties will be removed in a future release. If you cannot update your code at this time, you can use the `canMessageCompatibilityMode` function to restore access to direct signal properties.

## **New BusLoad Property**

The BusLoad property displays the load on the CAN bus associated with the CAN message traffic on Kvaser devices.

## **Enhanced filterSet Function**

The filterSet function now automatically calculates and applies the best case filter settings from an array of CAN IDs.

## **Enhanced replay Function**

The replay function now replays messages from MATLAB to Simulink with their original timestamps without blocking Simulink operation.

# R2009b

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**Version: 1.1**

**New Features: Yes**

**Bug Fixes: Yes**

## **New Hardware Support for the Vector Informatik Device**

Additional CAN hardware support is added for the CANcardXLe device.

# R2009a

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**Version: 1.0**

**New Features: Yes**

**Bug Fixes: Yes**

## **CAN Connectivity from MATLAB**

You connect to a CAN network from the MATLAB interface with R2009a.

## **Vector CAN Database Support**

Version 1.0 of the Vehicle Network Toolbox`tm_vehiclenetworktoolbox`; supports the Vector CAN database.

## **CAN Message Encoding and Decoding**

You can encode and decode CAN traffic messages with Version 1.0 of the Vehicle Network Toolbox`tm_vehiclenetworktoolbox`;

## **CAN Message Filtering**

Version 1.0 of Vehicle Network Toolbox allows you to filter CAN messages by message ID.

## **CAN Message Logging and Replay**

With Version 1.0 of Vehicle Network Toolbox you can log and replay CAN messages.

## **CAN Block Library**

Version 1.0 of Vehicle Network Toolbox comes with a Simulink CAN block library that you can use to simulate CAN network models.

## **CAN Message Traffic GUI**

Version 1.0 of Vehicle Network Toolbox provides a simple GUI that allows you to monitor CAN message traffic.



## **MATLAB Compiler Support**

Version 1.0 of Vehicle Network Toolbox supports the MATLAB Compiler™. With this capability, you can use the MATLAB Compiler to take MATLAB files as input and generate redistributed, standalone applications that include Vehicle Network Toolbox functionality.