Vehicle Network Toolbox™ Release Notes

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Vehicle Network Toolbox™ Release Notes

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Summary by Version

This table provides quick access to what's new in each version. For clarification, see Using Release Notes.

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Latest Version V1.4 (R2011a)	Yes Details	Yes Summary	Bug Reports Includes fixes
V1.3 (R2010b)	Yes Details	No	Bug Reports Includes fixes
V1.2 (R2010a)	Yes Details	Yes Summary	Bug Reports Includes fixes
V1.1 (R2009b)	Yes Details	No	Bug Reports Includes fixes
V1.0 (R2009a)	Yes Details	No	Bug Reports Includes fixes

Using Release Notes

Use release notes when upgrading to a newer version to learn about:

- New features

- Changes

- Potential impact on your existing files and practices

Review the release notes for other MathWorks® products required for this product (for example, MATLAB® or Simulink®). Determine if enhancements, bugs, or compatibility considerations in other products impact you.

If you are upgrading from a software version other than the most recent one, review the current release notes and all interim versions. For example, when you upgrade from V1.0 to V1.2, review the release notes for V1.1 and V1.2.

What Is in the Release Notes

New Features and Changes

- New functionality
- Changes to existing functionality

Version Compatibility Considerations

When a new feature or change introduces a reported incompatibility between versions, the **Compatibility Considerations** subsection explains the impact.

Compatibility issues reported after the product release appear under Bug Reports at the MathWorks Web site. Bug fixes can sometimes result in incompatibilities, so review the fixed bugs in Bug Reports for any compatibility impact.

Fixed Bugs and Known Problems

MathWorks offers a user-searchable Bug Reports database so you can view Bug Reports. The development team updates this database at release time and as more information becomes available. Bug Reports include provisions for any known workarounds or file replacements. Information is available for bugs existing in or fixed in Release 14SP2 or later. Information is not available for all bugs in earlier releases.

Access Bug Reports using your MathWorks Account.

Documentation on the MathWorks Web Site

Related documentation is available on mathworks.com for the latest release and for previous releases:

- Latest product documentation
- Archived documentation

Version 1.4 (R2011a) Vehicle Network Toolbox Software

This table summarizes what is new in Version 1.4 (R2011a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	Yes. Details labeled as **Compatibility Considerations**, below. See also Summary.	Bug Reports Includes fixes

New features and changes introduced in this version are:

- "New Hardware Support for National Instruments CAN Devices" on page 3
- "Message Filtering Option in the CAN Tool" on page 3
- "Deployable Code Generation in the CAN Blocks" on page 4
- "receiveRaw function Removed" on page 4

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.

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`.

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 CAN Message Traffic" 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

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.

Version 1.3 (R2010b) Vehicle Network Toolbox Software

This table summarizes what is new in Version 1.3 (R2010b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	No	Bug Reports Includes fixes

New features and changes introduced in this version are:

- "New canMessageImport Function" on page 5

- "Enhanced CAN Tool" on page 5

- "Enhanced CAN Channel for Event-Based Message Transmission" on page 5

- "Enhanced CAN Channel for Periodic Message Transmission" on page 6

- "New Hardware Support for Kvaser Devices" on page 6

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

Version 1.2 (R2010a) Vehicle Network Toolbox Software

This table summarizes what is new in Version 1.2 (R2010a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	Yes. Details labeled as **Compatibility Considerations**, below. See also Summary.	Bug Reports Includes fixes

New features and changes introduced in this version are:

- "New Hardware Support for Kvaser Devices" on page 7
- "Enhanced Toolbox and Block Library Performance" on page 8
- "Removal of the receiveRaw Function" on page 8
- "New Signals Property for CAN Message Functions" on page 8
- "New BusLoad Property" on page 9
- "Enhanced filterSet Function" on page 9
- "Enhanced replay Function" on page 9

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 Toolboxtm_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

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

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.

Version 1.1 (R2009b) Vehicle Network Toolbox Software

This table summarizes what's new in Version 1.1 (R2009b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	No	Bug Reports Includes fixes

New Hardware Support for the Vector Informatik Device

Additional CAN hardware support is added for the CANcardXLe device.

Version 1.0 (R2009a) Vehicle Network Toolbox Software

This table summarizes what's new in Version 1.0 (R2009a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	No	Bug Reports Includes fixes

Version 1.0 of the Vehicle Network Toolbox software includes the following features:

- "CAN Connectivity from MATLAB" on page 11
- "Vector CAN Database Support" on page 11
- "CAN Message Encoding and Decoding" on page 11
- "CAN Message Filtering" on page 12
- "CAN Message Logging and Replay" on page 12
- "CAN Block Library" on page 12
- "CAN Message Traffic GUI" on page 12
- "MATLAB Compiler Support" on page 12

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 Toolboxm_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 Toolboxm_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.

Compatibility Summary for Vehicle Network Toolbox Software

This table summarizes new features and changes that might cause incompatibilities when you upgrade from an earlier version, or when you use files on multiple versions. Details are provided in the description of the new feature or change.

Version (Release)	New Features and Changes with Version Compatibility Impact
Latest Version V1.4 (R2011a)	See the **Compatibility Considerations** subheading for this change: • "receiveRaw function Removed" on page 4.
V1.3 (R2010b)	None
V1.2 (R2010a)	See the **Compatibility Considerations** subheading for these changes: • "Removal of the receiveRaw Function" on page 8 • "New Signals Property for CAN Message Functions" on page 8
V1.1 (R2009b)	None
V1.0 (R2009a)	None