

neoVI RED

Low-Cost, High-Value Vehicle Network Interface for CAN and LIN

Multiple Protocol Tool to Support the Vehicle Bus Needs of Today and Tomorrow

The neoVI RED is part of Intrepid's growing line of vehicle network development tools. The neoVI RED fills the need for multiple CAN and LIN channels with a low-cost, high-value CAN and LIN bus interface that fits in your pocket.



Connect to Multiple CAN and LIN Buses Simultaneously

With its two CAN and two LIN channels, the neoVI RED allows you to view message traffic on all four networks simultaneously. As multiple channels become standard, you can rely on the neoVI RED, with its accuracy of 10 microseconds, to monitor CAN and LIN networks without missing a message.

Log Data to Internal Memory Card Without a PC

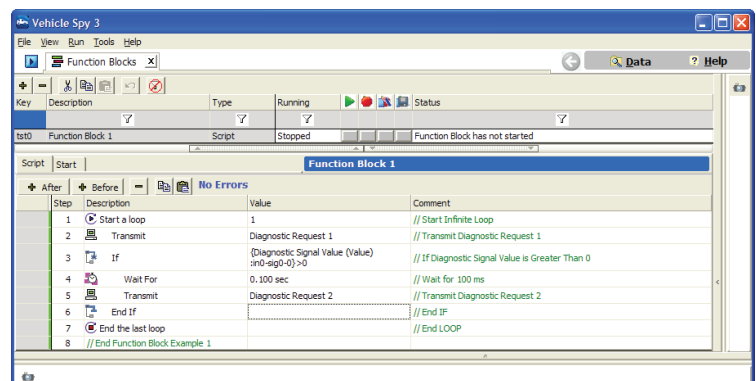
The neoVI RED supports a microSD card for trouble-free data logging; now you can log data without your PC. First, set up the neoVI RED, including message filtering, with Intrepid's Vehicle Spy software. Then disconnect from your PC and log vehicle network traffic until the card is full. The neoVI RED supports logging on all networks simultaneously with no latency issues.

Embedded Scripting and Automation - Function Blocks

Easily set up automated scripts using the neoVI RED's internal scripting engine. For example, you can instruct the neoVI RED to transmit multiple messages at a given interval. With Vehicle Spy's Function Blocks feature, you get an easy-to-use, mouse-driven interface that creates simple yet powerful automated tasks embedded in the hardware itself.

Designed for Automated Testing

The neoVI RED has built-in support for automated testing. With support for Function Blocks automated scripting, the neoVI RED can operate without a PC. After creating the setup using Vehicle Spy, you can run the device in standalone mode, allowing you to send, receive and log data. The neoVI RED is also equipped with generic I/O that can be configured to trigger an external data acquisition system.



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Smart Interface for Data Logger Applications

The neoVI RED includes a microSD card slot for logging data directly to the device without a PC. Now you can set up the device to collect your LIN, CAN, or J1939 data directly onto storage media. Using widely available microSD cards, the neoVI RED can send diagnostic requests and receive normal and diagnostic responses from your data network, either connected to a PC for real-time data analysis, or configured for standalone data logging. Its versatile design and full industrial temperature range allows the neoVI RED to work in harsh environments without constant interaction or a PC connection.

The neoVI RED is perfect as a front end for a flight recorder or data logger. Each sub-circuit on the neoVI RED implements micro-amp power down modes. The device can wake up on the activity of any network or upon USB connection.

Device Specifications

- neoVI 3G architecture: over 10x the performance of previous devices
- 3 DSPs and 1 RISC processor for 125 MIPS of processing power
- Power consumption (typical): 150 mA @ 14.4V DC
- Sleep power consumption (typical): 12 mA @ 12.0V DC
- Power supply: 6.5-27V operation (physical layers non-functional under 6.5V)
- Dual user notification LED (red and green)
- Temperature Range: -40°C to +85°C
- Vehicle Connectors: 25-pin male D-sub and 9-pin Male D-sub
- One-year limited warranty
- Field-upgradeable flash firmware
- General Purpose I/O: 6 MISC IO (0-3.3V), 4 configurable as analog
- General Purpose I/O rate report interval: 10 Hz to 1 kHz or based on digital change
- Microsoft-certified USB drivers
- Isolated USB
- Standalone mode, including scripting, receive messages, transmit messages, expressions, I/O, and transport layers
- J2534 and RP1210 A/B compatible for CAN/ISO15765, Keyword, and ISO9141.
- microSD card slot support for up to 32 GB of storage (or up to the limit of newer SDHC cards); removable card is formatted using FAT32 for direct use in a PC
- Battery-backed real-time clock (RTC).

Timing Specifications

- 64-bit timestamping to an accuracy of 10 microseconds on CAN and LIN networks with no overflow
- Accuracy of 0.5 microseconds possible if using only one network
- Simultaneous operation on all CAN/LIN networks.
- Transmit message double-buffering on all networks, allowing back-to-back message transmission

Ordering Information

Part Number	Description
NEOVI-RED	neoVI RED with Vehicle Spy Trial

Specifications subject to change; please contact Intrepid for the latest information. All trademarks are the property of their respective owners.

Network Specifications – CAN

- 2x CAN Channels
- 1 dedicated ISO11898 Dual Wire CAN physical layer (TJA1040)
- 1 user selectable from ISO11898 Dual Wire CAN physical layer (TJA1040), ISO11519 Low Speed Fault Tolerant CAN physical layer (TJA1054A) or Single Wire CAN physical layer GMW3089 / SAE J2411 (MC33897)
- CAN 2.0B Active
- Up to 1 Mb/s software-selectable baud rate (auto baud capable)
- Graphical bit time / baud rate calculator
- Listen-only mode support
- High Speed Mode, Test Tool Resistor, and High Voltage Wakeup support

Network Specifications – LIN

- 2x LIN (Local Interconnect), ISO9141, Keyword 2000, or K and L Line
- Full support for LIN 1.X, 2.X and J2602
- LIN J2602 / 2.X compatible physical layer
- Software enabled 1K LIN Master Resistor per channel
- LIN Bus Monitor Mode identifies errors: Sync Break Error State and Length, Sync Wave Error, Message ID parity, TFrameMax/Slave Not Responding, Checksum Error and Transmit Bit Errors.
- LIN Bus Master Mode operates at same time as LIN Bus Monitor
- LIN Bus Slave simulation - with or without an LDF file
- LIN Bus hardware schedule table with support for LIN diagnostics
- UART-based state machine
- Only first channel supports L
- Programmable timing parameters including Inter-Byte, TX Inter-Frame, RX Inter-Frame and Initialization Waveforms (0.5 ms Resolution)
- Initialization waveforms including Fast Init, Five Baud, and Custom
- Software-selectable baud rate
- Software-enabled 512K resistor (channel one only)

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