

INTREPID CONTROL SYSTEMS, INC.

neoVI YELLOW

Low Cost, Isolated Multi-Protocol Adapter for Commercial Vehicles

Intrepid Control Systems introduces neoVI Yellow - a low cost solution for J1708, dual J1939, and K-Line protocols. neoVI Yellow is a high value bus interface that fits in your pocket. Electrical isolation and a durable rubber boot make it tough and ready for demanding applications.

Stand-Alone Logging, Scripting, Simulation, and Gateways

In addition to working as a PC interface, neoVI Yellow operates in stand-alone mode. In this mode, the neoVI Yellow can run real-time scripts, log data to a removable microSD card, and gateway bus data. You can use neoVI Yellow to run a script to reflash ECUs with the data from the microSD card.

neoVI DLL, J2534, Linux, and RP1210 Support

Some users prefer to write their own software. To accommodate this need, neoVI Yellow supports three open APIs: neoVI DLL API, SAE J2534 API and the TMC RP1210 A/B API. The neoVI DLL API includes examples for all popular development environments including C#, VB, NET, VB6, Delphi, C++ Builder, Visual C++, LabVIEW and LabWindows. Drivers and code examples for Linux are available. Vehicle Spy J1939/J1587 Application Software fully supports neoVI Yellow. Users can use Vehicle Spy to monitor and transmit on all neoVI Yellow networks simultaneously.

Vehicle Spy is used (and required) to configure stand-alone mode. Users can take advantage of the powerful interface to load databases and to write and debug scripts before downloading them to the device.

Count	Time	Tx	Er	Description	PGN	Prior	Src	Dst	DataBytes	Network
1081	19.444 ms			J1939 \$18EF8D21	61184	6	21	8D	F0 0D 01 00 00 00 11	J1939
232	100.010 ms			J1939 \$18EFFF21	61184	6	21	FF (global)	F1 08 00 00 F0 0F FF FF	J1939
22	1.000 s			J1939 \$18FDCC21	64972	6	21		FF FF FF FF FF FF FF FF	J1939
22	1.000 s			J1939 \$18FE6821	65128	6	21		00 FF FF FF FF FF FF FF	J1939
22	1.000 s			J1939 \$18FEE421	65252	6	21		FF FF FF FF FC FF FF FF	J1939
22	1.000 s			J1939 \$18FEE721	65255	6	21		FE FF FE FF FF FF FF FF	J1939
216	100.004 ms			J1939 \$18FEF121	65265	6	21		FF FF FF FF FF FF FF FF	J1939
22	1.000 s			J1939 \$18FEFC21	65276	6	21		FF FE FF FF FF FF FF FF	J1939
168	55.004 ms			J1939 \$18CEFF21	60160	7	21	FF (global)	0C 1A B2 F5 E3 1A FF FF	J1939
13	1.600 s			J1939 \$18CEFF21	60416	7	21	FF (global)	20 52 00 0C FF CA FE 00	J1939
181	55.004 ms			J1939 \$18CECA21	65226	7	21		0C 1A B2 F5 E3 1A FF FF	J1939
1081	19.458 ms			J1939 \$CFF1921	65305	3	21		FF FF FF FF FF FF FF FF	J1939

Cost Conscious Options Fit Your Application

neoVI Yellow is available in a limited, low cost version for those users needing only basic message monitoring and transmission. For fleet based applications, Intrepid can customize neoVI Yellow to fit your needs. Contact a field applications engineer for more information.



Low Cost, High Value Dual J1939, J1708, K-Line Interface

Industry Standards: DB15 Connector, RP1210 API, Deutsch Connector Cable

A plug and play device, neoVI Yellow supports the defacto industry standard DB15 connector which allows for simple migration from existing tools. All of your RP1210, J1939 and J1708 software will work with neoVI Yellow as it is compatible with your existing RP1210 compliant software.

Logging and Gateway Features: SDCard, MISC IO and RS232 port

neoVI Yellow is capable of logging to a removable microSD card. The logging features a real-time, fail-safe FAT32 storage system. Also included is a real-time clock for hardware timestamping all messages. A robust power management system automatically powers down neoVI Yellow and can wake it up again based on network activity or PC connection. neoVI Yellow also has two IO pins that can be used to trigger or capture events. An RS232 host port is available so that scripts can gateway protocol data to other systems.

ECU Prototyping

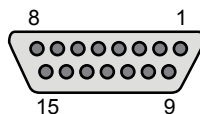
In addition to its real-time scripting capabilities, the neoVI 3G development kit is available to assist users in creating their own embedded applications. The development kit allows you to bootload your own compiled C code into the device. Your code can reuse the protocol drivers that exist on the device. With the development kit, you can debug and design code on your Windows PC. When you're ready, compile and bootload to the device.

Device Specifications

- 2 DSPs and 1 RISC processor for 88 MIPS of processing
- 1 MB message buffer
- Power Consumption (typical) : 100mA @ 14.4 VDC
- Sleep Power Consumption (typical) : 8mA @ 12.0 VDC
- Power Supply: 5.5-32 Volt Power Operation
- Temperature Range: -40C to +85C
- Vehicle Connectors : 15 Pin male D-SUB
- General Purpose IO: 2 MISC IO (0 - 3.3V)
- General Purpose IO rate report interval: 1 Hz to 10 Khz or based on digital change
- Microsoft® Certified USB drivers
- Isolated USB 2.0 Full Speed Device backward compatible with USB1.1
- Stand-Alone Mode Including Scripting, Receive Messages, Transmit Messages, Expressions, IO, and Transport Layers
- RS232 host port with HW handshaking support for scripting and gatewaying network data
- ICS TimeSync for Multiple Hardware Synchronization supports all neoVI 3G devices
- J2534 and RP1210 A/B compatible for CAN/ISO15765, J1708, Keyword, and ISO9141
- microSD card slot support up to 12 Gigabytes of storage. The removable card is formatted using FAT32 for direct usage in a PC.
- Battery backed real-time clock (RTC)
- Warranty: One Year Limited Warranty
- Firmware: Field upgradeable design (flash firmware)

Networks - General

- 64 Bit time stamping to accuracy of 10 microseconds on networks and never overflows.
- 0.5 microsecond accuracy timestamp available if using one network only
- Simultaneous operations on all networks
- Transmit message double-buffering on all networks allows back to back message transmission



1	TSYNC CLOCK H	9	MISC DIO 2
2	TSYNC CLOCK L	10	J1939 2 L (CAN 2 L) / ISO K
3	ISO L	11	MISC DIO 3
4	MISC DIO 1	12	J1939 1 L (CAN 1 L)
5	J1939 2 H (CAN 2 H)	13	J1939 1 H (CAN 1 H)
6	GND	14	J1708 L (-)
7	SHIELD	15	J1708 H (+)
8	V BATT		

Network Specifications

2x J1939/CAN Channels

- 2 Dedicated ISO11898 Dual Wire CAN Physical Layer (TJA1040)
- CAN 2.0B Active
- Up to 1 M-Bit Software Selectable Baud Rate (auto baud capable)
- Capable of generating and detecting error frames
- Logic Analysis of CAN Waveform with 25 nanosecond resolution
- Graphical Bit Time / Baud Rate Calculator
- Listen only mode support
- Terminated network detection

J1708

- High precision time capture of J1708 bus events
- Software selectable parameters including baud rate
- SAE J1708 Physical layer

K and L Line, 1x LIN (Local Interconnect), ISO9141, or Keyword 2000

- UART Based State Machine
- Initialization Waveforms including Fast Init, Five Baud, and Custom
- Programmable Timing Parameters including Inter-Byte, TX Inter-Frame, RX Inter-Frame and Initialization Waveforms (0.5 ms Resolution) Full support for LIN 1.X, 2.X and J2602
- K and L have software controlled transmit enable lines allowing many different variants of UART or ISO9141 communications including: Tx on L Rx on K (full duplex); Tx and Rx on K (half duplex); Tx on K and L and Rx on K
- Socket selectable pull up resistor on both K and L lines
- Capable of Generating LIN Waveforms (Including Errors) Using Dedicated Output Compare Hardware
- Software Selectable Baud Rate
- 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

Ordering Information:

Part Number	Description
NEOVI-YELLOW	neoVI YELLOW device with Vehicle Spy 3 Trial

*All trademark references are trademarks of their respective companies. Specifications subject to change. Please contact Intrepid for the latest information.

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