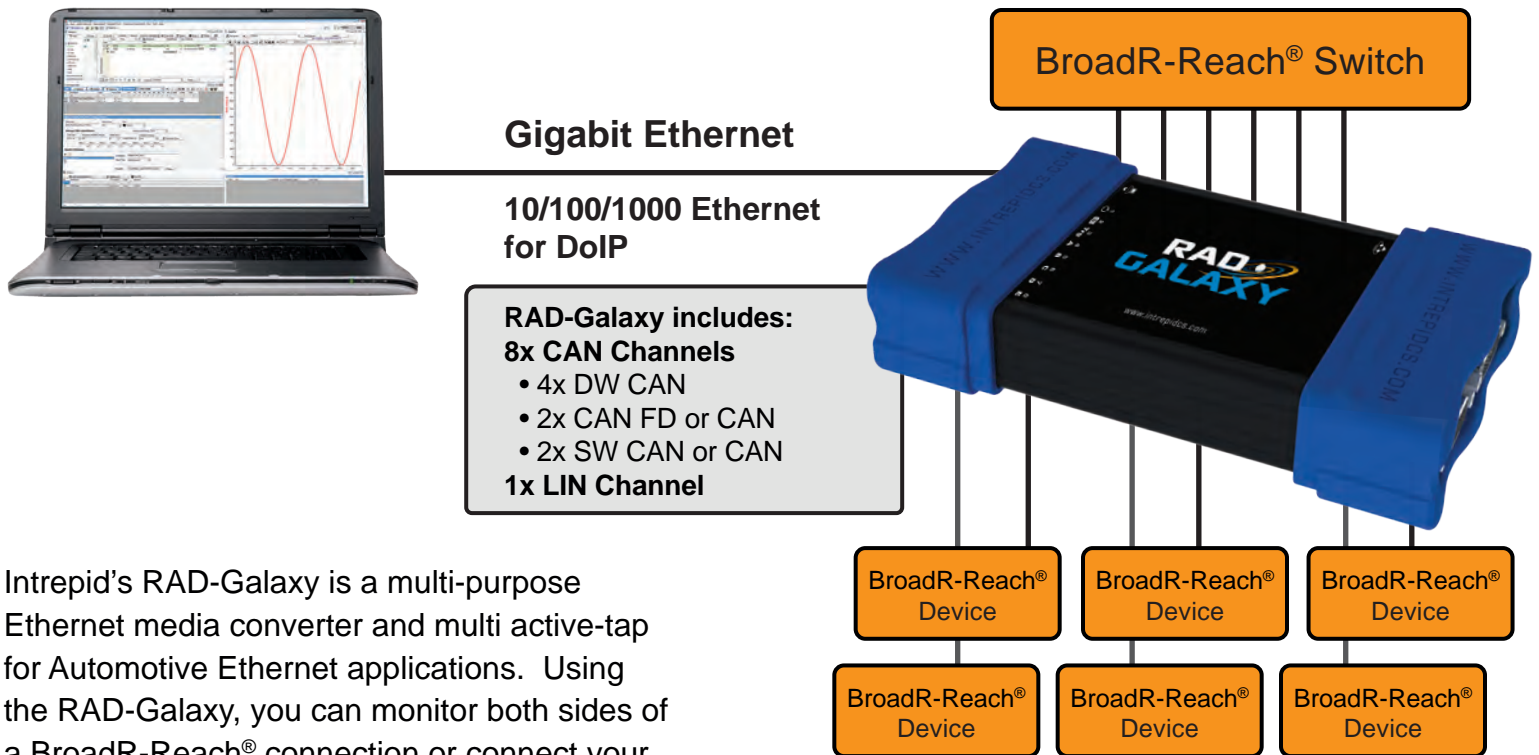


RAD-Galaxy

Multi Active-Tap & Gateway for Automotive Ethernet



Intrepid's RAD-Galaxy is a multi-purpose Ethernet media converter and multi active-tap for Automotive Ethernet applications. Using the RAD-Galaxy, you can monitor both sides of a BroadR-Reach® connection or connect your laptop to BroadR-Reach® networks as a physical layer gateway.

As a gateway to standard 8 wire Gigabit Ethernet, RAD-Galaxy makes any existing standard Ethernet device, laptop, or data logger compatible with BroadR-Reach®.

Features

- Tap copies full duplex communications between master and slave with sub-microsecond latency.
- Tap has basic filtering and routing capabilities.
- Can serve as a BroadR-Reach® to Gigabit Ethernet bridge.
- Simulate errors by introducing errors between master and slave.
- Precision Time Protocol (PTP) Support
- Audio Video Bridging (AVB) Support

The RAD-Galaxy has the ability to simulate up to 12 BroadR-Reach® ECUs or connect a BroadR-Reach® Switch with up to 6 BroadR-Reach® ports. The RAD-Galaxy device contains 6 active BroadR-Reach® Taps.

The RAD-Galaxy supports simultaneous use of twelve BroadR-Reach® Ports as well as two standard Gigabit Ethernet ports for routing traffic to a PC running Vehicle Spy and DoIP communications. A high speed intelligent router manages message passing between Ethernet PHYs.

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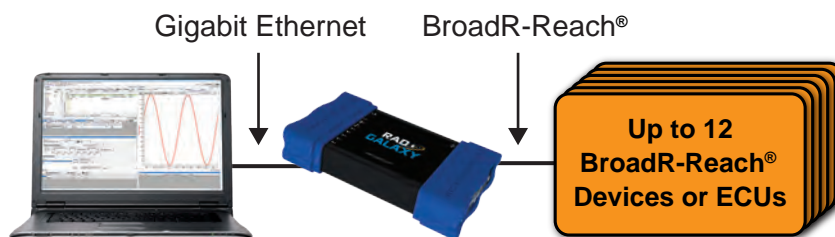


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RAD-Galaxy

Media Converter Mode

To simulate a node or to perform direct diagnostics or ECU flash, you can use RAD-Galaxy in Media Converter Mode. In this mode, any Ethernet frame sent or received by your laptop is translated to the physical layer of your target ECU.



Example application using the RAD-GALAXY as a media converter.

Device Specifications

- neoVI 4G Architecture over 10x performance over previous devices
- Power Consumption (typical) : 1.5A @ 12.0 VDC
- Sleep Power Consumption (typical) : 50mA @ 12.0 VDC
- Comatose Power Consumption (typical) : 125ua @ 12.0 VDC
- Power Supply: 5-40 Volt Power Operation
- 20 LEDs indicate Link status and logger status
- Temperature Range: -40C to +85C
- Warranty: One Year Limited Warranty
- Firmware: Field upgradeable design (flash firmware)
- Four MISCIO: Configurable as 0-40V analog input or PWM input or output
- Three 0-5V analog outputs
- Microsoft Certified USB drivers
- USB Host for neoVI MIC GPS or Powering RAD Moon accessories
- High Speed (480 MBPS) USB
- Stand-Alone Mode Including Scripting, Receive Messages, Transmit Messages, Expressions, IO, and Transport Layers
- J2534 and RP1210 A/B compatible for CAN/ISO15765, Keyword, and ISO9141
- Full size SD card slot support for up to 128 Gigabytes of storage (or up to the limit of newer SDHC cards). The removable card is formatted using FAT32 for direct usage in a PC.
- Battery backed real time clock (RTC).

Networks - General

- FPGA measured 64 bit timestamping with 10 nS accuracy on all CAN/LIN/Ethernet networks.
- Simultaneous operations on all CAN/LIN/Ethernet networks.
- Transmit message double-buffering on all networks allows back to back message transmission.

Network Specifications

8x CAN Channels

- 6 Dedicated ISO11898 Dual Wire CAN Physical Layer
- 2 CAN with CAN MODE with 2 software selectable PHY options
- 2 CAN software selectable between CAN or CAN FD
- 2 CAN software selectable between CAN or SW CAN (GMW3089 / SAE J2411)
- Up to 1 M-Bit Software Selectable Baud Rate for arbitration phase
- Up to 8 M-Bit Software Selectable Baud Rate for data phase
- Listen only mode support
- Single Wire High Speed Mode, Test Tool Resistor, and High Voltage Wakeup support
- CAN FD implemented using the Bosch MCAN CAN Controller IP

1x LIN (Local Interconnect Network), 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
- 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

DoIP/XCP/Automotive Ethernet

- 10/100/1000 Ethernet PHY with low power mode
- Compatible with BroadR-Reach® with RAD-Moon Ethernet Converter Accessory
- DoIP Activation Line implemented with LIN channel

Ordering Information:

Part Number	Description
RAD-GALAXY	RAD-Galaxy Device

*Specifications subject to change. Please contact Intrepid for the latest information.

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