MultiCom RF

Multi-Purpose Vehicle Interface Adapter for Wireless Applications

EnGenius' MultiCom RF is a flexible solution that provides **simultaneous** access to multiple vehicle networks as well as digital and analog input/output. (**Custom protocols** can also be supported.) MultiCom RF interfaces to a host via Radio Frequency.

MultiCom RF's unique design consists of a set of Physical Interface Modules (PIMs) that plug into its base platform. Each PIM (standard or custom designed) contains the specific interface circuits that allow MultiCom RF to connect to external devices. The PIMs and the base platform can all function **simultaneously**. This multi-purpose vehicle interface adapter provides a powerful, yet flexible, solution to meet a wide range of needs. MultiCom RF is packaged in a 8" x 7" x 2.75" sealed metal enclosure.

Typically, the MultiCom RF is configured as a stand-alone module executing a custom application and using one PIM slot for RF communications. This configuration allows access to all of the adapter's resources and, when required, to the outside world via RF.

Interface Capabilities

MultiCom RF is capable of supporting ISO 9141, ISO 9141-2, ISO 14230, ISO 11519-4, ISO 15765, SAE J1850 PWM, SAE J1850 VPW, CAN, SAE J2284, Ford's DCL, RS485/RS422, Ford's UBP, SAE J1939, SAE J1708, and others (including custom protocols).

Applications

- Engineering development or in-vehicle use
- Stand-alone embedded control
- Protocol translation
- Remote monitoring
- Diagnostics
- Heavy truck
- Light and medium duty vehicles

Base Platform Features

- Operates as a stand-alone unit
- CAN
- SAE J1708
- 2 RS485 ports (1 half-duplex; 1 full-duplex)
- 3 Physical Interface Module (PIM) slots
- 7 channel 10 bit A/D inputs
- 6 high current open collector outputs (2A, 18-36VDC)
- RS232 serial connection for diagnostic access
- 2 16552 UART channels are PIM accessible
- 9–36 VDC input required (2.7A maximum)
- Isolated switching power supply for voltage regulation
- 20MHz 80C196CB microcontroller
- 128K RAM
- 1.256M Flash ROM
- 4" x 6" x 1" board size

Optional Physical Interface Modules

- 2.4GHz Custom DSSS Radio
- CDPD*
- IEEE 802.11b
- MicroBurst Cellular*
- SAE J1850 PWM (using an HBCC)*
- SAE J1850 VPW (using an MC68HC56)*
- CAN*
- RS485/RS422*
- Ford's UBP*
- SAE J1939*
- ISO 9141*
- SAE J1708*

indicates PIM is under development

Technical Data for MultiCom RF Physical Interface Modules

SAE J1708

- 6.4K–12.8K baud supported
- Byte stream or message modes with timestamping
- Automatic separation of received bytes into discrete messages
- Software configurable loop back

RS485/RS422

- Uses 16552 Dual UART
- Up to 230K baud available

RS232

- Uses 16552 Dual UART
- Up to 230K baud available
- Used for diagnostic access

2.4GHz Custom DSSS Radio

- 2.4GHz Aironet radio (for an RF network)
- TCPIP Support

IEEE 802.11b

- Industry standard 802.11b radio (for an RF network)
- TCPIP Support