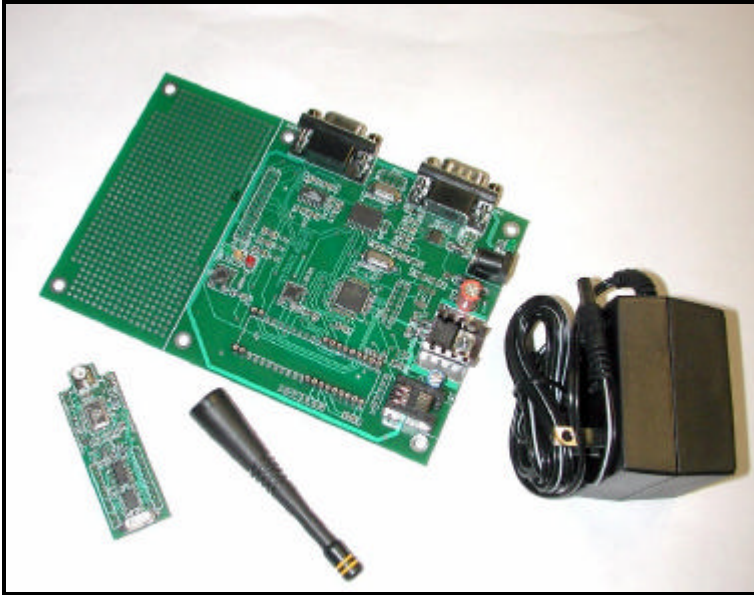


# Wireless Controller Area Network.

Send CAN messages without wires using the **CANRF** module from Automation Artisans Inc.



Transmitting and receiving data at 20kbps in the unlicensed 900MHz band, the **CANRF** will connect CAN nodes up to 250' apart. Power output is set at 0.25mW into 50 ohms (-1.25dBm) but can be adjusted up to 0.75mW if an inefficient antenna keeps the signal down below the FCC Part 15 regulations.

Using CAN over RF means that peer to peer networking is easy because the error retries and CRC checking are all done automatically without processor intervention. No longer are complicated serial port routines required with a master/slave application responsible for handling all communications. Also, because the CAN protocol requires arbitration and acknowledgements bi-directional communication is assured.

The **CANRF** module can be ordered as a Microchip MCP2510 CAN compatible module which communicates with the host through the SPI or, when ordered without the MCP2510, can be directly connected to a CAN device via the TX and RX lines. Power consumption is 4ma, at 5V, for receive and 12ma at full power transmit. The receiver can be disabled with one of the MCP2510 programmable outputs or the onboard 3V regulator can be disabled by an external control signal. The additional user definable input and output pins on the MCP2510 are brought out to the sides of the 40 PIN DIP package.

The antenna connection is at one end of the DIP package and has a footprint for an SMA or RSMA connector or a length of RG-174 cable can be soldered into PCB holes.

To simplify the development process, Automation Artisans are providing a **CANRF** activity kit which includes three MCP2510 CANRF modules, three PIC16F877 activity boards each with an additional MCP2510 CAN processor and three ¼ wave antennas. Power can be provided through the CiA compatible CAN DB9P or a negative center power connector. The activity board has three user programmable LEDs and a pushbutton switch plus a prototype area for custom experiments.

Connect the PIC activity board to your PC communications Port via the DB9S to log CAN messages with the DEMO application that allows access to all the MCP2510 registers, PIC registers and EEROM memory. A C language library of MCP2510 functions is available to ease adding the **CANRF** to your application.

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