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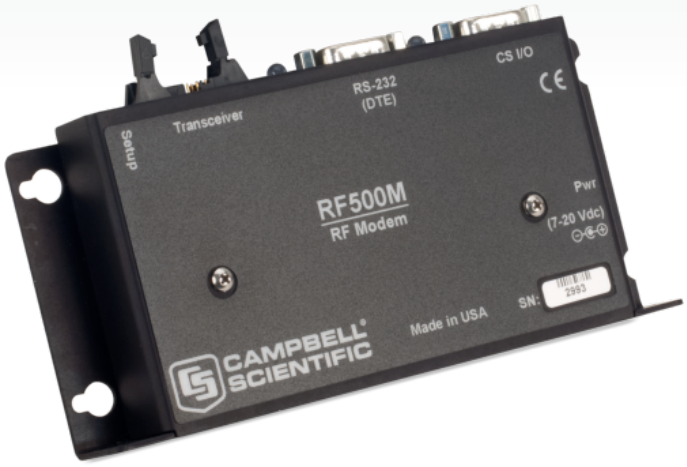
RF500M
Radio Modem



Versatile Radio Modem

For networks with narrowband, UHF/VHF, licensed radios

Overview

The RF500M is a versatile radio modem for networks with UHF/VHF radios, typically serving as an interface between the data logger and radio. In addition to serving as a field modem connected to a data logger, the RF500M can also be used as a stand-alone repeater, or as a base-station modem connected to a computer. The RF500M is generally used with legacy or existing PakBus and mixed-array/dial-up networks. The RF500M works with our RF320-series radios, RF310-series radios, RF300-series radios, or any radio and modem combination that outputs a demodulated byte stream via RS-232.

For new installations, please consider one of our spread-spectrum radio solutions, or contact Campbell Scientific to discuss the use of other licensed radio options.

The RF500M is an appropriate choice for any ALERT(1) store-and-forward repeaters or base-station-decoder applications. For ALERT2 applications, refer to the ALERT200 ALERT2 Basic Remote Data Platform.

Benefits and Features

- Supports multiple radio configurations
- Uses software (DevConfig) instead of hardware modifications to upgrade the operating system (OS) and change RF ID or other settings
- Provides an RS-232 port (DTE) for modem configuration or attachment of an RS-232 radio
- Avoids all collisions within a network, thus increasing polling speeds and reducing overall current drain

Detailed Description

The RF500M serves as a remote, repeater, and base station communication interface, generally for our licensed radio applications. It provides an interface between a data logger or computer and a radio and can be a stand-alone repeater when onsite logging is not required. The RF500M is powered from the CS I/O port or from an external power connection. This modem is software configurable, and has been designed to interface with data telemetry radios such as our RF320-, RF310-, and RF300-series VHF/UHF radios.

Operating System (OS) Options Descriptions

PakBus OS

Considered the standard for the RF500M, the -PB OS uses TDRF polling to quickly and efficiently move data through a network. Each station can be individually dialed by LoggerNet. This OS is

compatible with -TD, -PB, and our current generation of PakBus data loggers.

ALERT Dual Mode OS

The ALERT (Automated Local Evaluation in Real Time) OS allows for transmission, repeating, and reception of binary ALERT formatted data. It is a derivative of the -PB OS, and therefore supports both ALERT and TDRF communications (allowing true two-way communication with a station). This OS is compatible with the CR200(X)-series, CR800-series, CR1000, and CR3000 dataloggers.

Dial OS

The dial OS works with both mixed-array and PakBus/table-based data loggers. Each station can be dialed by LoggerNet for downloading data, sending programs, and performing other tasks. Additionally, this OS allows stations to create point-to-point networks for sharing of measurement and control tasks.

Specifications

Voltage	7 to 20 Vdc (Can be provided by the CS I/O port.)
Active Current Drain	< 8 mA RMS (@ 12 Vdc)
Temperature Response	-25° to +50°C (standard)
Temperature Range	-55° to +85°C (extended)
Dimensions	16.0 x 9.5 x 2.2 cm (6.31 x 3.69 x 0.88 in.)
Weight	0.18 kg (0.4 lb)

Transceiver Audio Output (pin 5)	
J1 Jumper Configuration	310 mV peak-to-peak (Campbell Scientific adjusts the audio input gain so that it is compatible with J1.)
J3 Jumper Configuration	670 mV peak-to-peak

For comprehensive details, visit: www.campbellsci.com/rf500m

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