



## 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 such as the [Teledesign TS4000](#).

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](http://www.campbellsci.com/rf500m) 



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