

# RF500M and RF500B

## RF Modem and Base Station



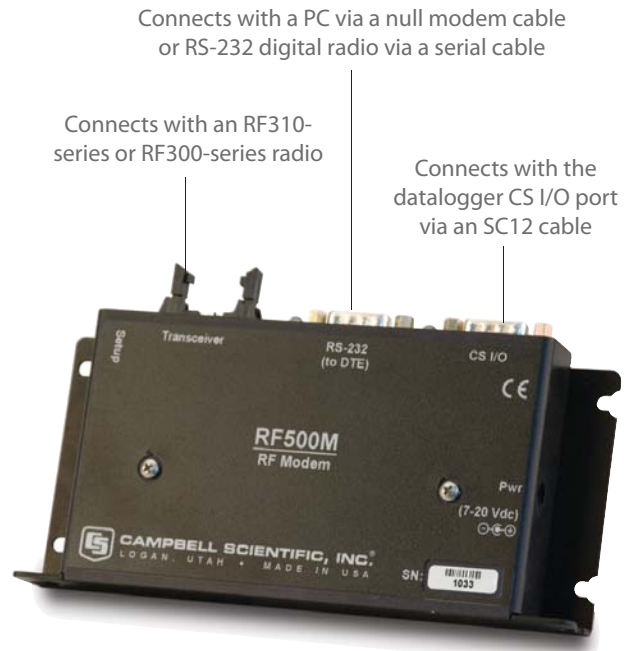
The RF500M and RF500B support communications with narrow-band, UHF/VHF radios. They have three operating system (OS) options that allow them to be used in PakBus®, ALERT, or mixed-array networks. The RF500M and RF500B work with our RF310-series radios, our RF300-series radios, the DataRadio DL-3400 radio, or any radio and modem combination that outputs a demodulated byte stream via RS-232.

### Features/Benefits

- Supports multiple radio configurations
- Uses software (i.e., 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

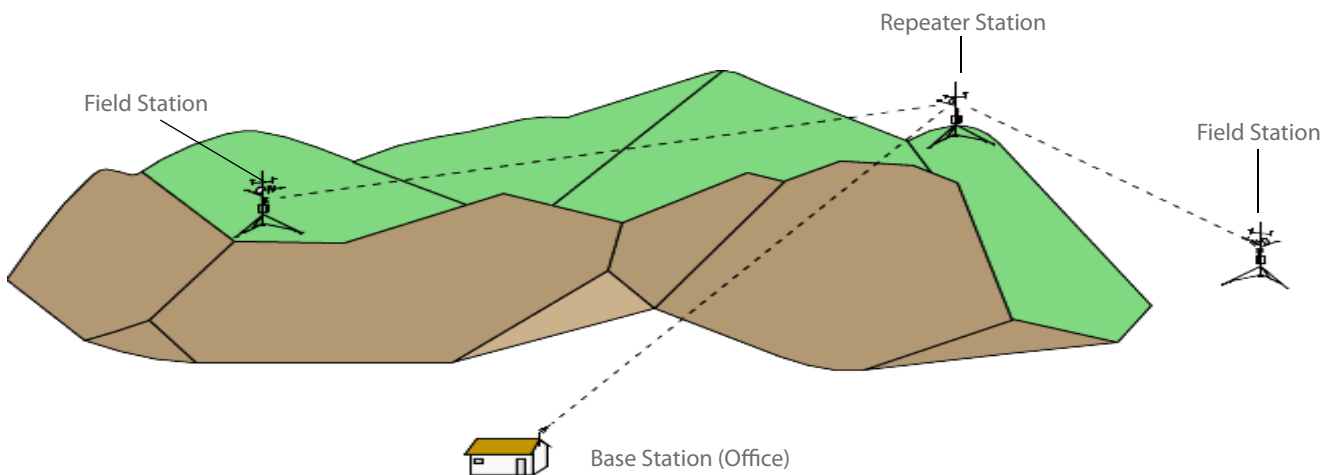
### Field Station/Repeater Station

The RF500M can serve as a field modem connected to a datalogger or as a standalone repeater not connected to a datalogger. At the field station, the RF500M functions as the communication interface between the datalogger and radio. It's often powered with 5 Vdc provided by the datalogger's CS I/O port. When the modem is at a non-datalogger repeater station, a PS200 or PS100 power supply fitted with an A100 adapter can power the RF500M.



### RF Base Station

The RF500B resides at the computer site and serves as a link between field stations and repeater stations. It includes an RF500M Radio Modem connected to a PS100 Power Supply. The modem and power supply are shipped mounted to a 10-in. by 12-in. metal plate. A radio, antenna, antenna cable, and wall charger need to be ordered separately. Software support is provided by LoggerNet.



Our RF networks require line-of-sight transmission. The mountain in this drawing obstructs line-of-sight with the base station. Use of the repeater station allows the base station to receive data from the field stations.

## Ordering Information

### Radio Modem/Base Station

For the RF500M and RF500B, an OS option and a radio jumper setting option needs to be chosen (see below).

**RF500M** Radio Modem. Choose a temperature range and warranty length option (see below).

**RF500B** Radio Base Station. Includes RF500M Radio Modem, PS100 Power Supply, and 10-in. by 12-in. metal plate. The RF500M modem has a one year warranty and a temperature range of -25° to +50°C.

### OS Options for RF500M and RF500B (see discussion below)

- PB** PakBus OS
- AL** ALERT Dual Mode OS
- DA** Dial OS

### Radio Jumper Setting Options for RF500M and RF500B

- MJ** Jumper for RF310-series radios
- RJ** Jumper for RF300-series radios
- UJ** Jumper for radios purchased directly from DRL

### Temperature Range Options (RF500M only)

- ST** Standard -25° to +50°C (default)
- XT** Extended -55° to +85°C

### Warranty Length Options (RF500M only)

- SW** Standard one year warranty (default).
- XW** Four year warranty extension.

### RF500M Accessories

- 10873** 9-pin female to 9-pin male serial data cable (6 ft); cable is required to connect RS-232 digital radios.
- SC532A** CS I/O Peripheral to RS-232 Interface; this interface is required to connect a PC to the modem's CS I/O port. Typically the PC connects to the modem's RS-232 port, but the modem's CS I/O port can be used if a digital radio is already connected to the modem's RS-232 port.
- 15966** Wall Charger 12 Vdc, 800 mA Output, 100 to 240 Vac, 50 to 60 Hz with Barrel Plug, 6 ft Cable
- 14291** Field Power Cable 12 Vdc Plug to Pigtail (2 ft ) connects with a 12 Vdc power supply.
- 14020** Field Power Cable CS I/O to 12 Vdc Barrel Plug (2 ft) connects with datalogger.

### RF500B Accessories

- 9591** Wall Charger 18 Vac 1.2A Output, 110 Vac Input, 6 ft Cable
- 14014** Wall Charger 18Vdc Output 90-264Vac 47-63Hz Input (see Power Cable Options below).

### Power Cable Options for 14014

- USC** Cable for connecting the 14014 Wall Charger to a standard 110 Vac outlet.
- EUC** Cable for 14014 Wall Charger to power outlets that are prevalent in continental Europe.
- UKC** Cable for 14014 Wall Charger to power outlets that are prevalent in the United Kingdom and Ireland.
- AUC** Cable for 14014 Wall Charger to power outlets that are prevalent in Australia.
- CHC** Cable for 14014 Wall Charger to power outlets that are prevalent in China

## Operating System (OS) Options Descriptions

### PakBus OS

Considered the standard for the RF500M or RF500B, 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 dataloggers.

### 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 dataloggers. 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.

## RF500M Specifications

<b>Voltage:</b>	7 to 20 Vdc
<b>Current Drain</b>	
<b>Active:</b>	<15 mA
<b>Quiescent:</b>	<350 µA
<b>Dimension:</b>	160 x 95 x 22 mm (6.31 x 3.69 x 0.88 in.)
<b>Weight:</b>	0.18 kg (0.4 lb)

**More Information:** The radio, LoggerNet Support Software, frequency-matched antenna, and antenna cable are purchased separately. Additional information is provided in the Narrowband RF Networks brochure and RF310-series Radios brochure.

