

RF500M and RF500B

RF Modem and Base Station



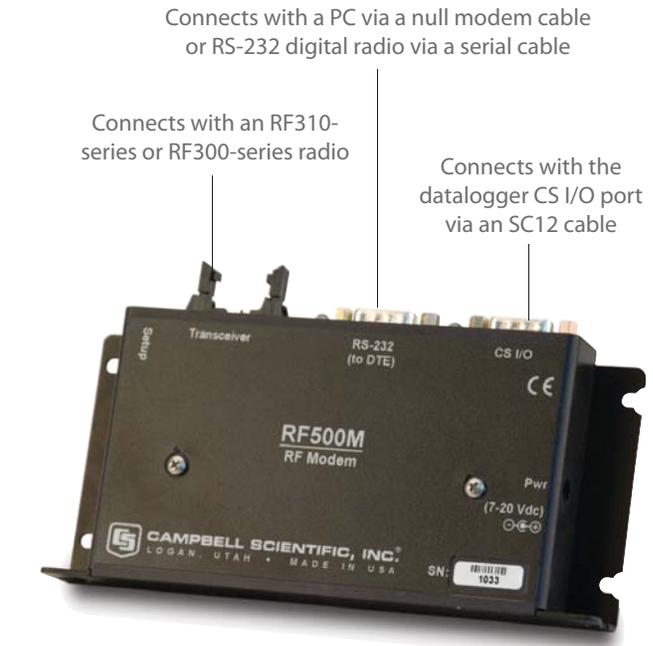
The RF500M and RF500B support communications with narrow-band, UHF/VHF radios. They have three operating system (OS) options that allow them to be used in PakBus®, ALERT, or mixed-array networks. The RF500M and RF500B work with our RF310-series radios, our RF300-series radios, the DataRadio DL-3400 radio,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

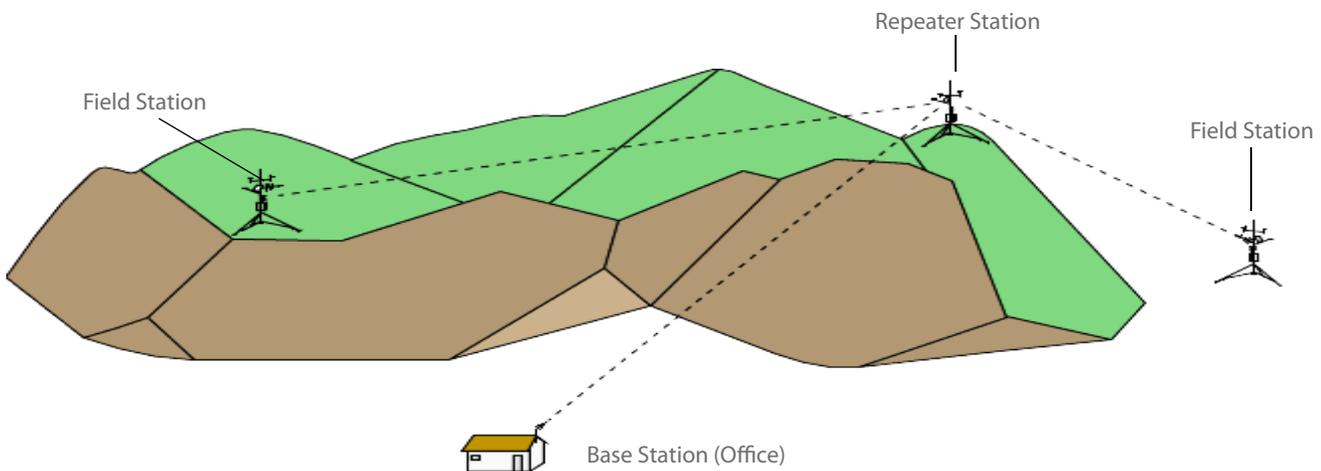
Field Station/Repeater Station

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

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

