



## Versatile radio modem

For networks with narrowband, UHF/VHF, licensed radios

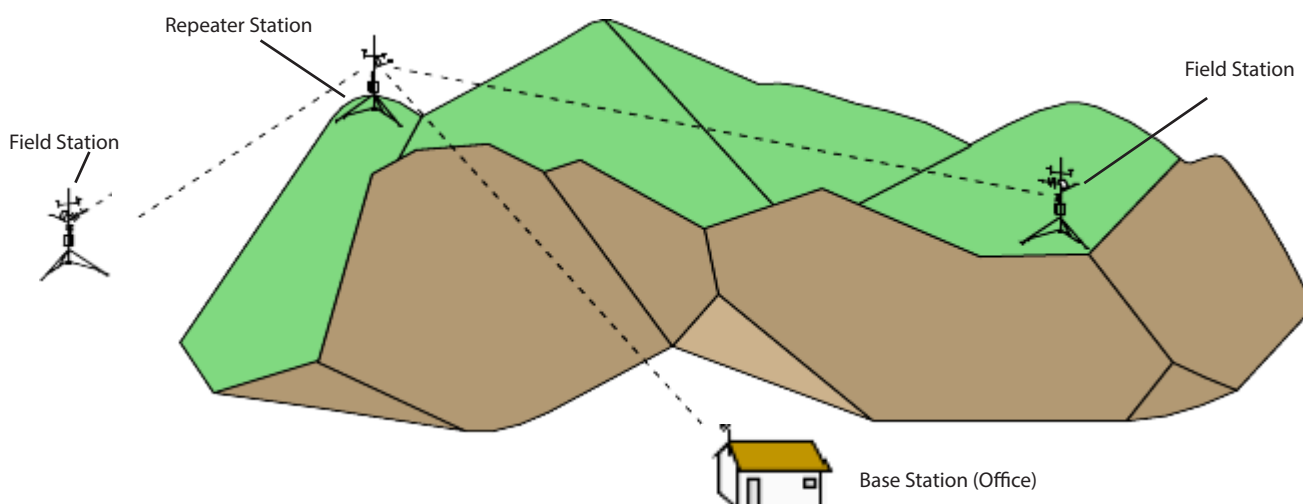
### Overview

The RF500M serves as a field, repeater, or base station communication interface, generally for our licensed radio applications. It provides an interface between a datalogger 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.

### Benefits and Features

- › Supports multiple radio configurations including our RF320-series, our RF310-series, our RF300-series, and the DataRadio DL-3400 radio
- › 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



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.

## 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 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.

## Specifications

- › Voltage: 7 to 20 Vdc
- › Dimension: 160 x 95 x 22 mm (6.31 x 3.69 x 0.88 in)
- › Weight: 0.18 kg (0.4 lb)

### Current Drain

- › Active: < 15 mA
- › Quiescent: < 350  $\mu$ A

## Ordering Information

### Radio Modem

Must choose an OS option and a radio jumper setting option (see below).

**RF500M** Radio Modem.

**OS Options** (see discussion at right)

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

### Radio Jumper Setting Options

- MJ Jumper for RF320-series or RF310-series radios.
- RJ Jumper for RF300-series radios.
- UJ Jumper for radios purchased directly from DRL.

### Temperature Range Options

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

### Warranty Length Options

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

### Accessories

- 008085** 9-pin female to 9-pin male serial data cable 182 cm (6 ft); cable is required to connect RS-232 digital radios.
- 004202** Power supply 100-24 Vac 12 volt 1A 2.5 mm power plug (EU mains plug).
- 006725** NL200/RF415/MD485 Field Power Cable.

The RF500M can be used as a stand-alone repeater. Repeater stations provide a communication relay between stations that cannot communicate directly due to distance or obstacles. Repeater stations use omnidirectional antennas.



At the field station, the RF500M modem functions as a communication interface between the datalogger and radio. Field stations are located at the measurement site. This field station uses a Yagi antenna to transmit the data.

