

Redwing CDMA Digital Cellular Modem

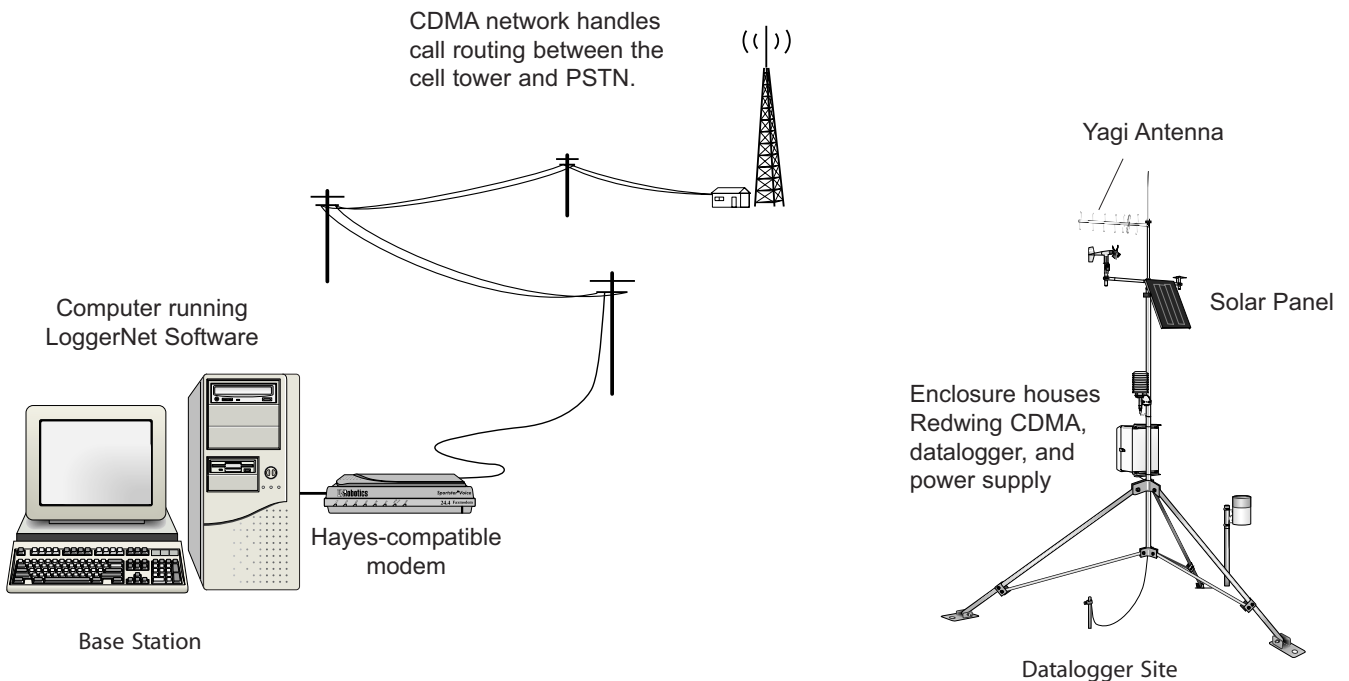
The Redwing CDMA is a full-duplex digital cellular modem that communicates with the base station computer via a Code Division Multiple Access (CDMA) network and the Public Switched Telephone Network (PSTN). The Redwing CDMA uses the Bell Mobility network and is manufactured by AirLink.

Features

- Supports mobile applications and datalogger sites where phone lines have not been established
- Uses IS-95 Circuit Switched CDMA
- Housed in a rugged aluminum case
- Provides lower operating costs and initial equipment investment than analog cellular
- Operates over a wide temperature range of -30° to +75°C



Typical System



CAMPBELL SCIENTIFIC
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Base Station Requirements

- PC running LoggerNet software.
- Subscription to a CDMA network with coverage at the datalogger site. Prior to purchase, contact Bell Mobility to ensure that they provide CDMA coverage for your site.
- Hayes-compatible modem

Datalogger Site Equipment

- Redwing CDMA Modem—includes power cable; the modem is configured using a terminal emulation program such as Microsoft® Windows HyperTerminal.
- Datalogger—CR510, CR10(X), CR23X, CR7, or CR5000
- SC105 or SC932A Interface—connects the modem to the datalogger's CS I/O port. Alternatively when using a CR23X or CR5000, a 14392 Null Modem Cable can be used to connect the modem to the datalogger's RS-232 port instead of the CS I/O port.
- L14394 Redwing Mounting Kit—includes mounting hardware for securing the modem to an environmental enclosure and a 9-pin male to 9-pin female cable.
- Antenna—the following antennas are offered from Campbell Scientific; sites near the edge of the CDMA coverage may require the Yagi antenna. Contact an Applications Engineer for help in determining the best antenna for your application.
 - L14453 0 dBd ½ Wave Dipole Whip Cellular Antenna
 - L14454 8 dBd Yagi Cellular Antenna with 10' Cable
- Power Supply (see power considerations)
- Environmental Enclosure—typically a 12" x 14" or 16" x 18" enclosure

Power Considerations

A power cable included with the modem connects to the datalogger's 12 V or switched 12 V terminal. Connection to the switched 12 V terminal allows the datalogger to switch power to the modem during scheduled transmission intervals, thereby conserving power. When using the switched 12 V terminal, the modem can be powered with a BP12 battery, CH100 charger/regulator, and MSX10 solar panel. For help on analyzing your system's power requirements, refer to our Power Supply product literature or application note.

Specifications

RF Output:	224 mW (+23.5 dBm)
Dual-band support:	800 MHz cellular, 1.9 GHz PCS bands
Data Rate:	9600 bps (CR510, CR10(X), CR7), up to 14.4 kbps (CR23X, CR5000)
IS-95B Circuit-Switched Mode:	G3 facsimile receive and transmit, Quick Net Connect (QNC) support
Short Message Service:	Send and receive, notification of new messages
Input Voltage:	10 to 28 Vdc
Input Current:	20 to 350 mA
Typical Current Drain at 12 Vdc:	20 mA dormant connection (idle for 10 to 20 seconds), 120 mA while receiving, 120 mA during transmission
Operating Temperature Range:	-30° to 75°C with transmissions limited to a 10% duty cycle above 60°C
Humidity:	5% to 95% non-condensing
Serial Interface:	RS-232, DB-9F
RF Antenna Connector:	50 Ohm TNC female
Status LEDs:	Power, Registration, Transmit, Receive
Dimensions:	3"W x 1"D x 5.1"L (5.8" w/ connector), 7.6 x 2.5 x 13 cm (14.7 cm w/connector)
Weight:	<1 lb. (<0.5 kg)

