

# CDMA/1xRTT Digital Cellular Modem

## Model Raven CDMA

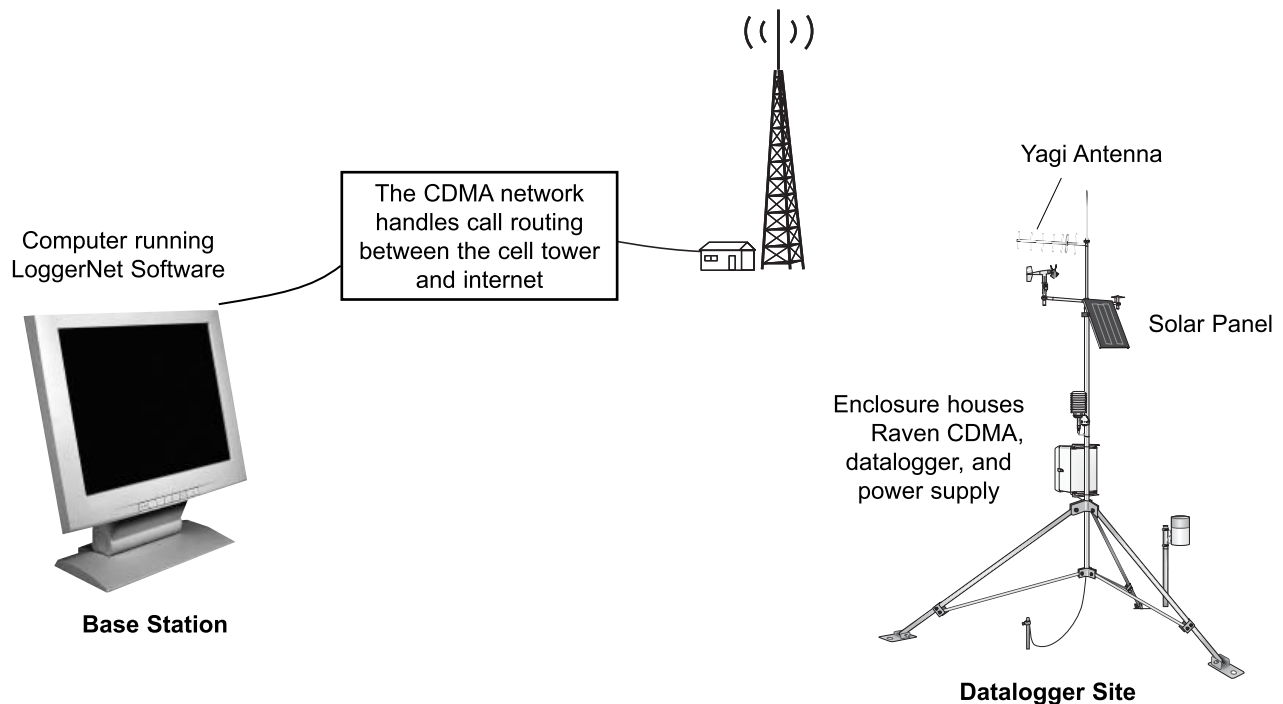
The Raven CDMA is a full-duplex, digital cellular modem manufactured by AirLink. It communicates with the base station computer via Bell Mobility's Code Division Multiple Access (CDMA) network and the internet. Communicating via the internet supports faster communication rates and eliminates dialing delays and long distance fees.

### Features

- Supports CDMA2000 1X, IS-95B Circuit Switched CDMA, and SMS communication modes allowing data to be retrieved via the internet or phone system
- Eliminates dialing delays when using 1xRTT
- Communicates at rates up to 153.6 kbps
- Housed in a rugged aluminum case
- Operates over a wide operating temperature range of -30° to +70°C
- Eliminates long distance fees when using 1xRTT



### Typical System



## Base Station Requirements

- PC running LoggerNet software.
- CDMA coverage at the datalogger site
- Static IP account established with Bell Mobility

## Datalogger Site Equipment

- Raven CDMA Modem—includes power cable
- Campbell Scientific Datalogger
- Connection to the datalogger—customers can connect the modem to either the datalogger's CS I/O port (not compatible with the CR200-series) or the RS-232 port (not compatible with the CR510 or CR10X). An SC105 or SC932A Interface is used to connect to the CS I/O port, and the 14392 Null Modem Cable is used to connect to the RS-232 port.
- Mounting Kit—includes mounting hardware for securing the modem to the backplate of an enclosure.
- Antenna—the following antennas can be used. Contact an Applications Engineer for help in determining the best antenna for your application.
  - 0 dBd ½ Wave Dipole Whip Cellular Antenna (supports 800 MHz band)
  - 1 dBd Omnidirectional Antenna with 10' Cable (supports 800 MHz and 1.9 GHz band) or 3dBd with optional L14468
  - 9 dBd Yagi Antenna with 10' Cable (supports 800 MHz band)
- 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 Raven CDMA 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)
CDMA Modes Supported:	CDMA2000 1X, IS-95B Circuit Switched CDMA, and SMS
Dual-band Support:	800 MHz cellular, 1.9 GHz PCS bands
Packet Mode (1xRTT) Data Rates:	up to 153.6 kbps (forward channel), 76.8 kbps (reverse channel)
RS-232 Data Rates:	1200 bps to 115.2 kbps
Input Voltage:	10 to 28 Vdc
Input Current:	40 to 200 mA
Typical Current Drain at 12 Vdc:	40 mA dormant connection (idle for 10 to 20 seconds), 200 mA while receiving, ~200 mA during transmission
Operating Temperature Range:	-30° to +70°C (10% duty cycle limit above 60°C)
Operating Humidity:	5% to 95% non-condensing
Serial Protocols:	AT Commands, PPP, SLIP, UDP, TCP
Serial Interface:	RS-232, DB-9F
RF Antenna Connector:	50 Ohm TNC
Status LEDs:	Power, Channel Acquired, Link Status, Network Registration, RSSI, Transmit/Receive, Block Errors
Dimensions:	3"W x 1"D x 5.1"L (5.8"L w/connector) 7.6 W x 2.5 D x 13 L cm (14.7 L cm w/connector)
Weight:	< 1 lb (<0.5 kg)



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