RAELink2

Open Communications for the AreaRAE Wireless Platform

Wireless Hazardous Material Detection and Monitoring

RAELink2 Wireless Modem

The RAELink2 Wireless Modem is a key building block of the AreaRAE Wireless Platform. It is used in a stand-alone configuration with the ProRAE Remote Base Station, along with RAE Systems portable monitors and a wide variety of third-party products. RAELink2 allows real-time data transmission between the monitors and the base station, which can be located up to two miles away. Each ProRAE Remote Base Station can communicate with and display data from up to 32 remote monitors.

AreaRAE Platform

AreaRAE is the industry's leading platform for rapidly deployable wireless networks used for detecting and monitoring hazardous substances. Already deployed and operated by hundreds of leading public safety agencies and corporations, AreaRAE represents the industry's standard of choice.

The AreaRAE Wireless Platform integrates information from a wide variety of sensors and monitors, including the following:

- RAE Systems AreaRAE and AreaRAE Gamma Portable Monitors
- RAE Systems wireless portable monitors:
  - MiniRAE 2000
  - ppbRAE Plus
  - MultiRAE Plus
- Coastal Environmental Systems WEATHERPAK® portable weather station
- A wide variety of third-party products for chemical weapons detection and other applications

Key Features

- Real-time communication and display of information about hazardous materials and radiation
- Remote alarm functionality
- Gateway for other vendors' detectors and detection technologies to the AreaRAE Wireless Platform

Applications

- Industrial safety
- Fire Department and HazMat
- Indoor air quality monitoring
- Confined space entry
- Fenceline monitoring
- Venue protection
- Law enforcement

Wireless MiniRAE 2000

up to 2 miles

Wireless

Wireless ppbRAE Plus

AreaRAE Monitor

AreaRAE Gamma Monitor

Wireless MultiRAE Plus

Coastal Environmental WEATHERPAK® Weather Station and other third-party detectors

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ISO 9001 CERTIFIED

RAE SYSTEMS

RAELink2

Specifications*

Hardware Requirements

Detectors and Firmware	MiniRAE 2000, ppbRAE Plus firmware version 1.20 or higher; MultiRAE Plus firmware version 3.11 or higher

RAELink2 Specifications

Operating Mode	Point to multi-point
Size	4.4" L x 3.4" W x 2.0" H (112 mm x 87 mm x 50 mm) w/o antenna
Weight	0.9 lbs. (0.4 kg) with built-in battery pack
Battery	Rechargeable, 7.4V/1.8Ah, Lithium-ion battery pack with built-in charger (less than 10 hours charge time)
Operating Hours	24 hours continuous operation
Frequency	902 to 928 MHz (license-free ISM band)
Spreading Method	Frequency hopping
Hopping Patterns	15
Hopping Channels	50 to 112
Range	Up to 2 miles (varies with antenna)
Peak RF Power	1 watt (+30 dBm)
Modulation	Spread spectrum GSK, 120 or 170 kbps
Occupied Bandwidth	230 kHz
Receiver	
Sensitivity	-108 dBm at 10^{-6} raw Bit Error Rate
Selectivity	40 dB at f_C, 230 kHz 60 dB at f_C, 460 kHz
Data Transmission	
Error Detection	32 bit CRC, resend on error
Link Throughput	115 kbps
Interface	RS-232, 19.2 kbps
Intrinsic Safety	RAELink2 is not rated for intrinsically safe applications. Where Intrinsic Safety is required, use AreaRAE monitors that are rated for Class I Division 2 operation.

*Specifications are subject to change

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Programmability

RAELink2 is a smart modem that incorporates a microprocessor that can be factory programmed for unique applications. The RAELink2 can be programmed to communicate with a wide variety of third-party monitors, sensors and other devices and communicate their information to the ProRAE Remote Base Station. RAE Systems has worked with a number of vendors to create unique applications and continues to work with many others.

RAELink2 Communication Kits

RAELink2 Communication Kits are upgrade packages for three of RAE Systems' most popular portable monitors: MiniRAE 2000, ppbRAE Plus and MultiRAE Plus. The kit provides the RAELink2 Wireless Modem with accessories and a software upgrade to the portable monitor that allows it to communicate with the modem and the ProRAE Remote Base Station.

RAE Systems Wireless Portable Monitors

The MiniRAE 2000, ppbRAE Plus and MultiRAE Plus can be ordered as wireless portables. In these configurations, thery are supplied with a RAELink2 Modem and all the components of the RAELink2 Communication Kit.

MultiRAE Plus with RAELink2 Modem

MiniRAE 2000 with RAELink2 Modem

ppbRAE Plus with RAELink2 Modem

Wireless

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