

The RAELink3 Mesh compact, portable radio-frequency modem provides long-range wireless communication between remote portable air monitors and a base station/computer for comprehensive monitoring. Up to 64 RAELink3 Mesh-equipped monitors can be networked with a single Host.

The RAELink3 Mesh can be configured to act in one of the following modes:

- 1. Remote.** The RAELink3 Mesh in Remote mode functions as a slave modem and communicates to a host modem with the same network ID.
- 2. Host.** The RAELink3 Mesh in Host mode functions as a host modem and communicates with multiple wireless modems.
- 3. Repeater.** The RAELink3 Mesh in Repeater mode functions as a repeater for RAELink3 Mesh Remote modems (or AreaRAE or RAELink series products) with the same network ID.

Connections

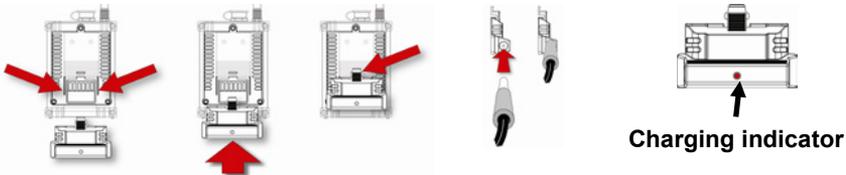
Attach all antennas before turning on RAELink3 Mesh and other equipment.

Battery Replacement

The RAELink3 Mesh can use a rechargeable lithium-ion battery or an alkaline battery pack. It can also be operated on its charger. To take the rechargeable battery or alkaline battery pack out of the RAELink3 Mesh, remove the 3 Phillips-head screws and lift it out. To replace the AA batteries in the alkaline battery pack, remove the two Phillips-head screws on the inside, remove the cover, and replace the 5 AA batteries (Duracell MN1500 or Energizer E91 only). Make sure that the polarity (“+” and “-”) for each battery is correct. Do not mix old and new batteries. Only change batteries in a non-hazardous location.

Setup & Battery Charging

Before using the RAELink3 Mesh, charge the Li-ion battery by attaching the instrument to the Charging Adapter.



1. Align the Charging Adapter with the back of the RAELink3 Mesh (two guides match indents on the back of the Charging Adapter).
2. Slide the Charging Adapter onto the back of the RAELink3 Mesh.
3. Make sure the latch clicks into place. (Press the latch when detaching the charger.)
4. Plug the power supply's connector into the input on the side of the Charging Adapter.
5. Plug the power supply into the wall outlet.

The LED Charging Indicator in the Charging Adapter should glow red to indicate it is charging, and glow green when the battery is fully charged.

User Interface

The user interface consists of the display and three “soft” keys: [Y/+], [MODE], and [N/-]. The LCD display provides visual feedback that includes the reading, time, battery condition, and other functions.



[Y/+] increases values, [MODE] acts as on/off and save, and [N/-] selects “no” and advances to next function.

In addition to their labeled functions as “yes,” “mode select,” and “no,” [Y/+] , [MODE], and [N/-] act as “soft keys” that control different parameters and make selections within the instrument’s menus.

Operation

Turn On Press and hold [MODE] until the display is on.

Turn Off Press and hold [MODE] for 3 seconds. The display shows “Shutting Down...” After a 5-second countdown, you see “Unit Off.” Release your finger.

Backlight: Press any key to turn on backlight. After 15 seconds, it shuts off.

Network ID

Important! All RAELink3 Mesh and any other Remote, Repeater, or Host units in a network must have the same Network ID.

With the RAELink3 Mesh turned on, press and hold both [MODE] and [N/-] for 3 seconds to enter Programming mode.

The RAELink3 Mesh enters programming mode:

To change the Network ID, press [Y/+].
To advance without changing, press [N/-].
To exit Programming Mode, press [MODE].

Network ID: 0001
Change?

When changing the Network ID, the cursor flashes on the selected digit:

1. Press [Y/+] to increase the number or [N/-] to decrease the number.
2. Press [MODE] to advance to the next digit.
3. Input a network ID from 1 to 4095 (except 255).

To accept the new Network ID, press and hold [MODE] for 2 seconds. When the confirmation screen appears, press [Y/+] to save, or press [N/-] to abort the change.

Op Mode

Set the Operation Mode to be Remote, Repeater, or Host.

Unit ID

Important! Every unit in a network must have a unique Unit ID.

Unit ID is used to identify the RAELink3 Mesh within ProRAE Guardian. (ProRAE Guardian shows the unit ID number, and any monitors connected to that RAELink3 Mesh show up with a unit ID that is equal to the unit ID of the RAELink3 Mesh followed by a dash and the radio serial number of the gas monitor; for example, RAELink3 Mesh with Unit ID 1, then ToxiRAE Pro with Unit ID of 1-xxxx.)

Enter Programming mode and press [N/-] until you see the screen at right.

Unit ID: 01
Change?

Press [Y/+] if you want to change the Unit ID. When changing the Unit ID, the cursor flashes on the selected digit.

1. Press [Y/+] to increase the number or [N/-] to decrease the number.
2. Press [MODE] to advance to the next digit.
3. Input a Unit ID from 00 to 64.

To accept the new Unit ID, press and hold [MODE] for 2 seconds. When the confirmation screen appears, press [Y/+] to save, or press [N/-] to abort the change.

Mesh Power On/Off

You can turn the Mesh radio's power on or off. When it is on, the main display shows "Mesh Link" followed by the number of devices connected on the network, and when it is off, the display shows "Mesh Power Off."

PAN ID

The PAN ID of the RAELink Mesh and any connected instrument must match.

Channel

All Remote, Repeater and Host modems in a network must be on the same Channel. Input a channel number that matches the other units in the network.

Note: Choosing Join Network in the gas monitor wireless setup menu automatically sets the Channel to match the Channel of a corresponding Remote modem with same PAN ID.

RAELink3 Mesh In Remote Mode For the RAELink3 Mesh in Remote mode, connect a portable gas monitor cordlessly with Mesh radio to monitors such as the ToxiRAE Pro series and MultiRAE series. Third-party portable monitors use unique cables to connect to the RAELink3 Mesh. Make sure Mesh Radio is turned on in any monitors using it. You can use a single RAELink3 Mesh in Remote Mode to transmit data from up to eight Mesh radio-enabled and a cable-connected devices simultaneously.

Products Supported By RAELink3 Mesh	Connection	Remote Mode Setting
ToxiRAE Pro family	Mesh Radio	Bypass
MultiRAE family	Mesh Radio	Bypass
QRAE Plus	Cable	RAE PTP
MultiRAE Plus, MiniRAE2000, MiniRAE3000	Cable	Bypass
ppbRAE Plus	Cable	Bypass
ChemRAE	Cable	ChemRAE
DustTrak2	Cable	DustTrak2
AP4C	Cable	AP4C

Baudrate

The baud rate is the speed of data transfer between a cabled instrument and a RAELink3 Mesh in Remote mode. The default is 19200. It can be changed to match the rate set in an instrument, if necessary.

Additional Information And Support

Read the RAELink3 Mesh User's Guide for additional information on features and settings, as well as regulatory information not covered in this Quick Reference. For support, contact RAE Systems Technical Support at (888) 723-8823, or email tech@raesystems.com.