

## RadioRA 2 Repeaters

RadioRA 2 Repeaters extend the range of Radio Frequency (RF) signals that are sent between dimmers, switches, keypads, visor controls, shades/draperies, and other devices. Repeaters ensure error-free communication between system components and prevent interference from neighboring systems.

For systems that extend up to 30 ft (9 m), one (1) Main Repeater is required to set up the system. Up to four (4) Auxiliary Repeaters can be added to extend the RF range for larger system applications. Each Repeater has an RF range of 30 ft (9 m), covering a total area of approximately 2500 sq ft (232 m<sup>2</sup>).



RR-MAIN-REP-WH

### Model Numbers

- RR-MAIN-REP-WH\*      Main Repeater
- RR-AUX-REP-WH\*      Auxiliary Repeater

\*Only available in White (WH).



RR-AUX-REP-WH

## RadioRA 2 Repeaters

### Specifications

<b>Model Numbers</b>	RR-MAIN-REP-WH, RR-AUX-REP-WH
<b>Power</b>	Main/Auxiliary Repeater: 9 V <sup>DC</sup> 300 mA DC adapter: Input: 120 V <sup>AC</sup> 60 Hz 6.5 W Output: 9 V <sup>DC</sup> 300 mA
<b>Typical Power Consumption</b>	Main Repeater: 3.1 W Test conditions: one LED on, Ethernet cable plugged in, powered by the 9 V <sup>DC</sup> adapter supplied. Auxiliary Repeater: 0.6 W Test conditions: one LED on, powered by the 9 V <sup>DC</sup> adapter supplied.
<b>Regulatory Approvals</b>	DC adapter: UL Listed for U.S. and Canada, NOM Main/Auxiliary Repeater: FCC, IC, COFETEL
<b>Environment</b>	Ambient operating temperature: 32 °F to 104 °F (0 °C to 40 °C), 0% to 90% humidity, non-condensing. Indoor use only.
<b>Low-Voltage Wire Type</b>	Two pair – one pair 18 AWG (1.0 mm <sup>2</sup> ), one pair 22 AWG to 18 AWG (0.5 mm <sup>2</sup> to 1.0 mm <sup>2</sup> ) twisted shielded – NEC® Class 2/PELV cable.
<b>Communications</b>	Repeaters communicate with the system through RF. All devices (except remote dimmers/switches) must be located within 30 ft (9 m) of a Repeater. All Repeaters must be within 60 ft (18 m) of another Repeater.
<b>ESD protection</b>	Tested to withstand electrostatic discharge without damage or memory loss, in accordance with IEC 61000-4-2.
<b>Surge Protection</b>	Tested to withstand surge voltages without damage or loss of operation, in accordance with IEEE C62.41-1991 Recommended Practice on Surge Voltages in Low-Voltage AC Power Circuits.
<b>Power Failure</b>	Power failure memory: should power be interrupted, the Repeater will return to its previous state when power is restored.
<b>Mounting</b>	Mount on a wall, ceiling, or level surface using the two #6 (M3) screws provided.
<b>Connections</b>	Main Repeater: Ethernet, RS232, RS485 and USB (Lutron use only.) Auxiliary Repeater: RS485
<b>Warranty</b>	1 Year Limited Warranty. <a href="http://www.lutron.com/resiinfo">http://www.lutron.com/resiinfo</a>

### Design Features

- Test button - enters the system diagnostic mode.
- Add button - enters the system address mode.
- Can be programmed from a PC.
- RS485 port to connect to other Repeaters through a wired link (daisy-chain).
- Main Repeaters allow configuration and integration to the system through Ethernet or RS232 ports. See chart below.

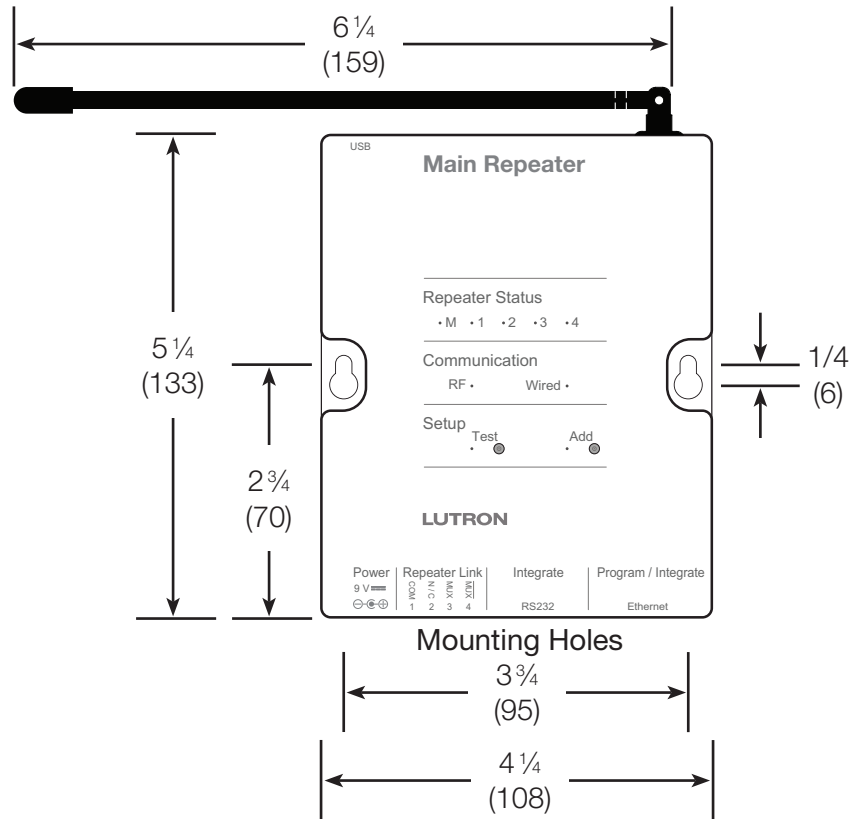
	Configuration	Integration
Ethernet	X	X
RS232		X

## RadioRA 2 Repeaters

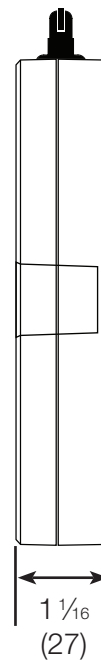
### Dimensions

All dimensions are shown as  $\frac{\text{in}}{\text{(mm)}}$

#### Front View

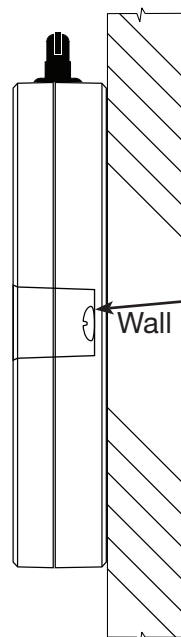


#### Side View

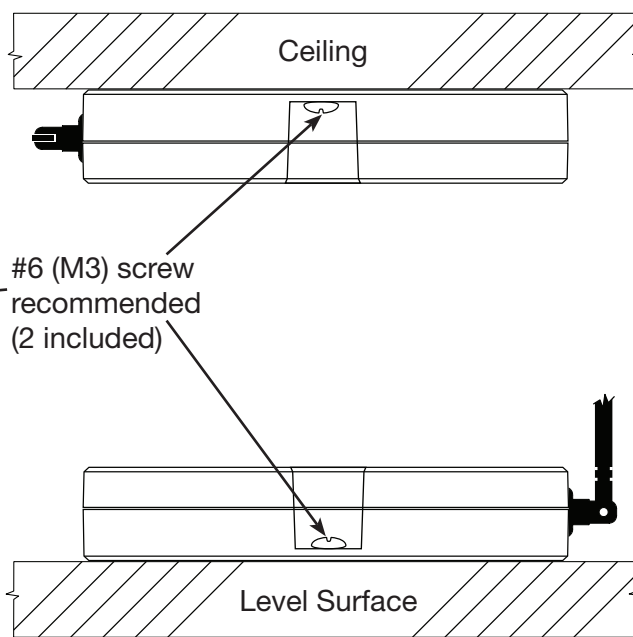


### Mounting

#### Vertical



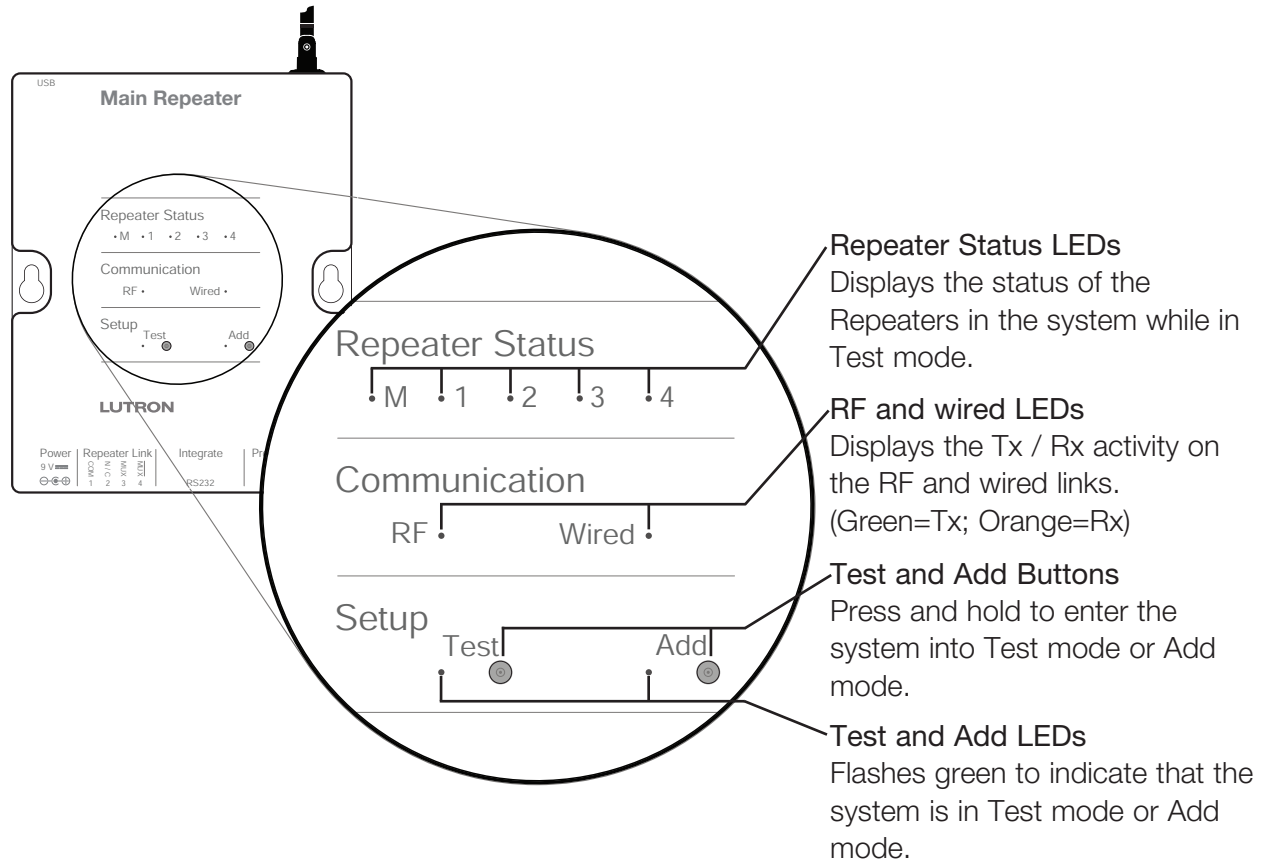
#### Horizontal



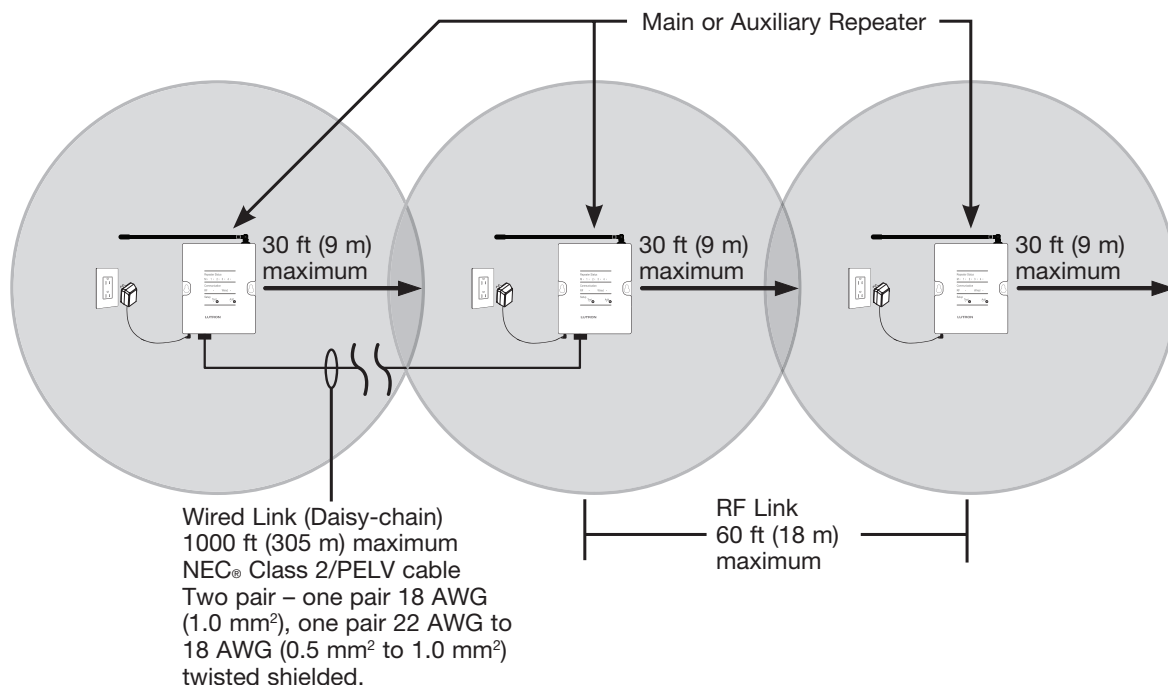
#6 (M3) screw recommended (2 included)

## RadioRA 2 Repeaters

### Operation



### Wired and RF Configuration



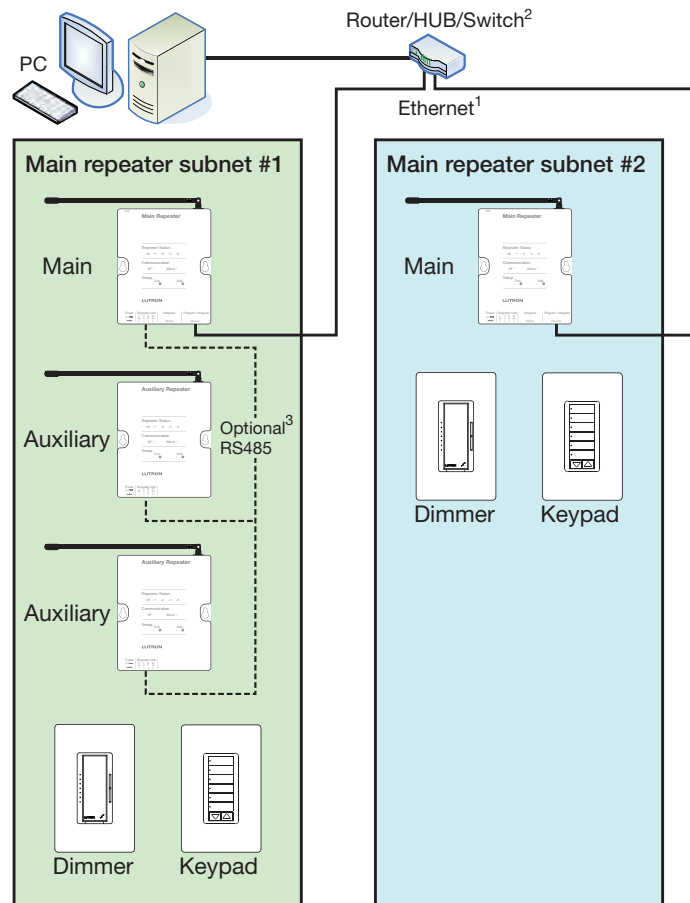
## RadioRA 2 Repeaters

### Using Two Main Repeaters for Qualified Dealers/Installers

Qualified Level 2 (L2) dealers/installers can upgrade their software to provide support for a 200 device system by enabling the addition of a second main repeater subnet to the system.

*Note: For questions on how to become a qualified L2 dealer/installer, please contact your local Lutron® representative.*

#### Connection Diagram for 2 Main Repeaters



<sup>1</sup> The two main repeaters must be connected by Ethernet during and after PC programming. The two main repeaters do not communicate over the RF link.

<sup>2</sup> The two main repeaters may be connected over Ethernet by one of the following:

- Router
- HUB or switch (only if static IP addresses are being used)
- After PC programming is complete, direct Ethernet connection without a router, HUB, or switch (only if static IP addresses are being used)

<sup>3</sup> Auxiliary repeaters and main repeaters on the same subnet can be optionally connected by RS485 wired links when the repeater RF range is exceeded.

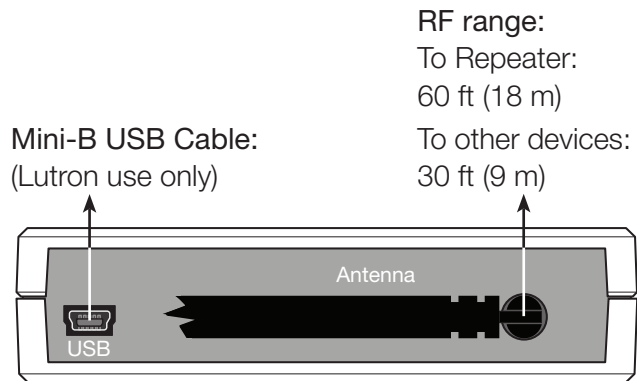
- The RS485 wired link cannot be connected between the two main repeater subnets
- The RS485 wired link cannot be connected between two main repeaters.
- RS485 wired links can be used between any combination of main and auxiliary repeaters on the same subnet.

## RadioRA 2 Repeaters

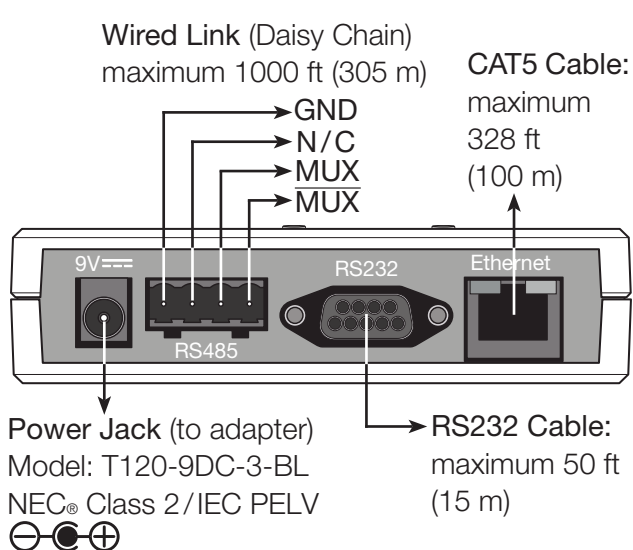
### Connections

#### Main Repeater

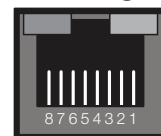
##### Top View



##### Bottom View



#### RS232 and Ethernet Pin Numbering

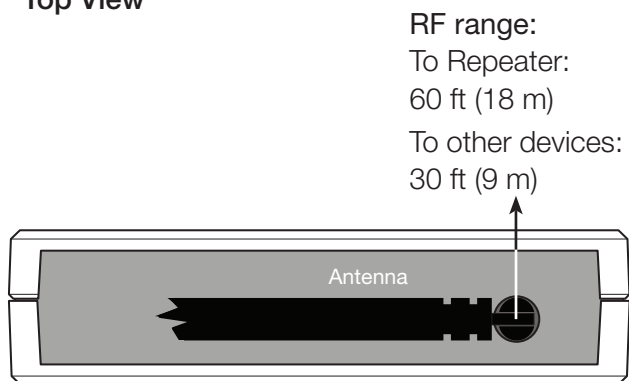


RS232	Pin #
TxD	2
RxD	3
GND	5

Ethernet	Pin #
T+Ve	1
T-Ve	2
R+Ve	3
R-Ve	6

#### Auxiliary Repeater

##### Top View



##### Bottom View

