



# Synchronised Ethernet Repeater



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## Time critical messaging

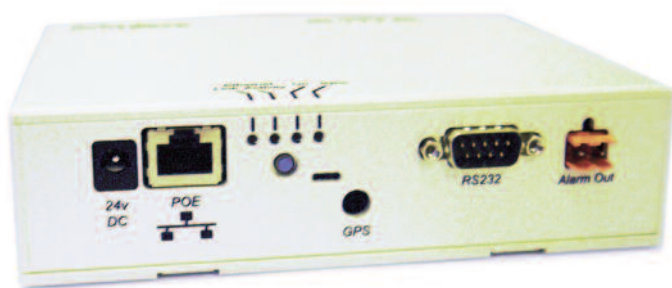
The use of a Synchronised Ethernet Repeater (SER) enables the length of repeater chains to be minimised. A large physical repeater network can be partitioned into smaller sub-networks eliminating the need for channel changers and easing deployment over multiple floors. SERs can also be used to extend an EkoTek network to isolated areas, thereby reducing the need for lengthy chains of repeaters. This can be achieved with little alternative routing and increasing the resilience of a system.

Up to 8 SER's can be connected to one hub.

### Requirements

In order to prevent interference between sub-networks and enable mobile devices to transfer seamlessly between them, the radio must be synchronised ideally to within 500 $\mu$ . To achieve this it is essential to connect via a LAN with very low latency and consistent, symmetrical round trip times between SERs. Should the SERs be operated on a shared LAN, the latency must be less than 1ms. Note that other network activity can affect the EkoTek communications and disrupt its operation. For this reason Multitone recommends a dedicated POE LAN, with UPS, and no active routing devices between SERs.

The hub may be positioned away from the actual area of the radio coverage, such as in a control room or security office. If the hub is within range of the radio coverage then its radio must be disabled.



## Technical specification

### Radio performance

- Radio frequency: 2405-2480MHz
- Radio channels: 2 per SER
- Radio power: 10mW
- Radio coding: modulation format OQPSK DSSS IEEE 802.15.4

### Maximums

- 8 SER's per system
- 60 repeaters per channel (recommended)

### External connections

- 1 x Closing contact
- 1 x Ethernet port

### Electrical specification

- SER power over Ethernet: 48Vdc, 75mA
- SER Power Supply: 24Vdc , 150mA
- Battery back-up 2xAA NiMH batteries
- Uninterruptible power supply recommended for ethernet switches

### Compatible EkoTek software

- Software version 3.10 or above
  - Languages: English, German, French, Swedish and Spanish
- Configuration pages available in English, French, German, Spanish, Swedish. Compatible with systems running any of radio languages (i.e. Czech and Norwegian).

### Physical characteristics

- Size: 60 x 168 x 104mm (h x w x d)
- Weight: 650g

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