

WiNG Alternate Channel Communications Guide



Thank you for purchasing a WiNG monitoring system. This document guides you through the alternate channel setup process.

Additional support information is available at rletech.com. Before you install a WiNG system, check the website to ensure you are using the most recent version of our documentation.

If you need further assistance, please contact RLE Technologies at support@rletech.com.



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WiNG Alternate Channel Communications

Most WiNG system deployments operate well with the out-of-the-box default settings. There are, however, instances where excess RF energy in a facility crowds the default channels. For this reason, the WiNG system was designed with a set of alternative communications channels. While it is not difficult to switch the channels on which your system is communicating, it is outside the basic WiNG configuration scope. For this reason, we are providing a specialized set of instructions and encourage you to contact our technical support staff if you have any problems configuring alternate channel communications.

Sensor Communications

By default, WiNG sensors communicate via channel pair 1. You can determine on which channel pair your sensor(s) are communicating by looking at the status LED on the front of the sensor enclosure. This LED blinks randomly once every 10 - 20 seconds.

Blink Pattern	System Frequency	Status Description
	900MHz	Operating on channel pair 1 (default)
	900MHz	Operating on channel pair 2
	868MHz	Operating on channel pair 1 (default)
	868MHz	Operating on channel pair 2

Change the Sensor's Channel Pair

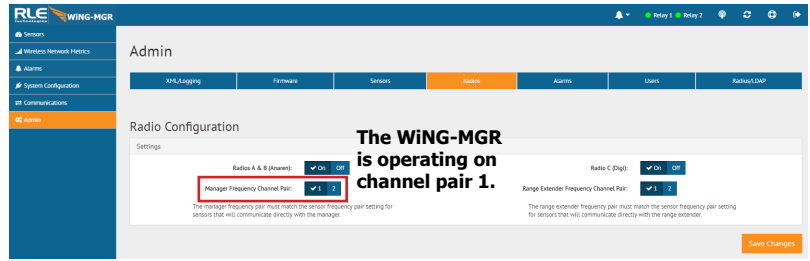
1. Hold the sensor in your hand and locate the LED on the top of the enclosure. Make sure the LED on the board is blinking blue (900MHz) or purple (868MHz) to indicate it's currently communicating via channel pair 1. Now look down the side of the enclosure past the LED (the left side of the enclosure) and find the small hole in the middle of the bottom left side of the enclosure - right where the lid meets the base. If you look inside this hole you will see a small black button. You will use this button to change the channel pair of this sensor.
2. Insert a small non-conductive tool - like a toothpick - inside the hole and push the black button three times consecutively. The 900MHz and 868MHz devices each have a different blink pattern for channel transition:
 - 900MHz sensors: The LED on the sensor board blinks blue with the first push, blue with the second push, and green with the third push. It will then blink green three times in a row to indicate the sensor has switched to channel pair 2 for its communications.
 - 868MHz sensors: The LED on the sensor board blinks purple with the first push, purple with the second push, and yellow with the third push. It will then blink yellow three times in a row to indicate the sensor has switched to channel pair 2 for its communications.
3. Pause a minute and watch the sensor LED. Once the transition pattern of blinks are complete, it blinks randomly, once every 10 - 20 seconds. Wait until it blinks green (900MHz) or yellow (868MHz) once to ensure channel pair 2 communications are active.
4. You can change the sensor back to channel 1 communications in the same way. If the sensor is operating on channel pair 2 (LED is blinking green (900MHz) or yellow (868MHz)), push the black button three times consecutively.
 - 900MHz sensors: The LED blinks green with the first push, green with the second push, and blue with the third push. Then it blinks blue three times in a row to indicate it's communicating on channel pair 1. Pause a minute to watch the LED and ensure it's blinking blue in its random blink cycle.
 - 868MHz sensors: The LED blinks yellow with the first push, yellow with the second push, and purple with the third push. Then it blinks purple three times in a row to indicate it's communicating on channel pair 1. Pause a minute to watch the LED and ensure it's blinking purple in its random blink cycle.
5. If you remove or change the sensor's battery it will revert to the default channel pair 1 (blue (900MHz) or purple (868MHz) blinking light).

Manager Communications

By default, the WiNG-MGR communicates via channel pair 1. If you change the channel pair on which your sensors are communicating, you also need to change the channel pair on which your manager is communicating.

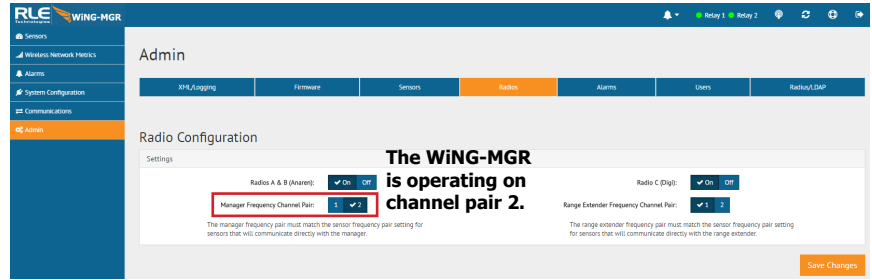
The System LED on the front of the WiNG-MGR serves as an indicator in the same manners as LED on the front of the sensors. You can determine on which channel pair your WiNG-MGR is communicating by looking at the System LED on the front of the enclosure. This LED blinks randomly once every 10 - 20 seconds. If the LED blinks blue (900MHz) or purple (868MHz), the WiNG-MGR is communicating on channel pair 1. If the LED blinks green (900MHz) or yellow (868MHz), the WiNG-MGR is communicating on channel pair 2.

You can also access the WiNG-MGR's web interface to determine on which channel pair the unit is communicating. Click the Admin link in the left navigation bar and then click the Radios link to access the Radio Configuration page. The channel pair number indicated by a check mark and darker shading in the Manager Frequency Channel Pair field is the active communication channel pair.



Change the Manager's Channel Pair

Access the WiNG-MGR's web interface. Click the Admin link in the left navigation bar and then click the Radios link to go to the Radio Configuration tab. Click the toggle button to select Manager Channel Frequency Pair 2. Click the Save Changes button to execute the channel pair change.



Once the changes have been saved, look at the LED on the front of the WiNG-MGR. It blinks green (900MHz) or yellow (868MHz) to indicate it is operating on channel pair 2.

If you should need to change the WiNG-MGR back to channel pair 1, return to this web page, click the toggle button to select channel pair 1, and click the Save Changes button. Then verify the WiNG-MGR is communicating on channel pair 1 by checking the System LED and ensuring it blinks blue (900MHz) or purple (868MHz).

Add a Range Extender to a WiNG System



While WiNG systems have more than an ample transmission range for most situations, sometimes applications require signals to be pushed through more complex physical or noisy RF environments. The WiNG-RXT range extender can be implemented in these situations to add up to 1,000 feet direct line of sight transmission distance per range extender to the application.

To add a WiNG-RXT to your application, connect the antennas (magnetic base antennas into ports A and B, and swivel antenna into port C) and apply power to the device. Ensure the most effective antenna placement - antennas A and B can be close together, but to avoid signal interference they need to be as far away from antenna C as your installation will allow. Extend the leader cables on the antennas to their fullest lengths and secure the antennas as far away from the WiNG-MGR - and has high off the ground - as possible.

Access the WiNG-MGR's web interface and navigate to the Admin > Radio Configuration page. Radio C needs to be on in order for the WiNG-MGR to communicate with the WiNG-RXT.

Just like WiNG-MGRs and WiNG sensors, the WiNG-RXT can communicate on different channel pairs.

By default, it is set to communicate on channel pair 1. The System LED on the front of the unit indicates on which channel pair it is communicating. If it blinks blue (900MHz) or purple (868MHz), it's communicating on channel pair 1. If it blinks green (900MHz) or yellow (868MHz), it's communicating on channel pair 2.

Most importantly, the WiNG-RXT needs to be communicating on the same channel pair as the sensors it is trying to pick up. If the sensors are on channel pair 1, the WiNG-RXT needs to be on channel pair 1. And likewise, if the sensors are on channel pair 2, the WiNG-RXT needs to be on channel pair 2 as well. You may have a specialized installation that has the WiNG-MGR on channel pair 1 picking up one set of sensors, and the associated WiNG-RXT is on channel pair 2 picking up an entirely different set of sensors. This too is fine. Just remember the sensors you're trying to pick up must be on the same channel pair at the device that should be receiving their signal.

