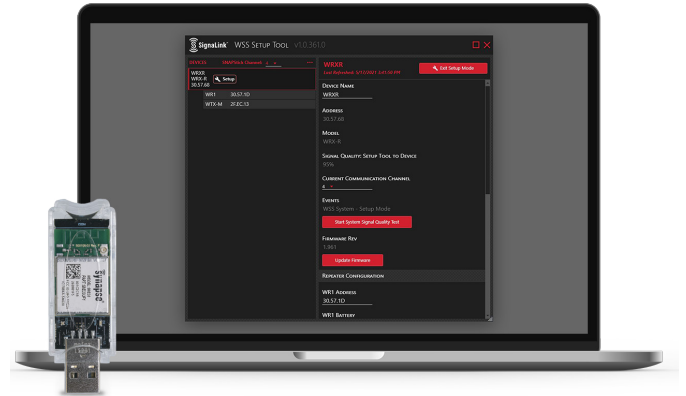


## Features

- Allows user to check signal strength
- Provides ability to change communication channel
- Used to add and remove repeaters
- Plugs into USB port of laptop
- Change Receiver to external antenna mode



## Description

The Potter WST is a software utility used to setup and/or troubleshoot the Potter wireless products. It allows users to check the signal strength of the complete communication path between all Potter wireless devices. The WST also allows users to see the traffic on the communication channel and change channels if desired. The WST can be used to remove or install repeaters, pair devices, check battery strength and other features.

The use of the WST requires a USB Snapstick that is purchased from Potter. The same Snapstick WST can be used in multiple laptops and for multiple installations. In the event where a user has purchased multiple Snapsticks, each and any device can be used to service any installation.

The transmitter and repeater, if battery powered, spend most of their time in battery conservation mode. The devices activate only when an event associated with them, such as tamper operation or activation of the transmitter input, or providing the required supervisory communication to the receiver, occurs.

As the receiver is continuously powered, it is the dominate device. The setup tool primarily communicates with it via the Snapstick, In addition to containing the license, the Snapstick contains a radio transceiver to communicate to the field devices. The setup tool is the computer program used to make changes, check signals, etc through the Snapstick to any associated field devices.

## Installation

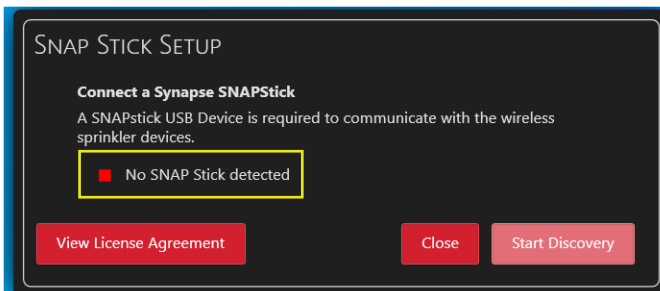
**NOTE:** Windows 10 OS required for use.

1. Ensure there is a consistent internet connection throughout the installation. The software and license must be downloaded from Potter Electric Signal's server during the installation process. An internet connection is not required after the initial install.
2. **Do not insert the Synapse Snapstick into the USB port being used for the installation until prompted.**
3. Go to <https://ptr.us/SignalLinkBridge> and click the appropriate link for the WSS Setup Tool Installation.
4. Download and run "WSS Setup Tool.msi"  
**Note:** The installation will require you to install the SnapStick driver before you can install the setup tool. Click the **Install** link below SnapStick Driver
5. When prompted, insert the Synapse SnapStick into the PC's desired USB port. The license will automatically download from Potter's server if the SnapStick is associated with a valid WSS Setup Tool license.

## Operation

1. Once the software is loaded, a WSS Setup Tool icon will appear on the laptop screen. Click the icon to open the tool.
2. Ensure the Snapstick is secure. When the **Ready** box turns green, click the **Start Discovery** button (see Fig. 1)

Fig 1



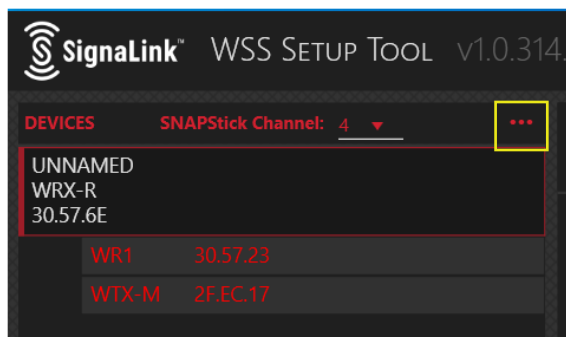
3. The screen will divide into two halves. The left half will display all Potter wireless devices the Snapstick has detected that are within its range and on the current channel selected on the setup tool. The current Snapstick channel is located and indicated in the top left corner of the display.

The WRX-R is the device that communicates with the Snapstick, making it the dominant device and displayed first. The transmitter and its associated repeaters will be indented immediately below it (see Fig. 2)

**NOTE:** If the desired device isn't shown, click the down arrow next to the current channel number. This allows the user to change the channel the Snapstick is communicating on. Continue using the down arrow to change the channels until the desired devices are located and communication is established.

4. To the right of the Snapstick channel selector is a ... tab (see Fig. 2). This allows users to analyze and determine traffic on the selected channel in the event a lower traffic channel is needed. The default channel is 4. Blue is light traffic, red is heavy traffic.
5. The devices associated with the WRX-R should appear indented immediately below the WRX-R (see Fig. 2). If not, use the "..." tab at the top to refresh the screen.

Fig 2



6. To make any changes to the selected WRX-R on the left or to its associated devices, click on ENTER SETUP MODE in the upper right corner.

When in Setup mode, the WR and WTX-M will change from red to white as they connect to the WRX-R. It may take up to 90 seconds for the WTX-M to connect.

When connected, the specifics of the device selected on the left will be displayed on the right. Changes to that device can be made at that time. Devices may occasionally be white when not in Setup mode if they made communication with the Setup tool while conducting required periodic supervision, this is not a concern. Clicking on a device other than the WRX-R, while not in setup mode, will result in the right screen indicating that the device is not responding. This is normal because it is not in setup mode.

## NOTICE

Setup mode causes all devices to remain awake and transmitting. This drains the batteries. Do not leave it in setup mode longer than necessary. Setup mode will close automatically after 20 minutes to conserve battery life.

## Device Name

Each device can have its own unique name. The name can identify the zone on the facp, the device location, or the type of device being monitored. When a WRX-R is selected on the left, its name is displayed at the top of the screen and in the WRX-R section. The names for the other devices are only displayed in setup mode when that device is selected. When a device is selected on the left, the user has the ability to change the name on the right.

## Address

The address is the MAC address of the device selected on the left. This is used when pairing, replacing, adding or deleting devices. The MAC ID is on a label on each device.

## Model

This is the device highlighted on the left screen.

## Signal Quality: Setup Tool to Device

This is the signal quality between the Snapstick and the WRX-R when in setup mode. Please note, this is only the communication between the Snapstick and the WRX-R. It is not representative of the signal strength between the field installed devices. You must enter SETUP MODE and start the System Signal Quality Test to check that.

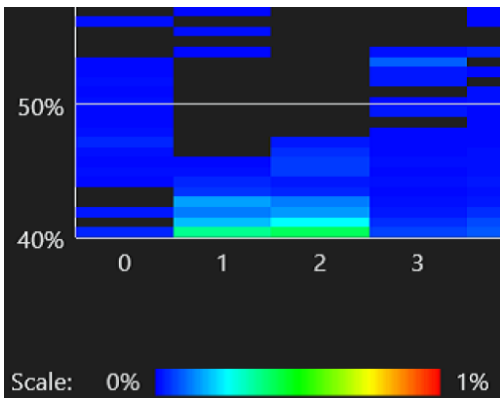
## Current Communication Channel

This is the frequency channel the device is communicating on. All devices that are expected to work together and communicate with each other must be on the same channel. Do not change channels on

the devices until the channel analyzer is used to determine that the current channel has too much traffic. Traffic congestion is determined by color as shown on the tool. Blue means less congestion. Green to red means more congestion. Congestion is more critical than the strength which is indicated by % signal loss (see Fig 3). Be advised, the more Potter wireless devices installed in a facility, the more congestion will be created on that channel. The Potter devices will not interfere with each other and may work as a mesh system. Use of another SnapStick in the same facility will also increase congestion but only while it is in use. It is typically not necessary to change channels.

Once done, change the channel on the transmitter, receiver and all repeaters that are part of this “system”. If the channel is changed on the device, it will no longer appear on the screen as the Snapstick is still communicating on the channel it is set to. The Snapstick channel will have to be changed to the new channel to find the devices. It is recommended to write the channel number on the device, especially if the channel has been or will be changed, so the device can be found easier in the future.

Fig 3



## Antenna Type

This field shows the current antenna being used by the WRX-R. The WRX-R by default uses the onboard (internal antenna). An optional external antenna can be used for increased signal quality. To switch to external antenna enter setup mode and select “External” from the drop down menu. After changing antenna type the WRX-R will reboot and be unavailable for about 60 sec. Ensure an external antenna is installed. See document #5401587. After device reboot perform a signal quality test

## Events

This shows any events such as tamper, communication error, transmitter activation, etc. This will also be indicated by a red or yellow light next to the receiver on the left screen.

## Battery

The battery percentage for the WR and WTX-M is displayed on the right in their respective sections.

## Start System Signal Quality Test

Only available in setup mode. This allows the user to check the strength of the signal between all devices. The minimum acceptable signal strength is 53%. If the signal is below 53%, the number will turn red. A repeater is required if the signal strength is in this area.

### NOTICE

ALWAYS conduct a signal quality test after changing channels, adding, moving or pairing devices. This will ensure that all devices are accounted for. If all devices are not seen in the signal quality test, re-check the previous steps taken to ensure the devices have been paired and/or are on the correct channel

## Update Firmware

This allows the user to update devices to the latest firmware while in setup mode. Clicking on the tab displays a link to download the most recent update. After downloading the update, use the browse link in the same window to select the firmware for that device.

### NOTICE

- A firmware update takes approximately 30 seconds per device
  - Firmware should be updated in this order:  
WTX-M, WR3, WR2, R1, WRX-R
- If the WRX-R is updated before other devices, it may result in incompatible firmware and a COM error. This will also be displayed on the setup tool as an EVENT.  
If this occurs, cycle the power to the WRX-R.
- If the WR is powered by an external source and not by battery, the power to it must be cycled off and on after an update. After cycling power to the WR, check to make sure it shows EXTERNAL power instead of BATTERY %
  - It may be necessary to use... to refresh the screen if devices are not displaying properly.

## Remove WR

Select the WR on the left to remove. Click REMOVE WR on the right.

## Add WR

Click Add WR. Enter the MAC ID of the WR and click ok. NOTE: WRs must be physically located in the order in which they are paired, with #1 being closest to the receiver. Then click the WR on the left and enter the MAC id for the receiver on the right. You must enter the MAC id of the WR into the receiver section and the MAC id for the receiver into the WR section so they can communicate with each other.

## Replace WTX-M

Highlight the WRX-R on the left. At the bottom of the screen on the right, replace the MAC id of the current WTX-M with the MAC id of new WTX-M.

### NOTICE

Deleting or changing the MAC ID on the WTX-M will take the system out of Setup mode.

## Pair WTX-M to WRX-R

With devices powered and operating, select desired WRX-R, on the left and then the associated WTX-M beneath it. On the right, enter MAC id of the WRX-R and pres enter. Then select the WRX-R on the left. At the bottom of the screen on the right, enter the MAC id of the WTX-M.