

Avi-on Wi-Fi Bridge Setup & Installation Guide

The *Avi-on Wi-Fi Remote Access Bridge (Bridge)* is designed to “bridge” communications between your local Avi-on Bluetooth® controls and the back-up and programming strength of the Avi-on Cloud

- The **Avi-on Wi-Fi Bridge** also has a **Bluetooth** radio suitable for startup and maintenance of projects < 50 devices
- Avi-on recommends the LTE/Ethernet Bridge for larger projects and/or projects desiring 24/7 connection, energy data streaming, API connection, or long-term maintenance
- The **Avi-on Wi-Fi Bridge** requires the **local Wi-Fi network password**, which may require the assistance of the corporate IT department



Step 1) Gather digital passwords needed for Bridge setup

- From Project Manager or Shipping Documentation: Register your personal Avi-on account and gain access to the existing location. Project Manager will need to grant access if you do not have it already.
- From Local IT Team: Local Wi-Fi password & SSID (router password). *Note that the WiFi Bridge only supports 2.4G network connections. If IT is unwilling to provide the SSID, then you will need to substitute and order an Avi-on LTE/Ethernet Bridge*

Step 2) Download and/or login to the Avi-on Mobile Commissioning App

- Login to the *Avi-on Mobile Commissioning App* with your personal username and password (or you can use the *Avi-on Pro for Mac App*)
- If you are the Project Manager, and there is no pre-existing location, create a new one. If you are not the Project Manager and do not have access to the location already, reach out to the Project Manager to gain access

[iTunes \(iOS\)](#)

[Google Play \(Android\)](#)

[Register an Account](#)

[App Overview](#)



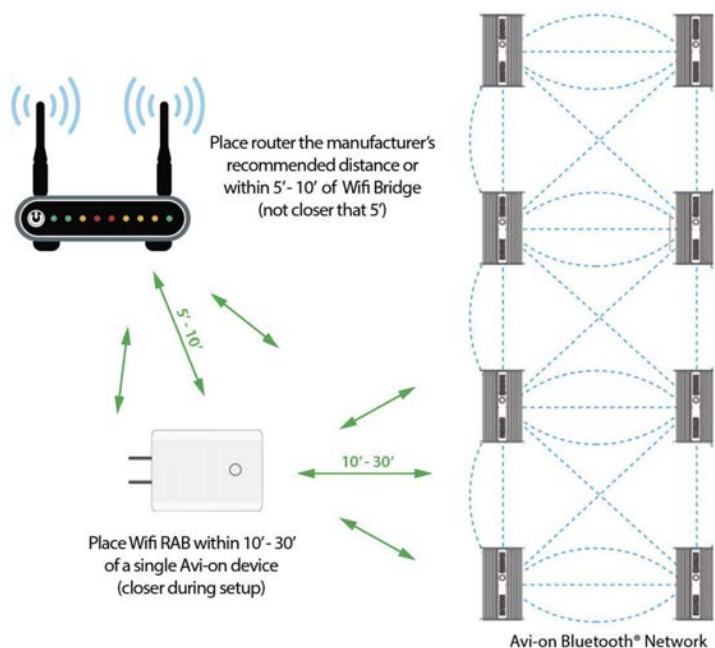
Step 3) Install your Wi-Fi Bridge near Avi-on devices and near the local router

For reliable connection to the Avi-on cloud, the Wi-Fi Bridge needs to sit between an Avi-on Bluetooth node AND the local router using the following general parameters

- **Location with very strong 2.4G Wi-Fi connection.** Use the Wi-Fi indicator on your phone to visually check for Wi-Fi strength. All current wireless routers sold support 2.4GHz as well as 5GHz. Avi-on uses 2.4GHz because it has substantially longer range than 5GHz and will yield a more reliable solution. 5 GHz supports higher bandwidth which is not needed by the RAB, and has much shorter range and requires line of sight connections.
- **About 5 to 20 feet from the local router.** Do not place the Wi-Fi Bridge closer than 5 feet, or further than 20 feet. Don't have the wifi bridge front face point directly at the router (better if it faces the side of the unit)
- **Within 10 to 30 feet of the closest Avi-on Bluetooth node.** The actual distance will depend on how/where things are installed and the performance of your local Wi-Fi network*
- When communicating with the WiFi Bridge, you will actually be connected to a nearby Avi-on node, which then relays the messages to the Bridge. You may need to stand nearer the Avi-on devices than the Bridge to assure good communications. It is necessary to have at least one Avi-on powered device near the Bridge to configure it. You cannot set up a Bridge with no other powered Avi-on devices in range. Battery-powered Avi-on devices do not count as 'powered'

Note: The Wi-Fi Bridge needs **BOTH** a strong connection with a close Avi-on Bluetooth node **AND** the router, or it will not set up.

*Installation conditions vary dramatically. Avi-on cannot predict or guarantee the distances needed in your situation



Step 4) Plug the Wi-Fi Bridge into power & check blue/green lights for status

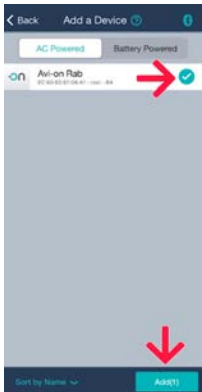
The Green and Blue lights indicate the status of the Bridge: *your goal is for both lights to stop flashing*

- **Blue light = Bluetooth**
 - Blinking Blue: Bridge is not claimed >> ready to ADD to Avi-on location
 - Solid Blue: Bridge has been added to the project's Avi-on location and is claimed
- **Green light = Wi-Fi**
 - Blinking Green: Bridge is not connected to Wi-Fi >> ready to CONFIGURE
 - Solid Green - Bridge has established a Wi-Fi connection

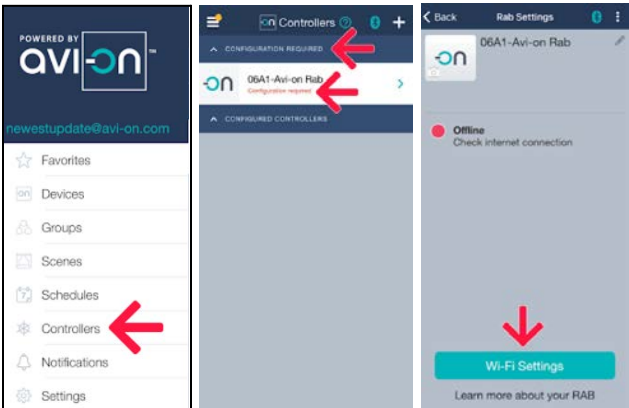


Flashing Blue = Bridge Unclaimed
Bridge not connected to Avi-on Bluetooth Network
—
Add the Wi-Fi Bridge to the Avi-on Location

1. Under devices, press Add Device (+)
2. Select the Avi-on Wi-Fi Bridge
3. Press the ADD button at the bottom of the page



4. In the app under controllers, select your Wi-Fi Bridge
5. It will say *Configuration Required*



Flashing Green = Bridge Not Configured to Wi-Fi
Bridge not connected to local Wi-Fi
—
Configure Bridge using local Wi-Fi router password and SSID

1. Press Wi-Fi settings and Lets Get Started. Select your network and press Next
2. Enter the Wi-Fi password and press Next
3. Press Done when the Bridge has connected to Wi-Fi



Solid Blue & Green Lights = Bridge Claimed to Location & Configured

- Validate that the Wi-Fi Bridge is in this project's location by turning Bluetooth OFF on your phone & using the *Avi-on Mobile Commissioning App* to turn on/off a light
- In the App under Controllers check that the status of the Bridge is "configured"
- If the LEDs are not behaving as expected, see the section marked "technical details on the onboard LED behaviors" below



Trouble-Shooting & Factory Reset

If after multiple attempts you are unable to get a stable connection to BOTH bluetooth and/or Wi-Fi, try these options

- 1) **Good Bluetooth connection but unstable Wi-Fi?** Move the Bridge to closer to the router...making sure you are still close to Avi-on devices
- 2) **Good Wi-Fi connection but unstable Bluetooth?** Move closer to the powered Avi-on device nearest the Wifi Bridge, then close and reopen the App to establish a direct connection to the nearest Avi-on device. Best case is to have plenty of Avi-on Bluetooth devices nearby. If that does not help, move the Bridge closer to Avi-on line-powered devices (battery devices do not count)...making sure you are still close to the router. Or, if the Avi-on devices are a distance away, fill the gap by adding an Avi-on line-powered device between the Bridge and the rest of the Avi-on network.
- 3) **Want to reset the Wi-Fi Bridge and start over?**
 - a) **PREFERRED OPTION: Soft reset.** Unclaim, delete Wi-Fi configuration and password using the app
 - b) **LAST RESORT, NOT RECOMMENDED: Factory reset.** Press the small button on the top of the Bridge for 20 seconds. Note, when you factory reset, the Cloud doesn't "know" that the Bridge has been removed from the network. As a result, factory reset will leave a 'ghost image' of the Bridge on the App, and this is likely to be

confusing. As a result, factory reset is NOT RECOMMENDED unless the Bridge must be repurposed to another account and the prior location is not known or is unavailable

4) Technical details on the onboard LED behaviors

a) If the Bridge's WiFi LED (green LED) is...

- i) Constantly illuminated, it means that the Bridge is configured to a powered router that has an internet connection
- ii) Blinking in sets of 2, it either means that the Bridge has not yet been configured or that the router that the Bridge is configured to is not powered
- iii) Consistently flashing ON and OFF, it means that the Bridge is configured to a router that does not have an internet connection
- iv) Details on AP to STA modes (AP = Access Point, is the mode installers use to configure a fixed IP address using the Bridge local web page, STA = Station, is the default mode in which the Bridge acts as a WiFi/Ethernet client leaving the admin web page disabled)



(1) When changing from AP mode to STA mode the green LED will blink 3 times.

(2) When changing from STA to AP mode the green LED will blink 6 times.

b) If the Bridge's Bluetooth LED (blue LED) is...

- i) Flashing in sets of 2, this means that the Bridge has not been added to a network and is available to be claimed
- ii) Constantly illuminated, it means that the Bridge is currently claimed to a network

c) If both the Bridge's LEDs (blue and green LEDs) are flashing in quick succession, it means that the Bridge is undergoing a firmware update). **DO NOT UNPLUG THE DEVICE DURING A FIRMWARE UPDATE**