Rapidlogger Systems

Tech Note #102 - Troubleshooting Intermittent or Dropped WiFi Connections to Rapidlogger

This tech note describes the process to diagnose a WiFi connection between a Rapidlogger system and a PC/RapidVu that was working correctly at initial setup but later drops or becomes intermittent. For initial WiFi hardware setup, see Tech Note 49 (EnGenius), Tech Note 65 (TP-Link Nano Router), or Tech Note 66 (Ubiquiti Bullet AC bridge).

The Ubiquiti Bullet AC bridge (Tech Note 66) is the current offering. It works well at ranges up to roughly 100 to 200 metres with clear line of sight. The EnGenius and TP-Link Nano setups are still documented for units already installed with that hardware.

Likely Causes

- Signal strength or distance -- the unit and the access point have moved further apart than the rated range, or a metal structure on the rig is now blocking line of sight. On a Bullet AC bridge, expect reliable operation to around 100 to 200 metres with a clear path; performance falls off quickly beyond that or where the path is obstructed.
- RF interference or channel congestion from other WiFi equipment or radios on location, particularly common on a busy job site with multiple 2.4GHz devices.
- IP address conflicts -- a device on the network obtained the same address as the Rapidlogger or the PC (see Tech Note 5, Tech Note 6 and Tech Note 9 for the recommended static IP approach).
- Power fluctuations or brownouts to the router or access point causing it to reboot intermittently.
- Antenna orientation or alignment drifting out of line on point-to-point bridge setups (Tech Note 66) after transport or vibration.

Diagnostic Steps

1. Check the signal strength indicator LEDs on the router or bridge, if equipped, and compare against the expected range for the hardware in use.
2. Power cycle the router or access point and the Rapidlogger unit together, then re-test.
3. Confirm the static IP configuration on both the Rapidlogger and the PC has not changed and does not conflict with any other device on the network.
4. For bridge-mode setups (Tech Note 66), verify both antennas are still aligned and that nothing new is

obstructing the path between them. Measure or estimate the distance and confirm it is still within about 100 to 200 metres.

5. If interference is suspected, try changing the WiFi channel on the router to one less congested. A WiFi analyzer app on a phone can help identify a clear channel.
6. Re-seat all Ethernet cable connections between the router, the PoE injector and the Rapidlogger.
7. If the drop is still occurring, note how long the connection stays up before dropping, the distance and obstructions between devices, and the router model and firmware version, then contact support with that information.