

Radio Visualiser

Multi-Node Radio Management
Datasheet



1. Overview

Radio Visualiser is a local, operator-focused software tool designed to configure, monitor, and manage multiple Doodle Labs radios as a single system.

It was built to address a common operational gap: while modern radios are highly capable, deployments with multiple nodes quickly become hard to manage, especially in time-critical or constrained RF environments. Radio operators often need to switch between tools, log into radios one by one, or make configuration changes blind which increases setup time, error rates, and deployment risk.

Radio Visualiser provides a single workspace where operators can:

- *Discover radios*
- *Understand network topology and link health*
- *Apply configuration changes across one, many, or all radios at once*

The tool complements existing Doodle Labs web and command-line tools, simplifying workflows that otherwise require multiple interfaces.

2. Key Capabilities (Validated)

- Centralised management of multiple radios in one workspace
- Automatic discovery of radios on a local network
- Network-level visibility across point-to-point, mesh, and multi-hop deployments
- Group and network-wide configuration changes
- Rapid assessment of radio status, link quality, and wireless health
- Designed for scaled and daisy-chained deployments
- No cloud dependency; local operation only

3. Core Use Case

Radio Visualiser is designed for scenarios where:

- Multiple radios are deployed as a system, not individually
- Operators need to adjust bandwidth, MCS, or configuration parameters quickly
- Configuration changes must be applied consistently across many nodes
- Time, range, or reliability constraints make manual configuration impractical

4. Functional Scope (Current)

Radio Management

Add, name, organise, and manage radios from a single list.

Radio Information & Health

View IP, frequency, firmware, and wireless health without switching tools.

Network Visibility

Visualise which radios are communicating, inspect topology, and view link metrics at a glance.

Configuration & Control

Apply configuration changes to individual radios, groups, or the entire network in one action.

Advanced Radio Control

View and adjust Modulation Coding Scheme (MCS) to trade throughput for reliability in poor or variable RF conditions.

5. Configurable / Flexible Elements

Radio Visualiser operates independently, but is designed to integrate cleanly with Subterranean's **low-latency camera system** when required.

When paired with live video, operators can correlate **link quality with video performance** and observe the real-time impact of configuration changes. This is particularly valuable in environments where video latency or reliability is mission-critical. The camera integration is optional and not required to realise the core value of the visualiser.

6. Deployment & Compatibility

- **Application type:** Desktop application
 - **Operation:** Local network only
 - **Cloud dependency:** None
 - **Compatible radios:** Doodle Labs radios (model and firmware dependent)
 - **Relationship to Doodle Labs tools:** Complements existing web and CLI tooling
-

7. Contact & Collaboration

This datasheet describes current and near-term capabilities to support discussions around sales enablement, OEM integration, field trials, and co-development. More detailed specifications can be generated once target use cases are confirmed.

Contact info@subterranean.ie for more information.

