

Radio Settings and Presets

Correct radio settings are essential for your repeater to interoperate with other nodes. The simplest and most reliable approach is to use the built-in preset.

Use the USA/Canada preset

In the MeshCore app, navigate to **Choose Preset** and select **USA/Canada (Recommended)**. This preset automatically applies the correct frequency plan, bandwidth, spreading factor, and coding rate for the North American MeshCore network.

“ **Do not manually set individual radio parameters unless you understand their effects and have a specific reason to deviate.** Incorrect settings will make your repeater invisible to the rest of the network.

What the preset sets

For reference, the USA/Canada preset resolves to settings within the 902 - 928 MHz band (commonly referred to as "915 MHz hardware"). You may see specific values like 910.525 MHz / SF7 / BW62.5 / CR5 displayed in the app. These values may vary by firmware version; what matters is using the same preset as the network you want to join.

Individual parameter reference

Parameter	Recommended	Notes
Frequency	Set by preset	902 - 928 MHz (US ISM band). Do not use EU 868 MHz hardware on the US network.
Bandwidth (BW)	Preset default	Narrower BW = longer range, slower speed. Leave at preset default for network compatibility.
Spreading Factor (SF)	Preset default	Higher SF = better range, lower throughput. Keep at preset default.

Parameter	Recommended	Notes
Coding Rate (CR)	Preset default	Higher CR = better error correction, more overhead. Keep at preset default.
Hop Limit	Up to 64	Maximum hops before a message is dropped. In practice 3 - 5 hops spans substantial distances. Default is sufficient for most deployments.

Public vs. private channel

Configure your repeater on the **Public channel** so all network participants benefit from your infrastructure. A repeater on a private or custom channel only relays messages for nodes that share that same channel configuration.

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