FAQ: 2. Initial Setup

2.1. Q: How many devices do I need to start using MeshCore?

A: If you have one supported device, flash the BLE Companion firmware and use your device as a client. You can connect to the device using the Android or iOS client via Bluetooth. You can start communicating with other MeshCore users near you.

If you have two supported devices, and there are not many MeshCore users near you, flash both to BLE Companion firmware so you can use your devices to communicate with your near-by friends and family.

If you have two supported devices, and there are other MeshCore users nearby, you can flash one of your devices with BLE Companion firmware and flash another supported device to repeater firmware. Place the repeater high above ground to extend your MeshCore network's reach.

After you flashed the latest firmware onto your repeater device, keep the device connected to your computer via USB serial, use the console feature on the web flasher and set the frequency for your region or country, so your client can remote administer the repeater or room server over RF:

```
set freq {frequency}
```

The repeater and room server CLI reference is here: https://github.com/meshcore-dev/MeshCore/wiki/Repeater-&-Room-Server-CLI-Reference

If you have more supported devices, you can use your additional devices with the room server firmware.

2.2. Q: Does MeshCore cost any money?

A: All radio firmware versions (e.g. for Heltec V3, RAK, T-1000E, etc) are free and open source developed by Scott at Ripple Radios.

The native Android and iOS client uses the freemium model and is developed by Liam Cottle, developer of meshtastic map at meshtastic.liamcottle.net on GitHub and reticulum-meshchat on github.

The T-Deck firmware is free to download and most features are available without cost. To support the firmware developer, you can pay for a registration key to unlock your T-Deck for deeper map zoom and remote server administration over RF using the T-Deck. You do not need to pay for the

registration to use your T-Deck for direct messaging and connecting to repeaters and room servers.

2.3. Q: What frequencies are supported by MeshCore?

A: It supports the 868MHz range in the UK/EU and the 915MHz range in New Zealand, Australia, and the USA. Countries and regions in these two frequency ranges are also supported. Exact legal frequencies, channel plans, and duty-cycle limits vary by country (e.g., EU 863-870 MHz has duty-cycle restrictions; US uses 902-928 MHz). Always select the preset for your specific country and confirm it against your national regulator before transmitting.

Use the smartphone client, or the repeater setup feature on the web flasher, to set your radio's RF settings by choosing the preset for your region.

Recently, as of October 2025, many regions have moved to the "narrow" setting, aka using BW62.5 and a lower SF number (instead of the original SF11). For example, USA/Canada (Recommended) preset is 910.525MHz, SF7, BW62.5, CR5. These exact values change over time - confirm the current recommended preset with your regional community or the live MeshCore preset list before relying on a specific frequency.

After extensive testing, many regions have switched or about to switch over to BW62.5 and SF7, 8, or 9. Narrower bandwidth setting and lower SF setting allow MeshCore's radio signals to fit between interference in the ISM band, provide for a lower noise floor, better SNR, and faster transmissions.

If you have consensus from your community in your region to update your region's preset recommendation, please post your update request on the #meshcore-app channel on the MeshCore Discord server to let Liam Cottle know.

2.4. Q: What is an "advert" in MeshCore?

A:

Advert means to advertise yourself on the network. In Reticulum terms it would be to announce. In Meshtastic terms it would be the node sending its node info.

MeshCore allows you to manually broadcast your name, position and public encryption key, which is also signed to prevent spoofing. When you click the advert button, it broadcasts that data over LoRa. MeshCore calls that an Advert. There's two ways to advert, "zero hop" and "flood".

- Zero hop means your advert is broadcasted out to anyone that can hear it, and that's it.
- Flooded means it's broadcasted out and then repeated by all the repeaters that hear it.

MeshCore clients only advertise themselves when the user initiates it. A repeater sends a flood advert once every 12 hours by default. This interval can be configured using the following command:

```
set flood.advert.interval {hours}
```

The separate `set advert.interval {minutes}` command controls the local zero-hop advert timer.

2.5. Q: Is there a hop limit?

A: Internally the firmware has maximum limit of 64 hops. In real world settings it will be difficult to get close to the limit due to the environments and timing as packets travel further and further. Practical reliable delivery is a handful of hops; latency and packet loss accumulate quickly, so do not design emergency relay chains around large hop counts. We want to hear how far your MeshCore conversations go.

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