

Meshcore

Introduction

From  [Wikipedia](#):

MeshCore is an open-source mesh networking protocol and software platform designed for off-grid, low-power text communication using LoRa (Long Range) radio technology. The system enables decentralized, multi-hop wireless messaging without reliance on cellular networks or internet infrastructure.

Use cases include emergency and disaster communications, outdoor and remote activities, [...] and experimental and educational deployments of low-power mesh networking.

[It] is designed to [...] operate in unlicensed  [ISM frequency bands](#) such as 868 MHz and 915 MHz, depending on regional regulations.

The basic idea is that you get a small *companion device* that you pair to your cell phone via bluetooth, and via that device, you can text others or post public messages using the 915 MHz band, all without a special license.

Getting Started: Companions

- Get a companion device like:
 - the *Wio Tracker L1 Pro* from [seeed studio](#) or from [Robot Shop](#)
 -  : add other options here
- Flash the device with the latest [Meshcore Firmware](#) (using a chromium browser).
- Install the Meshcore app on your phone. ([Android](#), [iOS](#), [Web App](#), [NodeJS](#), [Python](#))
- Pair the device with your phone.
- Turn off Auto-Add Contacts

See [Scott Baker's article](#) for more information.

Next Step: Repeaters

- Install a repeater like the *SenseCAP Solar Node P1-Pro* from [seeed studio](#) or [RobotShop](#)
- Use an antenna like [this one](#), [this one](#) or [one of these](#).

If you already have Meshcore installed (but not the bootloader), download your current settings:

- Go to <https://config.meshcore.io/>
- Connect your device to your computer with a USB cable.

- Click on Connect
- Click on Export
- Click on Disconnect
- Locate the .json file (probably in your Downloads folder).

Download the bootloader:

- Go to <https://meshcore.io/flasher>
- Select your device
- Select Repeater (or Room Server)
- Click on Download
- Select the *bootloader-x.x.x-0TAFIXx.x.uf2 file
- Locate the .uf2 file (probably in your Download folder).

Copy the bootloader over to your device:

- Connect your device to your computer with a USB cable.
- Double click on the reset button.
- Open the drive that just mounted on your computer
- Copy the .uf2 file to the drive.
- The drive may close on its own right away. This is normal.

Flash the Meshcore Firmware:

- Go to <https://meshcore.io/flasher>
- Select your device
- Select Repeater (or Room Server)
- Select Enter DFU Mode
- Select Erase Flash
- Select Flash

Re-upload your settings:

- Select Configure via USB from the previous page, or navigate to <https://config.meshcore.io/>
- Select Connect
- Select Import
- Select your .json file
- Scroll down to the Access section and retype your New Admin password (it doesn't remember it)
- Scroll down and select Save settings
- Select Disconnect

Setup the Over the Air (OTA) update app (first time only):

- Download the “nRF Device Firmware Update” app by “Nordic Semiconductor ASA” ([Android](#), [Apple](#))
- Open the DFU app
- In the settings, check Packet receipt notification

Perform an OTA update:

- Using your phone's browser, navigate to <https://meshcore.io/flasher>
 - Select your device
 - Select Repeater (or Room Server)
 - Select Download
 - Select the firmware zip file (**not** the bootloader file)
- Using the Meshcore app, login to your repeater (or room server) using the admin password.
 - For Room Servers: go to Remote Management
 - Go to the Command Line
 - Type `start ota`, you should get a message that says: `OK - mac: xx:xx:xx:xx:xx:xx`
- Open the DFU app
 - Under File click Select to chose the firmware .zip file
 - Under Device click Select and chose the device that has DFU in the name.
 - Under Progress click Start

<https://scottbaker.ca/meshcore/repeater-setup>

See [Scott Baker's article](#) for more information.

More Advanced: Sensors

- Install [sensors](#).

Maps

- [Official MeshCore Node map](#)
- [Community generated map](#)
- [SWBC Map with links](#) by VE7KOD

Tools

- [MeshCore Analyser](#)
- [Path Profiler](#)

Resources

- Official MeshCore [Website](#) and [Github](#)
- [Youtube Presentation by Liam Cottle](#)
- [Scott Baker's Website](#)

- [Vancouver Island Amateur Radio Discord Meshcore tips & Tricks](#) **NEW**
- [Salish Mesh Website](#)
- [Forum](#)
- [MeshCore vs Meshtastic](#)
- [Channels vs Rooms vs DMs](#)

List of Repeaters on the Coast

VA7KRZ-Gibsons-RP1

Location:	Kitchen Window, Gibsons (49.414161, -123.515539)
Equipment:	Heltec V3 with a 5.8 dBi Antenna
Orientation:	Clear line-of-sight toward Richmond / Lower Mainland
Sponsor:	Adam, VA7KRZ
Public Key:	612826cd886fd45bc6ce607308d14a4cb77b49673042d9844bf54242df5e74d8

Under Construction:

Location:	Roof, Gibsons (49.414161, -123.515539)
Equipment:	RAK19004 (power module), RAK19007 (Baseboard), RAK4631 (LoRaWAN module)

VA7FI - SenseCap

Location:	Atop a 20 m tree in Roberts Creek
Equipment:	SenseCAP with stock antenna
Sponsor:	Patrick, VA7FI
Public Key:	0c035f5ec37944b7f7df9599cf2b74fd8b75851481dda4aac0c813854fca1726

VA7XES - Roberts Creek

Location:	Roberts Creek (49.449751, -123.653155)
Equipment:	?
Sponsor:	?
Public Key:	857d939db34d0afdeb7cb6ee4cddfc59aab02dc6efd1e76d14fc318e4e54c1e2

Sechelt_PBay

Location:	?
Equipment:	?
Sponsor:	Gary, VA7GYT
Public Key:	d7ed6f8f764ca63a4158108d3a24fde6e8df836b6f63aa09ef2a2060b0bd304f

SSAC-1

Location:	On roof of Sechelt Senior Activity Centre (49.4757, -123.7580)
Equipment:	SenseCAP Solar Node P1-Pro with  : Antenna
Sponsor:	Larry, VA7LSP
Public Key:	6dfc25cb2d0a6efe8520f469d9ac2e8c5dacde42c4d380cf553dd05bf768b1e2