

Channel Configuration for Infrastructure Nodes

What Are Channels?

Meshtastic supports up to **8 simultaneous channels** (numbered 0 - 7). Channel 0 is the *primary channel* used for most mesh traffic. Channels 1 - 7 can carry separately encrypted traffic for specific groups or purposes.

PSK - Pre-Shared Key

Each channel has a **name** and a **32-byte encryption key (PSK)**. Two nodes can communicate on a channel only if they share the same name *and* the same PSK. The PSK is used for AES-256 encryption of all payloads on that channel.

The Default Public Key

The *Default* channel uses a well-known, publicly published key (effectively no private encryption). Any node running Meshtastic with the default channel can participate in the public mesh. Using a **custom PSK** creates a private channel readable only by nodes that hold that key.

Channel Strategy for Community Infrastructure Nodes

- **Channel 0 - Default PSK:** Keep the primary channel on the public Default key so all community users benefit from your repeater's coverage.
- **Channel 1 - Private PSK:** Adding a secondary channel with a private key for your personal use or club coordination is acceptable. The repeater will relay packets on both channels.

Admin Channel

Meshtastic can designate any channel as the **Admin channel**. Nodes that share the admin channel with your repeater can send remote configuration commands - changing settings without physical access to the device.

This is strongly recommended for unattended permanent deployments.

1. Navigate to **Config → Channels** and add a new channel (e.g. channel 1).
2. Enable the **Is Admin** toggle for that channel.
3. Save the channel configuration as a QR code and store it securely - anyone with this QR code can reconfigure your node remotely.

Channel Propagation

Your repeater only relays channels it has configured. If a node on the mesh is using a custom channel that your repeater does not know about, those packets will not be relayed. For a public community repeater, keeping only the public Default channel is the standard approach.

Changing Channels on a Deployed Node

Options for modifying channel config after deployment:

- **Via admin channel** (preferred for remote nodes) - send a channel update from another device that shares the admin channel.
- **Via serial/USB** - connect a laptop directly to the node.
- **Via Bluetooth** - only if Bluetooth was left enabled.

Common pitfall: losing the admin channel config (or disabling Bluetooth and having no USB access) leaves a remote node inaccessible without a physical site visit. Always save admin channel QR codes before deployment.

Revision #2

Created 2026-05-03 04:13:47 UTC by Mesh America Admin

Updated 2026-05-03 13:00:07 UTC by Mesh America Admin