Key Repeater Settings

These settings are most critical for deploying and maintaining MeshCore repeater and room server nodes.

AGC Reset Interval - Fix Receiver Deafness

```
set agc.reset.interval 8
```

Problem it solves: If a high-power transmitter (such as a nearby ham radio or commercial repeater) is within range, the LoRa receiver's automatic gain control (AGC) can be driven into a saturated state. After the nearby transmission ends, the AGC does not always recover correctly, leaving the MeshCore repeater effectively deaf to normal LoRa signals.

Symptom: The repeater was working, a nearby radio transmission occurred, and now the repeater is not hearing any nodes even though they are transmitting normally.

Fix: The value is in **seconds** (rounded to a multiple of 4; `0` disables the periodic reset). Setting `agc.reset.interval 8` forces the AGC to reset every 8 seconds, preventing permanent desensitization.

Flood Advertisement Interval

```
set flood.advert.interval 47
```

Controls how often the repeater floods its advert (presence). The value is in **hours** (valid 3-168, default 12). Lower values mean neighbors discover the repeater faster after power-on, but generate more radio traffic. 47 hours is a reasonable setting for a fixed infrastructure node on a busy mesh. Small meshes can advert more frequently.

Path Hash Mode

```
set path.hash.mode 2
```

Sets the size of this repeater's own advert path-hash (it does not control message-cache granularity or forwarding):

- `0` - 1-byte hash: **default**; minimal overhead, higher chance of hash collision in large networks
- `1` - 2-byte hash: more precision at slightly higher overhead
- `2` - 3-byte hash: highest precision; use in very large networks where collisions are observed. **Recommended**.

Packet Repeat (Room Server)

```
set repeat on
```

On room server firmware, this enables the node to also act as a packet repeater in addition to its store-and-forward function. Only enable if the room server has good placement; a poorly-placed room server acting as a repeater can cause more harm than good to routing.

TX Power

```
set tx 20
```

TX power is set with `set tx <dbm>`, valid range **1-22 dBm** (the SX1262 maximum is 22). For unlicensed operation in the US 902-928 MHz band, the 30 dBm (1 W) conducted limit is set by **FCC Part 15.247**, not Part 97. (Part 97 - licensed amateur - allows up to 10 W PEP for spread spectrum under 47 CFR 97.313(j), but it requires a license, prohibits encryption, and requires station ID, so default-encrypted MeshCore cannot lawfully run under Part 97.) Antennas over 6 dBi require a dB-for-dB reduction in conducted power. More power is not always better - an overdriven signal can desensitize nearby receivers including your own.

Region Configuration

```
region put us
region put us-co us
region save
```

Region scopes control which nodes can see and communicate through this repeater. The hierarchical scheme (`us` › `us-co`) allows regional segmentation in large deployments.

Name and Location

```
set name MyRepeater-Site1
set lat 39.7392
set lon -104.9903
```

Always set a meaningful name and accurate coordinates for infrastructure nodes. This allows map tools (such as the MeshCore map at meshcore.co.uk/map.html) to display the repeater correctly and helps operators diagnose coverage gaps.

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