

Advanced Configuration for Infrastructure Nodes

Infrastructure nodes (routers, backbone repeaters) require additional configuration beyond the defaults to operate efficiently and reliably in a production network.

Power Management

The ROUTER role automatically uses power-saving sleep on ESP32 boards (the LoRa radio stays in standby so it can wake on incoming packets) - this cannot be disabled. If you need BLE, WiFi, or serial to stay continuously available on an infrastructure node, use the CLIENT or ROUTER_LATE role instead. The settings below affect non-router nodes:

```
# Light-sleep tuning (note: power.is_power_saving false is already the
# default for non-router roles, but ROUTER force-enables sleep on ESP32):
meshtastic --set power.is_power_saving false
meshtastic --set power.ls_secs 0 # 0 selects the DEFAULT 5-minute light-sleep interval (it
does NOT disable light sleep)
```

Telemetry Configuration

Infrastructure nodes can report their own health metrics to the network:

```
# Enable device telemetry (battery, voltage, uptime) - firmware default is 1800 s (30 min):
meshtastic --set telemetry.device_update_interval 1800 # every 30 min

# Enable environment telemetry (if sensor equipped):
meshtastic --set telemetry.environment_update_interval 1800

# Reduce position airtime on a fixed node by setting a long broadcast interval
# (setting 0 does NOT disable broadcasts):
meshtastic --set position.position_broadcast_secs 900
```

Hop Limit for Infrastructure Nodes

Meshtastic recommends leaving the hop limit at the default of 3 (maximum 7). Increasing it rarely improves coverage and significantly increases channel congestion; address coverage gaps with better-placed router nodes instead of more hops:

```
# Default is 3; only raise this if you genuinely need it:
meshtastic --set lora.hop_limit 3

# Note: Higher hop limit increases channel utilization and rarely helps coverage.
# Prefer adding well-placed routers over raising the hop count.
```

Ignore MQTT Setting

If your network has an MQTT gateway, setting `lora.ignore_mqtt=true` makes a node drop LoRa packets that entered the mesh via MQTT, which can reduce duplicate or looped traffic from the gateway:

```
# ignore_mqtt tells the node not to re-transmit over radio any packet that
# arrived from the internet (MQTT), which prevents echo loops:
meshtastic --set lora.ignore_mqtt true
```

Admin Channel Configuration

Set up a separate admin channel for network operations traffic, separate from the public community channel. The ops-channel PSK must be a cryptographically random 256-bit key generated by the app (use `psk random`), not a human-typed string:

```
# Add a second channel for admin use (--ch-add both creates and names it):
meshtastic --ch-add OpsNet
meshtastic --ch-index 1 --ch-set psk random # generates a secure random key; or supply a valid
base64 32-byte key
meshtastic --ch-index 1 --ch-set uplink_enabled false # don't bridge to MQTT
meshtastic --ch-index 1 --ch-set downlink_enabled false
```

Configuration Backup

Always save configuration before deploying. A failed SD card or corrupted firmware update can lose your settings. The export is YAML, not JSON, and is restored with `--configure`:

```
# Export full config to YAML:
meshtastic --export-config > node-config-backup-$(date +%Y%m%d).yaml

# Restore from backup:
meshtastic --configure node-config-backup-20260101.yaml
```

Revision #3

Created 2026-05-03 06:38:49 UTC by Mesh America Admin

Updated 2026-06-09 12:07:29 UTC by Mesh America Admin