

# ROUTER vs ROUTER\_CLIENT vs REPEATER: When to Use Each

Meshtastic offers three primary infrastructure node roles, each with distinct behaviors for packet forwarding, position broadcasting, and power management. Choosing the wrong role for your hardware leads to either wasted bandwidth or poor coverage.

## Role Behavior Summary

| Behavior                     | ROUTER       | ROUTER_CLIENT      | REPEATER                |
|------------------------------|--------------|--------------------|-------------------------|
| Forwards packets             | Yes          | Yes                | Yes                     |
| Has user-facing interface    | No           | Yes                | No                      |
| Broadcasts own position      | Rarely/Never | Yes (configurable) | Never                   |
| Appears in node list         | Yes          | Yes                | No (stealth)            |
| Sends telemetry              | Minimal      | Yes                | No                      |
| Preferred for infrastructure | Yes          | Semi               | Yes (privacy-conscious) |

## ROUTER

The ROUTER role is designed for dedicated infrastructure nodes. It:

- Aggressively forwards packets - higher priority retransmission than CLIENT nodes
- Disables direct messaging to reduce channel load (the node doesn't have a "user")
- Reduces position and telemetry broadcasts to the minimum
- Remains visible in the node list so operators can see it on the map

**Use ROUTER when:** You have a dedicated always-on infrastructure node (fixed repeater, backbone node) with no human user directly attached.

## ROUTER\_CLIENT

ROUTER\_CLIENT combines forwarding with full client functionality. It's designed for nodes that serve double duty:

- A base station that both serves a human operator AND forwards traffic for others
- A vehicle-mounted node that forwards packets while its owner uses it for messaging

**Limitation:** ROUTER\_CLIENT nodes can create traffic loops and increased channel utilization when multiple are deployed in close proximity. In infrastructure-heavy deployments, prefer ROUTER for dedicated repeater nodes.

**Use ROUTER\_CLIENT when:** One person both uses the node AND wants it to serve as a repeater for others. Typical for home base stations that cover a neighborhood.

## REPEATER

The REPEATER role (formerly ALL\_SKIP\_DECODING) is the "silent repeater" option:

- Forwards packets without decoding them - highest possible efficiency, lowest CPU overhead
- Does NOT appear in node lists - completely invisible to users
- Does NOT accept direct messages
- Does NOT broadcast position or telemetry

**Use REPEATER when:** You want a completely silent infrastructure node - no footprint, no management overhead. Ideal for stealth installations or when you want to avoid cluttering the node list.

**Caveat:** The REPEATER's invisibility makes it harder to diagnose. You won't see it on the map or in node lists. Use ROUTER instead if you need visibility for network management.

## Configuration Commands

```
# Set role to ROUTER
meshtastic --set device.role ROUTER

# Set role to ROUTER_CLIENT
meshtastic --set device.role ROUTER_CLIENT

# Set role to REPEATER
meshtastic --set device.role REPEATER

# Verify current role
```

```
meshtastic --get device.role
```

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