Device Roles — All 12

Personal Device Roles

Personal roles are designed for individual users who want to send and receive messages. They vary in how aggressively the device relays messages for others.

Important: Your role choice affects everyone on the network. The Meshtastic project's guidance is clear: only assign Router or Repeater roles to nodes with genuinely excellent placement and reliable continuous power. Do not assign infrastructure roles to personal devices for convenience.

Client (Default)

Behavior: Sends and receives messages via the app. Rebroadcasts messages when the node determines it is the best-positioned relay for a given packet (smart relay logic).

Use for: Most personal handhelds and portable nodes. This is the correct default for the majority of users.

Client Mute

Behavior: Fully participates in messaging but *never* relays packets for other nodes.

Use for: Dense environments (city centers, events, conferences) where the channel is congested and adding another relay would make things worse. Client Mute is underappreciated - in a high-density network, switching personal devices to Client Mute can dramatically reduce channel utilization without losing any personal messaging capability.

Client Hidden

Behavior: Minimizes presence broadcasts. The node participates in messaging but does not frequently announce its existence to the network.

Use for: Privacy-conscious users who want to use the mesh without being visible in others' node lists. Useful for covert or sensitive deployments.

Client Base

Behavior: Acts as a personal base station. Rebroadcasts quickly and aggressively, but *only* for nodes that have been favorited/starred by the user. Ignores relay requests from non-favorited nodes.

Use for: Home base stations that should prioritize relaying for a known group (family, team) without contributing to general network congestion.

Choosing the Right Personal Role

Situation	Recommended Role
Default personal use	Client
Dense urban area or event with congestion	Client Mute
Privacy-conscious deployment	Client Hidden
Home base station for a known group	Client Base

Infrastructure Roles: Router and Repeater

Infrastructure roles are for **fixed, well-placed nodes** that genuinely improve mesh coverage for others. They should only be assigned to nodes that meet strict criteria. Misuse of these roles is a common cause of network congestion and poor performance.

Prerequisites for Any Infrastructure Role

1. **Excellent placement** - hilltop, tower, rooftop, or other elevated location with line-of-sight coverage over a wide area
2. **Reliable continuous power** - mains power, solar with battery backup, or other reliable source. An infrastructure node that goes offline unpredictably is worse than no node at all.
3. **Genuine improvement** - the node must provide coverage that no other node provides, not just duplicate existing relay coverage

Router

Behavior: Aggressively and early rebroadcasts packets. Visible in the node list and broadcasts its own position. Because it rebroadcasts quickly, it tends to "win" the relay competition against other nodes.

Use for: Primary hilltop/tower relays with the best possible placement. There should be few Router nodes on a regional network - one or two per coverage area at most.

Do not use for: Personal devices, nodes at ground level, nodes with intermittent power.

Router Late

Behavior: Deliberately waits before rebroadcasting. If another node has already relayed the packet, Router Late stays silent. If no other relay has forwarded the packet, Router Late steps in as backup coverage.

Use for: Secondary or backup relay nodes that should only fill gaps. Useful in areas where primary coverage exists but is occasionally blocked or offline.

Repeater

Behavior: Silent relay. Does *not* appear in node lists and does *not* broadcast its own position. Solely forwards packets. Maximally efficient - no overhead from presence or telemetry.

Use for: Infrastructure relays where you want maximum forwarding efficiency with zero network overhead. Ideal for rooftop nodes in a managed deployment where you know the node is working from external monitoring rather than node-list visibility.

Caution: Because a Repeater is invisible in node lists, it can be difficult to diagnose remotely. Use an admin channel for remote configuration if deploying Repeater-role nodes.

Router vs. Repeater: Which to Choose?

Attribute	Router	Router Late	Repeater
Visible in node list	Yes	Yes	No
Broadcasts position	Yes	Yes	No
Relay timing	Early (aggressive)	Late (backup)	Standard
Network overhead	Moderate	Moderate	Minimal
Best for	Primary hilltop relay	Backup coverage	High-efficiency fixed relay

Setting the Role via CLI

```
meshtastic --set device.role ROUTER_ROLE
meshtastic --set device.role ROUTER_LATE_ROLE
meshtastic --set device.role REPEATER_ROLE
```

Specialized Roles

Specialized roles optimize node behavior for specific use cases: tracking, sensing, and tactical operations. Each role adjusts transmission priority, sleep behavior, and telemetry to match its intended function.

Tracker

Behavior: Transmits high-priority location updates. Position packets from Tracker nodes are given priority in the relay queue, ensuring they are forwarded even in congested networks.

Use for: Personnel or vehicle tracking where real-time position data is critical. Common in search-and-rescue, outdoor event management, and field team coordination.

Lost and Found

Behavior: Sends periodic location beacons at a low duty cycle. Designed to conserve power while still allowing a lost asset or person to be located when the beacon is received.

Use for: Asset tags, pet trackers, equipment that is rarely moved but may need to be located. Lower power than Tracker due to less frequent transmissions.

Sensor

Behavior: Sends sensor readings at defined intervals and deep-sleeps between reports to minimize power consumption. Optimized for battery-powered environmental monitors.

Use for: Temperature/humidity sensors, weather stations, soil moisture monitors, or any application where the node sends data periodically and does not need to be interactive between readings.

Configure the sensor reporting interval in the Telemetry module settings to match your battery budget.

TAK (Android Team Awareness Kit)

Behavior: Optimized for integration with ATAK (Android Team Awareness Kit) tactical software. Formats and prioritizes packets for compatibility with TAK workflows.

Use for: Public safety, military, or emergency management teams using ATAK for situational awareness. Requires ATAK installed on the controlling device.

TAK Tracker

Behavior: High-priority position tracking variant for ATAK. Combines the position prioritization of Tracker with TAK-specific packet formatting.

Use for: Individual team members in a TAK-based deployment where real-time position is critical to the tactical picture.

All 12 Roles at a Glance

Role	Category	Key Behavior
Client	Personal	Default. Smart relay when best positioned.
Client Mute	Personal	Never relays. For dense/congested areas.
Client Hidden	Personal	Minimal presence. Privacy-focused.
Client Base	Personal	Aggressive relay for favorited nodes only.
Tracker	Specialized	High-priority location updates.
Lost and Found	Specialized	Periodic location beacon; power-efficient.
Sensor	Specialized	Sensor readings + deep sleep between reports.
TAK	Tactical	ATAK-optimized messaging.
TAK Tracker	Tactical	Priority tactical position for ATAK.
Router	Infrastructure	Early aggressive relay. Hilltop/tower only.
Router Late	Infrastructure	Backup relay; waits for others first.
Repeater	Infrastructure	Silent relay. No node list presence.