Why do I see duplicate messages?

Why Duplicates Happen

Duplicate messages in Meshtastic are normal and expected - they are a feature of flood routing, not a bug. When a node receives a message, it rebroadcasts it. If you're within radio range of multiple nodes that each received and retransmitted the same message, you may receive that message 2-4 times.

Meshtastic uses a packet ID deduplication window to suppress most duplicates at the firmware level - your phone typically doesn't show them all. When duplicates do appear in the app, it's usually because the deduplication window has been exceeded (the second copy arrived much later) or there's a routing issue.

Common Causes of Excessive Duplicates

- **Multiple nearby Router/Repeater nodes** - If 4 different routers can all hear the sender, all 4 will retransmit, and you receive 4 copies. This is expected flooding behavior.
- **Very high hop limit** - Higher hop limits mean more retransmissions; more retransmissions from more paths means more copies arrive.
- **Routing loop** - Rare but possible: Node A relays to B, B relays to C, C relays back to A. This can cause a packet to circulate until the hop counter reaches zero. Firmware prevents infinite loops via the hop counter, but you may see many copies during the loop's lifetime.
- **Firmware bug** - Older firmware versions had deduplication issues. Ensure all nodes are on current firmware.

What To Do

A small number of duplicates (1-2 extra copies of busy-traffic messages) is normal in a well-functioning mesh. If you see 5+ copies consistently:

- Check that no nodes are accidentally configured with very high hop limits (7)
- Verify all nodes are on current firmware (deduplication has been improved over time)
- Look for nodes sharing the same node ID. Node IDs are derived from a device's identity, so collisions are unusual, but they can occur if a node's NodeDB or keys were cloned onto a second device. Two devices presenting the same ID can confuse deduplication and routing.
- Reduce hop limit slightly if the network is small and dense

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