

Go-Bag and Field Kit Setup

A mesh communications go-bag is a pre-configured kit that can be grabbed and deployed within minutes. For emergency communicators, this preparation is as important as the hardware itself.

Individual go-bag (personal responder)

Minimum kit for a personal mesh communicator:

Item	Purpose	Notes
T-Echo or T1000-E	Personal mesh node	Pre-configured with correct channel & preset; fully charged
USB charging cable (device-specific)	Field recharge	Tape/label with device name; easy to grab wrong cable
10,000 mAh power bank	Extended operation without grid	Can provide several additional days to over a week of T-Echo runtime depending on usage and power settings (GPS, TX rate, and screen use draw significantly more). This is an estimate, not a bench-tested figure.
Printed config card	Quick reference	Channel name, PSK, preset, net control contact
Spare SMA antenna	Backup if stock antenna damaged	915 MHz, 2 - 3 dBi, same connector type as device. Verify SMA vs RP-SMA polarity (commonly mismatched) and check u.FL on some boards; see the Meshtastic antenna docs (meshtastic.org/docs/hardware/antennas/).

Net control go-bag

Expanded kit for net control operators or team leaders:

Item	Purpose
T-Deck Plus (running MeshOS)	Primary net control station; standalone, no phone needed; QWERTY keyboard; map view. Note: MeshOS is MeshCore firmware (not Meshtastic), so this station serves a MeshCore network.
OR: Raspberry Pi Zero 2W + RAK4631 USB	Room server + radio gateway; provides message persistence and network visibility
5W foldable solar panel + MPPT charge controller	Recharge power bank and devices from any outdoor location
~240 Wh lithium-ion portable power station (e.g., Jackery Explorer 240), or a separate LiFePO4 bank/station	Powers Pi room server for several hours; recharges via solar. Note: the Jackery Explorer 240 is a ~240 Wh lithium-ion (NMC) power station - not a 12,000 mAh LiFePO4 power bank; do not conflate chemistries, and use watt-hours (Wh) for power stations.
Laptop (optional)	Python API access, MQTT monitoring, additional visibility
Printed participant roster	All mesh participants, device names, and contact info
Printed frequency/channel card	Config for all channels in use; can hand to new arrivals

Portable repeater kit

A portable repeater that can be deployed at any elevated location within 30 minutes:

Item	Notes
RAK4631 WisBlock (configured as repeater) in IP65 case	Pre-flashed with repeater firmware; USA/Canada preset; flood advertisements
5 - 10W foldable solar panel with cigarette lighter connector	Mount using clamps or hook-and-loop straps
LiFePO4 18650 cells (4x, in battery holder)	~3 day autonomy at 6 mA; LiFePO4 chosen for temperature range. Specify whether the 4 cells are wired in series (~12.8 V nominal) or parallel (~3.2 V) and confirm the resulting pack voltage matches the target node's input voltage range. Never charge any lithium cell, including LiFePO4, below 0 °C (32 °F) - discharge is fine to roughly -20 °C, but charging below freezing damages the cells (a BMS blocks cold charging, it does not enable it).
5 dBi fiberglass antenna with 30cm LMR-200 pigtail	Generally better range than a stock rubber-duck (gain and LMR-200 loss vary; check the antenna datasheet). Note: under FCC Part 15 (47 CFR §15.247(b)(4)), antenna gain above 6 dBi requires a dB-for-dB reduction in conducted power; this 5 dBi antenna is under that threshold, but do not swap in a higher-gain antenna without reducing conducted power.

Item	Notes
Pole mount clamp (adjustable)	Mounts to chain-link fence, sign post, vehicle roof rack, or trekking pole
All contained in a clear 12" × 8" zip-lock bag	Waterproof; visible inventory check without opening

A note on runtime figures: Device endurance numbers across the emergency-communications pages are estimates that depend heavily on whether the device is idle vs. active, screen on/off, GPS on/off, and TX rate. Treat any runtime figure not bench-tested as an estimate to verify with your own hardware and settings; compute conservatively from average current draw and pack watt-hours rather than relying on a single optimistic number.

Battery storage between deployments

For longevity, store lithium nodes and power banks at roughly 40-60% state of charge rather than full - sitting at 100% accelerates calendar aging of the cells. Note that a LiFePO4 pack at 12.8 V is at roughly mid-charge; a full 4S LiFePO4 pack rests at about 13.4-13.6 V, so "100% = 12.8 V" is incorrect. Top everything up to full only when you arm the kit before a forecast event or activation (see the pre-event checklist below).

Pre-event deployment checklist

Run this checklist before any exercise or real deployment. (For long-term storage, keep batteries at ~40-60% - see the battery storage note above - and top up to full only at this pre-deployment step, not continuously.)

- ☐ Top up all devices to full before deployment
- ☐ Top up power banks to full before deployment
- ☐ Solar panel functional (brief outdoor test)
- ☐ All devices verified on correct channel and preset
- ☐ Device names are current (verify in app)
- ☐ Printed config cards included and current
- ☐ Contact list current (who has which device)
- ☐ Portable repeater tested (connect, verify advertisement)
- ☐ Go-bag weight and bulk acceptable for intended deployment