

Tech corner – Disaster station setup

According to CERT (Community Emergency Response Team) literature, an **incident** is any kind of problem, issue, hazard, or other event or situation that endangers people or property, including domesticated animals. An **emergency** is a sudden, unexpected critical incident, in which help is urgently required and likely on the way. A **disaster** is a critical incident, in which help *is likely not on the way*, primarily because the incident is so widespread that services and resources are simply unavailable.

Effective communication is useful no matter the situation, and can often be managed using cell phones, or radio by respective government services, even during most emergencies. During a disaster, such as an earthquake, hurricane, wildfire, or flood, however, these same fragile services might easily become compromised or overloaded, leaving most people in the affected area without a means of communication. This is where you come in.

Being ready for disaster communication means that you have the equipment for effective communication and the skills to operate it. The two typical communication situations that might require your station are **home** and **mobile**, and you likely want to be prepared for both cases. Remaining at home might mean that you're *sheltering in place*, taking care of a family member, or you simply have no reason to leave your residence. Being mobile might mean that you have a vehicle or are on foot, but typically *relocating away from home*.

Again, being ready means that you not only have the equipment, but that you know how to use it. And how ready you are might depend on how willing you are to take the time to educate yourself. *Please note that some of these links might no longer be valid a year or more after the publication of this article.*

Prepare beforehand

- **Obtain a General Class amateur radio license** (this will allow you to transmit both locally and around the globe without the need for internet or other infrastructure)
- **Check regularly into local nets** to a) learn how to work your equipment and the repeaters, b) ensure your equipment is in working order, c) become accustomed to common operating procedures and radio language, and d) connect with others who



share your interest in disaster communication

Become educated

- Ham radio **best practices**
- How to set up a **solar station**
- Emergency procedures (how to **call for help**, how to **answer such a call**, how to **relay**)
- Learn what and how long it will take you to gather everything needed for **an evacuation**
- Learn how to read GPS coordinates off your phone
- Learn to take notes on your smartphone

Your radio equipment

The following radio equipment checklist can be handy, to help ensure you have what you need when the time comes:

- **Portable HF / VHF / UHF transceiver**
- **Portable VHF / UHF antenna**
- **Portable HF antenna**
- Coax (**50 feet** and **100 feet**) with connectors
- **Barrel connector**
- **Over-ear headset** (especially if you're operating in a noisy environment)
- **List of necessary or useful frequencies**
- **Broadcast listening**, including weather

Power needs

- **30 A power supply**
- **100 Ah 12 V LiFePO₄ battery**
- **100 W solar panel**
- **8 A solar charge controller**
- **Inverter** with both **alligator** and **accessory plug**
- Batteries (AA, AAA, **small LiFePO₄**)
- **Optional: generator**

Tech corner – Disaster station, cont'd



Support equipment

- Smartphone, charger
- **Collapsible wagon**
- **Small folding table**
- Portable chairs (preferably with backs)
- Optional: Windows Laptop, charger
- **Headlamp, lantern, work light, flashlight**
- USB cable (for your phone or light or other)
- Hoodie or coat
- **Work gloves**
- **Sunglasses**
- **Masting, stakes, prybar, hand sledge**
- **Guy wire**
- **Utility knife, multi-tool**
- Scissors
- **Duct tape**
- Pen, paper, Sharpie
- Small bottles of water, water purifier
- Toilet paper, feminine hygiene
- Snacks, MREs
- **First-aid kit**, medicines
- Gallon Zip-loc bags
- Large duffel or case(s) to put all this in

You might also want to

- install **Powerpole connectors** on your transceivers, batteries
- install **MC4-to-Powerpole adapters** on your solar panel
- ensure your rechargeable batteries are fully charged and ready at any time

Decide on your contacts

- Relatives (especially out-of-state)
- Friends and neighbors
- ARES
- Public safety (fire, EMS, police, municipality, search-and-rescue, forest service, etc.)
- Anybody out there

Practice

- setting up your radio and antenna from complete disassembly
- manually changing to a repeater frequency and setting it to simplex (talk-around) and reverse

- setting up your solar equipment from complete disassembly
- asking for signal reports from somebody farther away
- testing with one power source, then switch to a different one
- Test, test, test

Every disaster is different

The point of this guide is to provide yourself with sufficient ability to communicate your needs or those of somebody else in a disaster. Will you need everything listed here? Maybe, maybe not, maybe more. We haven't addressed any long-term possible necessities, such as shelter, toilet, heat, shower, and bedding, because long-term self-sustainability is not the goal here.

Furthermore, this guide is intended to help you and your family, not for you to replace the fire department. If it so happens that these guidelines can help you assist emergency personnel, then please feel free to serve in the capacities that best suit your circumstances and training, using your best means available.

The end of the world

If you can't afford to collect all of these items right away, it's not the end of the world. Take your time learning the things you need and to become prepared; you'll likely have plenty of time to upgrade your license and gather your equipment. And if it *is* the end of the world, chances are you'll have more important things to worry about than your ham radio gear. 😊

Noji Ratzlaff KNØJJ