STARTER GUIDE

EMERGENCY HAM RADIO: FREQUENCIES AND WHAT WORKS

Ham radio keeps working when cell towers and the internet go down, which is why so many people get licensed. But a radio in a drawer isn't a plan. What makes it useful in an emergency is knowing who to call, where to tune and how to say it, and that only comes from practice.

Printed from www.cqdeck.com/learn/emergency-communication. The page always has the latest version.

What it can and can't do

- If you can reach 911, call 911. Ham radio is for when normal ways to communicate aren't working, or to support the agencies that respond.
- A handheld talking radio to radio reaches a few miles on flat ground, and much farther from a hill or a tall building.
- Through a repeater, the same handheld can reach across a county. Some repeaters have backup power and some don't, so ask your club which ones stay up in an outage.
- Reaching another state takes HF: a bigger radio, an outdoor antenna and, for voice, a General license.
- Gear matters less than practice. A ham who checks into a weekly net with a basic handheld is more useful in an emergency than one with expensive gear who has never pressed the button.

Where to start

1. Program your local repeaters into your radio, with names you'll recognize under stress.
2. Find your county's ARES group and check into its weekly net.
3. Take FEMA's free online courses IS-100 and IS-700. They take a few hours each, and most ARES groups ask for them.
4. Take a free SKYWARN weather spotter class from the National Weather Service.

5. Put together a simple go-kit.

6. Make a radio plan with your family.

Make a plan before you need it

A radio plan only works if everyone knows it ahead of time.

- Pick a primary repeater and a backup, plus a simplex frequency for when repeaters are down.
- Agree on when to listen, like five minutes at the top of each hour, so you aren't draining batteries waiting.
- Family members without a license can carry FRS or GMRS radios. They can't talk with your ham radio, so keep one of those too.
- Write the plan on paper, with frequencies, times and call signs, and keep a copy with each radio. Phones die.
- Practice it once, like on a weekend walk, so you know it works.

TRY IT **Ham radio vs GMRS vs Meshtastic** cqdeck.com/learn/ham-gmrs-meshtastic

Is there a ham radio emergency frequency?

There's no single emergency channel. Where to call depends on where you are and who's listening.

- Close to home, emergencies run on the repeaters and simplex frequencies that your local ARES group, club or county names in its plan. Ask them, and program those first.
- If you don't know the local plan, try `146.520` MHz, the national 2 meter simplex calling frequency. Many hams listen there, and it needs no repeater. On 70 centimeters the calling frequency is `446.000` MHz.
- For hurricanes, nets on HF carry reports between states, like the Hurricane Watch Net on `14.325` MHz by day and `7.268` MHz at night. You need a receiver with sideband (SSB) to listen, and a Technician can't transmit there.

TRY IT **Simplex and 146.520** cqdeck.com/learn/simplex

A simple go-kit

Start small. Most of what you need fits in a small bag.

- Your handheld, programmed and charged.
- A spare battery, or a battery case that takes AA cells, which you can find anywhere.
- A USB or car charging cable, and a small power bank.
- A better antenna than the stock one, like a longer whip or a roll-up antenna you can hang high.
- Your written radio plan and a printed list of local repeaters.
- A notepad and pencil, for writing down messages exactly.
- An earpiece, so you can hear in a noisy place without disturbing others.

> Charge your batteries every few months. A kit with dead batteries is just a bag.

TRY IT **Radio setup guides** cqdeck.com/radios

Join an organized group

Agencies work with trained volunteers they know, not with whoever shows up. These groups train you and give you a role.

- ARES, the Amateur Radio Emergency Service, is run by the ARRL. Local groups support hospitals, emergency managers and the Red Cross, and new hams are welcome. Find yours through your ARRL section.
- RACES, the Radio Amateur Civil Emergency Service, works directly for a city, county or state emergency management office. Members register with that office, and many hams belong to both.
- SKYWARN trains volunteer storm spotters for the National Weather Service. The class is free and lasts about two hours. You don’t need a license to spot, but hams often send reports by radio.
- CERT, the Community Emergency Response Team, teaches neighborhood disaster skills like first aid and light search. It isn’t a radio group, but CERT teams often need hams.

TRY IT **ARES** https://www.arrl.org/ares **Find your ARRL section** https://www.arrl.org/sections **SKYWARN** https://www.weather.gov/skywarn/

Practice before you need it

- Check into a net every week. Your county's ARES net is ideal, and any local net builds the habit.
- Volunteer for a public service event, like a marathon or a bike ride. You pass real messages, and it's fun.
- Join Field Day, the fourth full weekend of June, when clubs set up stations on emergency power.
- Take part in the ARRL's Simulated Emergency Test each fall, usually in early October. ARES groups run drills with the agencies they serve.
- Some groups also send email over radio with Winlink. Your group will show you if it uses it.

TRY IT **Rehearse an emergency net drill on Key Up** cqdeck.com/practice?scenario=emergency-net

How an emergency net sounds

In an emergency or a drill, a net control station runs the frequency. You check in, wait to be called and keep it short. Drill messages start and end with "exercise" so no one mistakes

them for the real thing.

NET CONTROL	This is W1DEMO, net control for the county emergency net. This is a directed net. Stations with emergency or priority traffic, call now.
NET CONTROL	Nothing heard. Other check-ins, call now.
YOU	N0CALL.
NET CONTROL	N0CALL, go ahead.
YOU	N0CALL, Joe, at the Main Street shelter, with one message for the Red Cross.
NET CONTROL	N0CALL, stand by. I'll call you for it.

- Write messages down word for word, and read numbers back.
- Say what you know, not what you think. "Two trees down on Oak Street" beats "it's bad out here."
- Many groups use a standard message form. Your group will show you which one.

The rules in an emergency

- Emergency traffic always comes first. If you hear it, stay off the frequency unless you can help.
- To call for help on a repeater, say "emergency" followed by your call sign, then wait for an answer.
- In a real emergency, when normal communication isn't available, the rules let a licensed ham use any means at hand to protect life and property.
- That rule isn't a plan for using a radio without a license. Without practice, you won't know where to call or who is listening.

TRY IT **How to get your license** cqdeck.com/learn/get-your-license

Sources

FCC rule 97.101: emergency traffic has priority https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-97/subpart-B/section-97.101

FCC rule 97.403: safety of life and property https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-97/subpart-E/section-97.403

FCC rule 97.405: stations in distress https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-97/subpart-E/section-97.405

FCC rule 97.407: RACES https://www.ecfr.gov/current/title-47/chapter-I/subchapter-D/part-97/subpart-E/section-97.407

Hurricane Watch Net https://www.hwn.org/

ARRL: Amateur Radio Emergency Service https://www.arrl.org/ares

ARRL ARES training task book https://www.arrl.org/files/file/ARES%20Taskbook%20July%202024.pdf

ARRL: RACES https://www.arrl.org/races

FEMA IS-100.c https://training.fema.gov/is/courseoverview.aspx?code=IS-100.c

FEMA IS-700.b https://training.fema.gov/is/courseoverview.aspx?code=IS-700.b

National Weather Service: SKYWARN https://www.weather.gov/skywarn/

Ready.gov: CERT https://www.ready.gov/cert

ARRL: Simulated Emergency Test https://www.arrl.org/simulated-emergency-test

ARRL: Field Day https://www.arrl.org/field-day