

EMERGENCY RADIO AND ALERTS WITHOUT POWER OR CELL SERVICE

Keep a battery-powered or hand-crank AM/FM radio and a NOAA Weather Radio with a tone alert, plus extra batteries. Broadcast radio is built to keep working when power, phones, and the internet fail, and it is where officials will tell you what to do.

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After a nuclear emergency, “stay tuned” is the third of the three instructions, after get inside and stay inside. FEMA’s planning guidance says it plainly: “AM/FM radio is best, but television, cellphone, or internet options are viable, if available”. Ready.gov tells households to have a battery-powered or hand crank radio, “which will continue to work if other forms of communication fail”. This page covers the three national alert systems, what radio to keep, and how to use it while you shelter.

THE THREE WAYS OFFICIAL ALERTS REACH YOU

Officials send public alerts through FEMA’s Integrated Public Alert and Warning System (IPAWS). FEMA describes IPAWS as a gateway that sends alerts through the Emergency Alert System, Wireless Emergency Alerts, NOAA Weather Radio, and other systems from a single interface. Ready.gov notes there is no cost to receive alerts sent through IPAWS.

Wireless Emergency Alerts (phones)

Wireless Emergency Alerts (WEA) are short messages that authorized officials push from cell towers to phones in a targeted area. Per FEMA:

- You do not need to download an app or subscribe, and no personal information is required.
- WEA messages are free and do not count against texting limits.
- “WEAs are not affected by network congestion.”
- Alerts are up to 360 characters and come with a distinct tone and vibration.
- Alert types include National Alerts (sent only during a national emergency), Imminent Threat Alerts, Public Safety Alerts, and AMBER Alerts.

The limits matter. FEMA says phones that are off, in airplane mode, or not connected to a broadcasting cell site will not receive alerts. Ready.gov adds that older phones may not be WEA capable, and some models require you to enable WEAs. Check your phone’s notification settings now.

In a nuclear detonation, FEMA's planning guidance expects power and phone lines to be damaged, preventing cellphones from connecting even if they are functional in the hardest-hit areas. That is why a radio is the backup.

Emergency Alert System (TV and radio)

The Emergency Alert System (EAS) is a national public warning system that sends alerts over broadcast and other media. FEMA says it requires radio and TV broadcasters, cable TV, satellite, and wireline operators to take part, and that it gives the President the ability to address the American people within 10 minutes during a national emergency. State and local officials use it too.

FEMA's planning guidance calls the EAS the backbone of national alerts and warnings and says that because of its resiliency, it "is expected to operate when other communication pathways are not in operation." The national alert starts at a set of radio stations FEMA calls Primary Entry Point stations. FEMA says these stations have backup communications equipment and power generators to keep broadcasting during and after an incident, and that the network covers more than 90% of the US population.

NOAA Weather Radio All Hazards

NOAA Weather Radio is a network of more than 1,000 transmitters run by the National Weather Service. It broadcasts warnings, watches, and forecasts 24 hours a day and covers all 50 states, coastal waters, and US territories. It is not weather only: Ready.gov says it also broadcasts alerts of non-weather emergencies such as national security or public safety threats.

It needs a special receiver. NOAA says NOAA Weather Radio requires a radio receiver or scanner capable of picking up the signal, on seven VHF frequencies between 162.400 and 162.550 MHz. An ordinary AM/FM radio cannot receive it.

WHAT KIND OF EMERGENCY RADIO TO KEEP

Ready.gov's basic kit lists a battery-powered or hand crank radio and a NOAA Weather Radio with tone alert, plus extra batteries. CDC's radiation emergency guidance says the same: a battery-powered or hand crank emergency radio is a good start, and if your radio uses batteries, keep extra batteries in your kit.

Features to look for, as item types:

- **AM/FM band.** This is what FEMA says to rely on after a detonation, and what carries EAS broadcasts.
- **NOAA Weather Radio band.** Lets you hear the National Weather Service network directly.

- **A power source that does not need the grid.** Replaceable batteries, a hand crank, or both. Ready.gov names both.
- **Tone alert.** The National Weather Service sends a 1050 Hz tone alarm before most warnings and many watches, and a receiver with tone alert sounds even when the audio is off, which matters overnight.
- **SAME (Specific Area Message Encoding).** NOAA says SAME receivers respond only to alerts for the areas you select, so you are not woken for every nearby county. Find your county's six-digit code on NOAA's county coverage page and program it using your radio's manual.
- **Battery backup on a plug-in weather radio.** NOAA: "Since power outages often occur during storms, having a receiver with battery backup can be crucial."
- **The Public Alert logo.** NOAA suggests looking at receivers that carry the Public Alert logo, which meet that standard's technical requirements.

For specific items, see the emergency radio kit.

■ TIP

Keep the radio and its batteries with your shelter supplies, so you are not looking for them in the first hour. The shelter in place guide covers where that spot should be.

HOW TO USE YOUR RADIO IN A SHELTER

Turn it on and keep listening

Officials will use broadcasts to tell you when and how to leave. CDC says emergency officials will give instructions on how to evacuate your area when it is safe, and that updates will cover when to evacuate, evacuating with pets, available shelters, and returning home. FEMA's guidance tells people near a detonation to tune in to local radio to determine radiation hazard, and evacuate if directed.

If it does not work, restart it

A nuclear detonation produces an electromagnetic pulse that can damage or upset electronics nearby. CDC's advice: if a battery device is not working, take the batteries out, put them back in, and restart the device. FEMA's guidance says that outside the most heavily damaged area, most battery-operated equipment should work after power cycling, and that commercial AM/FM radios will be able to receive signals from transmitters outside the area. See the EMP guide for more.

Do not leave the shelter to fix power. CDC: "Do not go outside to reset breakers."

Save your batteries

If your weather radio plugs in, NOAA suggests running it on AC power when you can, to save battery life (NOAA). Keep the extra batteries with the radio so you are not searching for them in the dark.

Text, do not call

CDC says phone calls may be hard to complete, so try to use text messages if possible, and that officials may also post updates by email or verified social media. FEMA's guidance expects cell towers to be overloaded and tells planners to encourage texting over calling. The family emergency plan guide covers how to set this up in advance.

SET THIS UP TODAY

ALERTS AND RADIO CHECKLIST

PHONE

- ☐ Check that emergency alerts are turned on in your phone notification settings
- ☐ Ask your wireless provider whether your phone can receive Wireless Emergency Alerts
- ☐ Sign up for local alerts through your local officials

RADIO

- ☐ A battery-powered or hand-crank radio with AM/FM
- ☐ A NOAA Weather Radio with tone alert
- ☐ Your county SAME code programmed into the weather radio
- ☐ Extra batteries, stored with the radio
- ☐ Radio kept in or near your shelter spot

NEXT STEPS

- Know what to do hour by hour: The first 72 hours
- Pick your shelter spot: Shelter in place
- Plan how your household will reconnect: Family emergency plan

TRACK	Nuclear emergency
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SHEET	8 of 11
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COMPILED FROM THESE SOURCES

1. FEMA, Planning Guidance for Response to a Nuclear Detonation, Third Edition (2022)
2. Ready.gov, Emergency Alerts
3. Ready.gov, Radiation Emergencies (Nuclear Explosion)
4. Ready.gov, Build a Kit
5. FEMA, Wireless Emergency Alerts
6. FEMA, Emergency Alert System
7. NOAA National Weather Service, NOAA Weather Radio All Hazards
8. NOAA National Weather Service Chicago, NOAA Weather Radio Programming
9. NOAA National Weather Service, NWR County Coverage and SAME Codes
10. CDC, What to Do: Stay Tuned

Every safety claim on this sheet links to its primary source.