FORTUNE FAVORS THE PREPARED · COMMS ONE-PAGER

What to Get to Start Your Comms

Don't start with the radio. Start with the four questions.

1. What are you preparing for?
2. Who do you need to talk to?
3. How far apart are you?
4. What terrain is in between?

1 What are you preparing for?

Short, local
Storm, tornado, power outage
Cell and repeaters outside the damage often still work. Family handhelds; reach a repeater outside the zone.

Regional
Hurricane, wildfire, flood, earthquake
Power and cell out for days over a wide area. Mobile/base radios, distant repeaters, HF for news.

Long-term / grid-down
Extended outage, systemic failure
No cell, internet or repeaters: radio-to-radio, HF for news, and a way to recharge (solar, batteries).

Plan for your **most likely** events first, not only the worst case. Read more: Communications Options · How Communications Fail · Starter Radio Paths

2 FRS, GMRS, MURS or Ham – the difference

	FRS Family Radio	**GMRS** General Mobile Radio	**MURS** Multi-Use Radio	**Ham Technician** entry level	**Ham General** adds HF
Band	UHF 462/467 MHz	UHF, FRS channels + repeater channels	VHF 151–154 MHz	All ham VHF/UHF + a little HF	Tech + most of HF (80–10 m)
License/exam	None	License, **no exam**; age 18+	None	35-question exam (pass 26)	Another 35 questions (pass 26)
FCC fee	–	$35 for 10 years	–	$35/10 yrs + exam $0–15 (Laurel VEC free)	No new FCC fee to upgrade
Who's covered	Anyone	You + immediate family; friends need their own	Anyone	One person per license – each family member tests	
Max power	2 W, fixed antenna	HT ~5 W; mobile/base 50 W	2 W	Up to 1,500 W (HT 5 W, mobile 50 W, HF 100 W typical)	
Real range*	½–2 mi	HT 1–3 mi · mobile/base 5–15 mi · repeater 20–50+ mi	HT 1–3 mi · base 5–8 mi	HT 1–3 mi · mobile 10–20 mi · repeater 20–60 mi	HF: regional to worldwide, no infrastructure
Repeaters	No	Yes (find them at myGMRS.com)	Not allowed	Yes – thousands, many with backup power; some linked	
Best for	Kids, yard, campsite	Family & local group/MAG	Rural, no license	Local–county group, nets, ARES	Region, out of state, news

CB – no license, 4 W AM/FM, 12 W SSB. 26.965–27.405 MHz (11 m, the edge of HF), so not strictly line of sight: mobile 5–25 mi, and "skip" can carry it hundreds of miles. Road info on ch 19.

PoC radios (push-to-talk over cellular) – no license, monthly service, range wherever there's cell coverage. **One carrier down:** works (multi-carrier SIM). **All cell service out:** won't work. In a PACE plan, often your **Alternate**. Radio over LTE

*Typical, not promised – terrain and antenna height matter more than the radio. Ham and GMRS licenses don't cross over. Read more: Personal Radio Services · FCC Rules · Getting a GMRS License · Getting Your Ham License · Finding a Ham Exam

3 Who do you want to talk to?

Household & kids – FRS or GMRS handhelds. Simple and cheap.

Friends & neighbors – GMRS (each family gets its own $35 license) or MURS (no license; VHF does better in woods and hills).

Your group / MAG – GMRS mobiles/bases and a repeater, or get the group ham-licensed.

Family out of state – ham General license and HF. PoC radios and internet-linked ham work while the networks do.

Get information / just listen – no license needed. NOAA Weather Radio, a scanner (many agencies are digital or encrypted – check first), shortwave, local ham nets, CB ch 19.

Read more: What Radio Should I Get? · Short Wave Scanning · CB Radio · Beyond Line-of-Sight · HF

4 How far apart are you?

Same property under ½ mile	FRS or GMRS handhelds
Neighborhood ½–2 miles	GMRS or MURS handhelds; a base at home helps
Across town 2–10 miles	GMRS/ham mobile or base, outdoor antenna; repeater
County 10–40 miles	Repeater (GMRS or ham) or high antennas both ends
Region 40–300 miles	Ham HF (NVIS, General license); linked repeaters
Out of state 300+ miles	Ham HF; PoC or internet-linked ham while networks last

5 Handheld, mobile or base?

Handheld ~5 W (FRS/MURS 2 W). Goes with you; easy to hand out. **Limits:** short antenna at chest height, weak inside cars and buildings, about a day of battery – carry a spare.

Mobile 25–50 W, roof antenna, runs off the vehicle. **Limits:** needs a vehicle or 12 V battery and an install; draws ~8–12 A when talking.

Base A mobile radio at home on 12 V, antenna up high – best range without a repeater. **Limits:** fixed; needs outage power and a grounded antenna.

Antenna first. A better antenna, mounted higher, beats more watts (FRS antennas can't be changed).

Read more: Mobile Communications · GMRS Repeaters

6 Terrain: what's in between?

- **VHF/UHF is line of sight.** Hills and the curve of the earth block it. Get to high ground; get the antenna up.
- **Trees and buildings** soak up signal. VHF (MURS, 2 m) does better in woods and hills; UHF (FRS/GMRS, 70 cm) around buildings.
- **Repeaters** sit on towers and hilltops, so your handheld borrows their height.

The "35-mile" box claim is mountaintop to mountaintop. Best-case flat-ground horizon: **~7 mi** handheld to handheld · **~11 mi** to a base antenna at 30 ft · **~48 mi** to a repeater 1,000 ft up. Trees, buildings and hills cut that. **Test from your real locations.**

7 Start here

1 Plan What for, who, how far. Write a PACE plan.

2 Listen NOAA Weather Radio; local repeaters and nets.

3 Family GMRS license ($35) and handhelds.

4 Reach GMRS mobile/base and a repeater.

5 Ham Technician license; repeaters and nets.

6 Go far General license; HF for out of state.

Practice every week – a radio still in the box when the power goes out is no help. Read more: Comms PACE · Family or Group Comms Plan · Communications Options

All the comms guides
fortunefavorstheprepared.com/comms/
Start with What Radio Should I Get for Preparedness? and Amateur (Ham) Radio.
Rules checked against 47 CFR Parts 95 and 97, November 2026.

Remember, Fortune Favors the Prepared
Semper Paratus, Semper Gumby