

## COMMUNICATION EQUIPMENT IDEAS

Consider the following options for communicating with your family/neighbors/church during a disaster or enforced home quarantine. Phones/cell phones might not be operational for a period of time. Power outages are expected.

	Type	Watts	Range	Problems/Strengths	Purpose
1.	CBs (Citizens Band)	4 watts	20+ miles	Freq Band 27 MHz (40 channels) Easy to use Hand-held and vehicle radios available Can use an external antenna Can run off car battery License – not needed Approx equip cost: \$ 50+ Can be noisy (static & chatter) Not as popular anymore	Good for valley-wide communications, CB to CB
2.	FRS (Family Radio Service) Hand held two-way radios (or walkie-talkies )	1/2- watts	2 miles	Freq Band 460 MHz 14 channels, UHF Need line of sight No external antenna option (by law) Need to keep charged Easy to use License – not needed Approx equip cost: \$20+ ea set Range determined by terrain and quality of radio	Good for car caravans Good for neighbor (N) to neighbor, esp. during enforced home quarantines Good-minus for children's school backpacks (school needs to be within 1 mile) Good-minus for sportsmen Low watts so doesn't transmit very far
3.	GMRS (General Mobile Radio Hand held two-way radios (or walkie-talkies)	Up to 50 watts.  5 watts is typical	26 miles	Freq Band 460 MHz 22 channels UHF (7 shared with FRS handhelds) Need line of sight Can use external antenna Need to keep charged or need batteries/power supply Need \$70 license, but no test License covers extended family Approx. equip cost: \$50+ ea set	Great for kids' school packs Great for neighbor (N) to neighbor & car caravans Great for N to block captains (BC) or neighborhood incident command (IC), (i.e. churches) & for sportsmen Great for IC to area command center (AC), (i.e. Wilson School, stake center)
4.	Amateur Radio Hand helds (HAM)	5 watts	20 miles	Freq Band 144 – 148 MHz 440 – 450 MHz Frequencies throughout the radio spectrum Can use external antenna Need to keep charged or need charged batteries/power supply License & test required (\$14 test fee) Approx. equip cost: \$120+ ea	Can patch into phone lines in backcountry (where there is no cell phone service) and call 911 (auto-patch) Can use hundreds of repeater stations that extend coverage Great for N to neighbor Great for N to block captains (BC) or IC; Great for IC to AC Great for AC to EOC & LDS ERC (Emergency Response Communications)
5.	Amateur Radio Mobile (VHF - UHF)	50 watts	20+ miles	Usually car mounted Can detach & use in house Need an external antenna Need power or a car battery License & test required (\$14 test fee) Approx equip cost: \$150+	Best for all above Best for AC to EOC (Logan Emergency Operations Command) and ERC (LDS Church Emerg. Response Communications) More watts than handhelds so transmits/ receives more miles
6.	Amateur Radio HF Radio	50+watts	World-wide	Need power or charged battery Need external antenna Not as portable License & test required (\$14 test fee) \$25 for manual Great for hobbyists Approx equip cost: \$500+	Great for world-wide communications Can talk to relatives any place in the world if they have an amateur radio Not the best for local communications Used to pass messages out of disaster areas

	Type	Watts	Range	Problems/Strengths	Purpose
7.	Satellite Phone			Need clear view of Sky Does not work indoors without external Antenna Can rent a phone for a trip \$.49-\$1.75/minute calling time Phone plans are pricy/monthly Pre-paid plans, monthly fees Approx Cost: \$700-\$2,000 phone, \$34-\$260/month charge Prepaid cards available 75 min for \$150 or 800 min for \$700, expiry period Used phones available	Can talk Sat phone to Sat phone via satellite Connects to the landline phone systems Great for cabin in the mountains Can be used almost anywhere if the satellites are operational
8.	Cell Phone Text Messaging		Depends on your cell phone service coverage	During 9/11, wireless cell phone voice didn't work as the call volume was too high However, text messages went through because they are a very fast data transmission requiring little bandwidth in the circuit <b>Need to learn how &amp; practice</b> Do not work if cell phone towers are down Basic cell phone often free with monthly plan fee Blackberry models, \$300+ plus monthly plan fee	Great for all above, if cell towers are up.
9.	Runners	Young ones have higher wattage	1-5 miles	Cheapest No batteries needed (just cookies) Might not be available Might not work in some emergencies or might be too dangerous for them During enforced quarantines, couldn't use them	Good for block captains to IC (sometimes) Good for IC down to neighborhoods (sometimes) Good-minus for IC to AC in some emergencies (i.e., neighborhood incident command center to area command center)

N = Neighbors in blocks

BC = Block Captains

IC = Neighborhood Incident Command Center (often schools or church buildings if not damaged)

AC = Wilson Area Command Center (i.e., Wilson School if useable; or stake center/meeting houses)

EOC = City Emergency Operations Command (i.e., Mayor, Logan City Police, Logan City Fire Dept., etc.)

ERC = LDS Church's regional Emergency Response Communications at the Bishops' Storehouse

SHELTERS = to be announced by Logan City and the Red Cross (listen to KVNU or City 1610 AM)

#### Emergency Communication Considerations

1. Have redundancy – have several ways of communicating. This will allow you greater flexibility for differing emergencies.
2. Your out-of-state (or out-of-town) contact should be selected in part because they also have multiple ways of communicating. Instruct them to stay by their phones and wait for your calls in the event of an emergency in your city. Instruct all family members to contact this person as soon as possible and to call them at intervals to get updates on the course of action they should take.
3. Consider: Cell phones (wireless communications), Cell phone text messaging (learn how), email, and two-way radio handhelds – FRS, GMRS, and Amateur radio (Ham radio).
4. Telephones: All homes should have one phone with a cord. During a power outage, a mobile phone's base cannot transmit to the mobile phone, even though the phone itself is charged. Our U.S. telephone system is the most reliable communication system in the world. Fax machines, if phone lines are operational, are best for detailed lists of instructions or supplies needed.
5. Radio: Every home should have a battery/crank/etc. radio. In Cache Valley, turn to 610 KVNU AM or Logan City 1610 AM for emergency reports and directions.

## Emergency Radio Recommendations

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### **CERT & Block Captains** (Motorola EM1000 or equivalent)

Walmart has this set that includes drop in charger, rechargeable batteries and car charger. Regular package does not include the car charger.



- 18 mile or more range (This will give you .5 – 2.0 miles in our city)
- NOAA weather radio. Allows you to listen to severe weather alerts, and other emergency alerts and information.
- Backlit display.
- Both Alkaline (AA or AAA) and rechargeable batteries can be used.
- Dual drop in charger (for use with rechargeable batteries)
- Can charge with optional or included car charger
- The EM1000 comes with mini USB port on it for charging the radio using a mini USB car charger. Many cell phones use a mini USB car charger for charging. You may already have a compatible car charger for this radio. If not they are readily available.
- LED flashlight

Motorola EM1000 Two-Way FRS/GMRS Radio with NOAA is the ideal emergency preparedness communication tool for outdoor enthusiasts and active families. With a range of up to 20 miles, an emergency alert feature, USB charging, and LED flashlight, the EM1000 radio proves a convenient total emergency preparedness communication device.

If you choose a different radio, choose one that has:

- 18 or more mile range (range will be about .5 to 2 miles in our city. Do not be fooled by these long range specs.
- Can Use Alkaline batteries even if it comes with a rechargeable battery pack and charger. No AC power means no way to charge. The ability to swap batteries on the fly is important.
- NOAA weather radio (not a necessity, but in an emergency or out camping, you can be alerted to any severe weather issues, or other alerts)
- 22 Channel GRMS/FRS
- Always have extra batteries on hand for your radio. You can store in fridge to prolong shelf life. Rotate yearly.

Other possible radios: Motorola T9580RSAME, T8500R, T8550R, T9000R, T9550XLR