

There is much confusion associated with 22-channel hybrid FRS/GMRS radios.

According to the FCC use of 22-channel hybrids on anything other than the low power 500mw FRS only channels 8-14 requires a license. The interstitial simplex channels 1-7 in these radios are shared with GMRS and transmit at higher power on these radios. So their use requires a license.

This effectively limits CERTs using these radios without a GMRS license to using FRS channels 8-14, because these are the only channels in which software defaults to low power on transmit. Channels 15-22 are split frequency repeater pairs only used in GMRS, and their use requires a license.

CERTs groups should seek 14-channel FRS-only radios so that they may use all 14 channels legally without any license requirement. FRS-only radios are becoming harder to find, because the manufacturers and mass market distributors "push" the hybrid radios, often with ludicrous range claims. An FRS radio which is appropriate for this purpose and still available is the IC 4008 <http://universal-radio.com/catalog/frs/4088.html>

For further information please read the following extracted from http://www.popularwireless.com/pr/PRA_CERTetal.html

There is a growing interest among large and small organizations to use the inexpensive "bubble-pack" GMRS radios for neighborhood emergency response teams, including CERT. Misconceptions are common regarding the purpose of GMRS and the potential for volunteer groups to operate their radios which results in misuse in violation of FCC rules and incompatible with the services. These questions are designed to help you understand the role the GMRS can play for these groups and exactly what the responsibilities of the licensee are operating a GMRS system.

Offices of Emergency Management, CERT teams, and other organized neighborhoods, and neighborhood watch groups are the best places to set up very-local FRS supplemental, emergency communications. Please take into consideration the following points as you set up your program.

General Mobile Radio Service (GMRS) Definition

FCC R&R 95.1 [Definition of the GMRS]: "The General Mobile Radio Service (GMRS). (a) The GMRS is a land mobile radio service available to persons for short-distance two-way communications to facilitate the activities of licensees and their immediate family members. Each licensee manages a system consisting of one or more stations."

FCC R&R 95.143: "Managing a GMRS system in an emergency. (a) The stations in a GMRS system must cease transmitting when the station operator of any station on the same channel is communicating an emergency message (concerning the immediate protection of property or the safety of someone's life). (b) If necessary to communicate an emergency message from a station in a GMRS system, the licensee may permit:

(1) Anyone to be the station operator and (2) The station operator to communicate the emergency message to any radio station."

An emergency is not a planned or anticipated event, practice drill, exercise, day-to-day routine radio traffic of a service club or volunteer group. Nor is it disaster related tactical communication not immediately associated with the immediate protection of life or property.

No group organized to provide assistance to the public in an emergency is not permitted to monopolize, "own" a GMRS channel for routine tactical communication. Groups may not discourage authorized users others from sharing the frequency or interfere or preclude others from conducting useful personal or family communication. Groups may not reserve channels by busying-out channels through the use of frequent drills, network-like activity, dispatch operations, or conducting public safety training activities, networks etc.. Such activity is inconsistent with the definition of the General Mobile Radio Service.

GMRS licensees are required to share (FCC R&R 95.7) a tiny allocation of eight repeater pairs and seven interstitial frequencies. Sharing cannot occur unless public-safety-oriented volunteer groups and their volunteers use the spectrum responsibly.

The Frequently Asked Questions

"As a CERT volunteer may I use a GMRS radio?"

Yes, as long as you have a GMRS license.

"I have been told that since I am a CERT volunteer I do not have to obtain a GMRS license to use my twenty-two channel GMRS/FRS hybrid radio. Is that true?" No. You must obtain a GMRS license to use a twenty-channel hybrid. The misconception that no license is required is perpetuated by irresponsible retailers so they can sell the more expensive "hybrid" twenty-two channel radios.

FCC: "If you operate a radio that has been approved exclusively under the rules that apply to FRS, you are not required to have a license. FRS radios have a

maximum power of ½ watt (500 milliwatt) effective radiated power and integral (non-detachable) antennas. If you operate a radio under the rules that apply to GMRS, you must have a GMRS license. GMRS radios generally transmit at higher power levels (1 to 5 watts is typical) and may have detachable antennas. The current fee for a new GMRS license is \$85"

"I was told that as long as I use the FRS channels on a twenty-two channel GMRS/FRS hybrid radio that I do not need a GMRS license. Is that true?" The FCC website clearly states that if a radio was approved/certified by the Commission as a GMRS radio then the operator requires a GMRS license to operate that radio. The presumption is that you will use all of the channels in the radio not just the FRS channels. There would be no requirement to use a GMRS call sign on FRS channels 8-14 on a twenty-two channel radio; however, there may be a requirement to use a GMRS call sign on FRS 1-7 IF the 22 channel radio you own uses more than the FRS legal power of one-half watt on those channels. An FRS-ONLY radio requires NO FCC license.

"But our university CERT program leaders wrote in our radio instructions the following, "Since only channels 8–14 have transmission power of 0.5 watts, we will limit our use to those channels. The other channels on the radio have 1 watt of transmission power, which requires a license from the Federal Communications Commission for use. They will not be used except in exceptional cases, as described under Channel Allocation. Channel 7, Subcode 53 This is a 1 watt channel, which will not be used normally by CERT. It should be used only when a person finds themselves in a truly emergency situation and cannot get a response on the normal CERT channels. This channel will be monitored by the Incident Commander." No. Your CERT leaders do not have this authority. The University, in this case, has no authority to use or issue GMRS radios to anyone. Anyone using a radio approved as a GMRS radio must have a GMRS license, and the University has NO authority to allow anyone to use GMRS without a license no matter how well intentioned.

From the FCC: "Before any station transmits on any channel authorized in the GMRS from any point within or over the territorial limits of any area where the FCC regulates radio services, the responsible party must obtain a license. The FCC usually grants GMRS system licenses for a five-year term. To apply for a GMRS system license, you may file online through the Universal Licensing System (ULS), or file FCC Form 605 manually. New filers can learn more about ULS in its getting started tutorials. See Fee Requirements for FCC Form 605 for current licensing fee information.

"What are the benefits to obtaining a license? "

The benefits are many.

- You may use up to fifty-watts transmitter output power FCC R&R 95.135 on base stations and mobile units with home rooftop or vehicle rooftop antennas.
- You may use up to five watts effective radiated power on FRS 1-7
- You may have a Small Base Station FCC R&R 95.139 on FRS 1-7. (Five watts ERP or less and antenna height not to exceed twenty feet.)
- You may use radios with removable antennas. Such antennas are forbidden by FCC Rules on twenty-two channel hybrid radios because these include FRS frequencies eight through fourteen.
- You may use radio repeater stations to increase your range.

"Can my CERT group reserve a GMRS channel for our use in a specific area?" No. You have no specific right to a channel. You are required to share this resource with other users just like everyone else does.

"May we do CERT emergency drills on GMRS?"

Unlike the Amateur Radio Service, GMRS users may ONLY drill when asked to do so officially at the direction of a civil emergency organization. (FCC R&R 95.181(d)(3) During drills you must continue to share the radio frequency you are using.

"We want to set up a repeater for CERT. Is that a good idea?"

Your group repeater would be more compatible with GMRS if all licensees in the area were allowed to use the repeater for family business as defined in the rules. It could then be used in time of emergency by those same families that are also CERT volunteers. This is common practice among REACT groups across the United States.

"Can the local jurisdiction issue GMRS radios to volunteers."

Only if those volunteers are licensed in the GMRS. This would preclude issuing radios for practice drills unless every user is licensed in the GMRS. Any radios issued to volunteers must also be radios approved for use in the GMRS. (FCC R&R 95.603, 95.129) The licensed operator of that radio is also responsible for the proper operation of that radio.

"What is the most efficient way to use my radios before, during, and after an emergency?" Plan ahead, use appropriate identifiers (tactical call signs, first names) so you know who is who, agree on a communications protocol and relay mechanism for your neighborhood. Get your local Amateur Radio Service operators and GMRS licensees involved in the planning! Be polite, listen before transmitting, and communicate quickly and precisely so that others can also use the channels. Use your FRS radios to stay in touch with your children as they play and encourage your neighbors to do the same. Always listen carefully before transmitting. Never yell or shout into a radio and avoid the use of call tones.

"What is the best way for me to get communications for my CERT group?" Don't reinvent the wheel and "KISS." Hopefully your group agency sponsor has a committed leader with disaster planning experience, knowledge of communication systems, the ability to manage resources and supervise volunteers to accomplish the mission. Leadership makes all the difference in disaster planning. The biggest mistake any jurisdiction can make is allowing poor leadership to Balkanize critical communications resources.

Service providers such as Salvation Army, Red Cross, and CERT should benefit primarily from communications service provided by the Amateur Radio Service and that should be organized in concert with the local OEM/OES as part of a local disaster communications plan. Your jurisdiction's disaster plan should have the Amateur Radio Service volunteers provide you with links back to your OES/OEM headquarters.

Hams can also advise new CERT volunteers on organizing communication at the local level showing you how to use GMRS and FRS radio equipment properly. Many Hams also hold GMRS licenses. There are GMRS licensees in a community that would be happy to help your group.

Someone in your neighborhood could become a Ham if a Ham volunteer cannot be assigned. Your local Ham Radio Operator can relay important radio messages back to an OES or OEM headquarters if your neighborhood is cut off in an emergency. Your neighborhood and CERT team should be a part of a Multi-Hazard Functional Plan and everyone's role should be defined. Setting up a communication system on your own won't help you if it is not part of the larger plan.

Setting up competing communications groups is not productive. Setting up neighborhood communications plans IS productive; however, you need to use existing resources effectively. Plan a very-local method of communicating between your neighborhoods. Do it wisely and work within the FCC Rules.

