

FRS/GMRS RADIOS FOR FOSTER CITY CERT

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FRS/GMRS Radios Notes
Created: 21 March 2008

Radios for Neighborhood Communications

[revised 29 August 2008]

We use FRS/GMRS radios for neighborhood communications. These are sometimes called "walkie-talkie" radios. FRS stands for **F**amily **R**adio **S**ervice. GMRS stands for **G**eneral **M**obile **R**adio **S**ervice.

Our minimum requirement is a 22-channel FRS/GMRS radio with at least 99 privacy codes. Buy the radio you can afford with the greatest advertised distance as long as it has 22-channels and 99 privacy codes.

Additional Features

There are several additional features you absolutely will need. Radios are packaged one to five in a shrink wrapped package. Be certain you the following features are include:

1. Battery charger. This is typically an AC battery charger.
2. Ability to take off the shelf batteries. Typically AA batteries can be used. This is important because there may be no functioning AC power for as much as a week or so.

In addition, there are several additional features that are nice to have:

1. An earphone. This allows you to use your hands to write, do triage, or what ever is necessary. This is the optional feature most CERT's wish they had. If you are working a command post on an 8-hour shift this rapidly becomes a must.
2. A DC battery charge assuming you got an AC charger already. Nice because you can charge in a car.
3. Water proofing.
4. A solid belt clip or holster. This is more useful than you might think.
5. Spare batteries. If interested, ask about this in the radio class.

There are other features, such as talk groups, offered by the manufactures that we do not require. You can download the manufactures manuals from their web site to read about them before you buy. This can be helpfully if you want to know about a particular radio before you buy.

Claims you should NOT believe

One thing you must be aware of with these radios, the marketing departments in these companies are making greatly distorted claims for the capabilities of their radios. For example, manufacturers currently advertise transmission ranges of 20+ miles. This is not achievable in urban areas. Indeed it is achievable few places on earth that you or I typically visit. A range of about one mile about what to expect. Some manufactures will also tell you they have 42 channels. This is not true. The maximum number of channels an FRS/GMRS radio may legally have is 22. They make the claim using an existing channel with a "privacy code" tacked on to claim it is a new channel. It is not.

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Where to find them

These radios are commonly sold in places like Costco, Frys, Radio Shack, and sporting goods stores. They are sold online at places like Amazon, Cabela's, LL Bean, and buytwoayradios.com. The most common brands among the Foster City CERTS in alphabetical order are Midland and Motorola. We also see Radio Shack, Uniden, and Cobra, but they are less common.

If you buy a different brand it must be "type accepted" by the FCC. If your radio is not type accepted it is illegal to use in the U.S. There have been reports in the past that radios sold in on-line auction houses are not always type accepted. All of the radios sold by reputable manufacturers are "type accepted."

Additional Notes on Specific FRS/GMRS Radios

You will find notes about radios that I have looked at below. Two things emerge from this. First the advertising doesn't reveal as much as we'd like. There are some ads that give detail as to the features of the radio and what you get in the package. Other ads tell you very little. I often end up downloading the manuals from web sites to find out the features that are provided.

The second thing to note is that each manufacturer has many more radios on the market than they have listed on their web site. Sometime this is because a discounter is clearing old inventory for the manufacturer. Sometimes this is because the radio is packaged differently for a discounter.

Note that every radio on the acceptable list has 22 channels and at least 99 privacy codes. That is all the FRS/GMRS channels/frequencies allotted by the FCC. There are some manufacturers marketing radios with more channels. Don't believe them. It is against the law to sell any FRS/GMRS radio in this country that has more than the allotted channels. Well, how do they do it? They use the same channel more than once but automatically assign it a privacy code. This is then claimed to be a "channel." All I can say about this is that it is not true. Every radio on this list has the minimum number of frequencies and isn't legal in the US.

Out on a Limb [added 29 August 2008]

For a long time I have been reluctant to recommend a specific radio. There just were none I felt comfortable recommending. I'm used to a higher standard of performance as a Ham radio operator. But at this point I will tentatively point you to the Midland GXT 900/950 radios. We have about one month of testing by several in the Foster City CERT community. These radios seem to have the far better performance than other FRS/GMRS radios. They are not perfect, nowhere near, but I like them for our needs. To be sure, we still need more time to evaluate things like battery life, squelch control, and durability. But I am going to go out on a limb and recommend these radios for those of you looking to purchase an FRS/GMRS radio. See more details about this radio below.

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RADIOS THAT ACCEPTABLE [last updated 31 July 2008]

Midland

Midland GXT900VP4 – Two FRS/GMRS radios, 142 privacy codes, claims 30 mile range, channel scan feature, weather, vibrate alert, alert, dual watch, ac/dc charger, ear bud with boom mike, scrambler, belt clip, rechargeable batter or takes 4 AA batteries. This is the first and only unit I know of that radiates the maximum power on the FRS channels 1-14.

Midland GXT950VP4 – Cammo version of GXT900VP4. Also adds 5 animal call alerts.

Midland GXT720VP3 – Two FRS/GMRS radios, 121 privacy codes. Has channel scan, weather, auto squelch, call alerts, claims 30 miles, charger, belt clip.

Midland GXT75VP3 – Cammo version of GXT720VP3, adds animal calls.

Midland GXT750 or GXT710 – Two FRS/GMRS radios, ac charger 121 privacy codes. Advertised as having a 26 mile range. Belt clip. NOAA weather channels, call alert. VOX. NiMH batteries supplied. Water resistant.

Midland LXT460VP3 – 2 radios, FRS/GMRS channels, ac charger, 121 privacy codes, Weather, Vibrate, claims 24 miles, belt clip, 5 call alerts.

Motorola

Motorola EM1010TPR – Three FRS/GMRS radios, with ac/dc charger, and earbud with push-to-talk [PTT] feature. 121 privacy codes. Belt clip. LED flashlight. Advertises a 20 mile range. NOAA Weather channels, Call alerts, VOX, comes with MiMH batteries. Takes standard AA batteries.

Motorola [no model number] – Two FRS/GMRS radios, with 121 privacy codes. Comes with charger. [ac/dc not specified] Advertised range 16 miles. This looks like the SX800R. It has been morphed into the SX900R.

Motorola SX900R – Two FRS/GMRS radios, charger [ac/dc not specified] 121 privacy codes. Advertised as having an 18 mile range. Belt clip. NOAA weather channels, call alert. VOX. NiMH batteries supplied.

Motorola T9500XLR – Two FRS/GMRS radios, with 121 privacy codes. Comes with charger. [ac/dc not specified], belt clips, VOX.

RADIOS THAT ARE UNACCEPTABLE [last updated 31 July 2008]

A rule of thumb: if the packaging doesn't clearly say something about 99 or more "privacy codes" then the radio is probably not acceptable.

Midland LXT110 and LXT110VP - no privacy code.

Midland LXT240VP3 and LXT345VP3 - no privacy codes.

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