

# TWO-WAY RADIOS AND BLACK SUBURBANS: LEARN THE NEW FCC RULES OR GET BOPPED

BY BRUCE EDGERLY AND JON SLAVIK

**Attention all guides,** avalanche schools, and casual radio users: it's about to get real out there. If you're currently "winging" it with your radio program, you could see a black Suburban pulling into your facility to enforce the new FCC rules. The U.S. FCC (Federal Communications Commission) is loosening up on the power and paperwork requirements for low-wattage "family band" radios, but they're now out to get those using uncertified, mainly Chinese-made high-power radios—especially if they're being used on unauthorized channels.



## Background

Not unlike the world of avalanche transceivers, the two-way radio landscape has changed a lot over the past few decades. Newer technology has made high-power VHF radios more versatile, precise, and clearer at long range. The use of low-wattage family-band UHF radios has decreased with the omnipresence of cell phone coverage, decreasing user demand and "chatter" on those channels. As a result, the FCC has loosened up on UHF (ultra high frequency) radios—used by recreationists—but they've tightened up on VHF (very high frequency) and dual-band UHF/VHF radios—which most guiding and professional operations use. Here's what has changed and what you can do to prevent getting bopped:

## FRS/GMRS (low-power UHF) radios

Generally referred to as walkie-talkies, these "family band" radios were made famous first by Dick Tracy cartoons in the 1970s, then by Motorola Talkabouts in the 1990s. Since then, their use has decreased due to competition with cell phones. In the backcountry world, they've seen a resurgence with the advent of BC Link radios from Backcountry Access (BCA). These channels operate from 462 and 467 MHz and are fully open to the public, which means they can get crowded if your radio doesn't have privacy codes. Up until 2017, the maximum power allowed for FRS (channels 8 through 14) was 0.5 watt. The maximum power allowed for GMRS (channels 1 through 7 and 9 through 22) was 1 watt—and the user was expected to pay an \$80 fee and get a permit from the FCC if they happened to tune their radio to these channels. This latter rule was rarely enforced.

Starting in 2017, the FCC separated FRS and GMRS. They now allow a maximum of 2 watts on FRS radios, 5 watts on handheld GMRS radios, and 50 watts on non-handheld GMRS radios. The FCC also allows the use of repeaters for GMRS

channels, just like they currently do for VHF channels. They claim that the FCC licensing requirement on GMRS will now be enforced.

Combination FRS/GMRS radios will no longer be allowed, except those which have been recertified as FRS radios by the manufacturer (including the BC Link). This loosening up of the FRS rules resulted in the development of BCA's BC Link 2.0 radio, which is an FRS-only radio that transmits at up to 2 watts, enabling clearer communication at longer range. It is compatible with all FRS and GMRS channels.

In addition, the FCC has also lightened up on the business use of FRS/GMRS channels. Until recently, these channels were only for non-commercial use. As of 2017, businesses are now allowed to use these channels. Of course, that includes guiding operations and avalanche schools.

## Business/Pro (high power VHF and VHF/UHF) radios

These are the radios used by most guiding operations, ski patrols, sheriff's departments, and search-and-rescue groups—usually with repeaters to extend their range. This is also where the FCC is stepping up its enforcement, thanks to the proliferation of uncertified Chinese-made radios being sold online. Business radios all operate from 150 to 170 MHz and 450 to 470 MHz but the channels are not public: each radio fleet is assigned a private frequency by the FCC, to ensure that users don't interfere with each other—especially with public safety agencies that need to have clear communication during emergencies. To get your own frequency, you need to apply and pay on the order of \$400 for a license from the FCC.

With improving technology in VHF/UHF radios, these units are more precise at operating within narrow bandwidths, the acceptable deviation in frequency on either side of the assigned "center frequency." Therefore, in 2013, the FCC narrowed the bandwidth at which





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these radios are allowed to operate. The good news is that enables the allocation of private frequencies to more user groups. The bad news is that if you don't have a license to operate at one of these frequencies then you're going to get bopped.

In addition to frequency poachers like this, the FCC is also nailing those who sell non-FCC-certified radios. If a radio is certified, that means the FCC has verified that it does not have software enabling users to program it to FCC-allocated frequencies. This process is only supposed to be performed by FCC-approved frequency coordinators using FCC-approved software. However, a black market of renegade consultants has sprung up over the years that are using illicit software to program radios illegally (for an exorbitant fee, of course). To determine if your radio is legitimate, look for an FCC identification number in the battery compartment. If the number isn't there, the radio isn't legal. To determine if your frequency coordinator is truly legit, see the FCC's website: <https://www.fcc.gov/wireless/bureau-divisions/mobility-division/industrial-business/industrial-business-licensing>.

### Getting bopped: an expensive proposition

- In 2007, the FCC caught Chugach Powder Guides using several frequencies for which they didn't have a license. A fleet of two black Suburbans and four FCC agents pulled up to their heli pad and immediately shut down their operations. Only after much pleading on safety grounds, according to CPG's owners, did the agents allow the company to proceed. They were forced to shut down their repeater in the Tordrillos that season and to pay up for a real FCC license. This happened early in the new enforcement era. Since then, the FCC has become less forgiving.
- A frequency consultant in New Jersey, Perez Communications and Electronics, was caught programming unlicensed radios just this year. He settled with the FCC out of court to avoid fines of \$20,134 per day, retroactive several years.
- In 2018, the FCC raided a U.S. distributor of Chinese-made Baofeng radios when agents determined that the distributor was selling non-FCC-certified Baofengs. Agents confiscated all non-certified inventory, temporarily closing the business.

### Keeping it clean

There are certain things you can do to avoid risking your operation to FCC enforcement:

- Check your radios to make sure they have an FCC certification number. If they don't, then get rid of them. You'd better not sell them on Craigslist: then you become an illegal seller.
- If your radios have an FCC ID number, then make sure that you're licensed to operate on your frequency. Ask the frequency coordinator that programmed your radios.
- If you programmed the radio yourself somehow, then make sure you programmed in a frequency that the FCC has assigned to you. Of course, if you did this then you probably have unlicensed radios.



The radio on the left has no FCC Identification number—and is therefore illegal to operate or sell. The radio on the right has an FCC ID number, which means it complies with Part 90 of the FCC regulations.

- If your organization owns a frequency from the FCC and your organization operates in several regions, make sure that frequency has been allocated to you in all those regions, not just the region in which your headquarters is located.
- If you want to share frequencies with other agencies, then make sure you get written permission from them before going to a frequency coordinator to get a license for that frequency. A legit coordinator will need that permission before they will touch your gear. For instance, if you're a guiding operation that wants to share frequencies with the local ski patrol or SAR group. If you don't get their permission—and they don't like you—they can report you to the FCC.
- Consider using FRS radios and their open channels for communicating within groups when you're traveling in the backcountry. You can still communicate with your operations base and other agencies through your 5-watt radios and repeater system, but it's a lot less expensive and more convenient to use open channels. "Chatter" is not an issue if you're smart about using privacy codes (i.e. don't insist on using channel 4, privacy code 20—a popular one in the Colorado and Washington backcountry).
- It's worth noting that you're not allowed to use your high-power VHF/UHF radios to communicate with low-power FRS radios, unless it's an emergency. In fact, in a true emergency situation, all these rules go out the window. You just better hope that the agent that emerges from that black Suburban is a skier or snowmobiler—and understands your definition of an emergency (scoping untracked lines doesn't qualify!).

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- Future proof design supports on-going product optimisation programme.



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