

RADIO CHANNEL NARROWBANDING: WHAT DOES IT MEAN?

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What does this picture have to do with narrowbanding radios?

Of the many issues related to FCC regulations and licensing, the one topic that seems to confuse people the most is the FCC Narrowbanding Program that will take effect January 1, 2013.

In an effort to clear the air, disperse the fog, and simplify the complex, here's a simple explanation and analogy for narrowbanding.

The FCC decided that there was a need for more two-way radio frequencies (channels), and that since modern programmable radios were capable of more precisely controlling a frequency than older crystalized radios, they would roll out a program to migrate radio users to narrowband channels. Today, most radio users are using wideband channels.

Narrowbanding has been around a while, and been used in Europe and Canada, but since the U.S. is the world's largest two-way radio market, the change to narrowband necessarily impacts a huge number of users. The National Ski Patrol is definitely affected by this program.

To understand how narrowbanding works, imagine you own a shopping center, you have a parking lot, and you rent space to various stores whose employees and customers park in the lot. Recently,

some shop owners have complained that on weekends and holidays, customers can't find a parking spot and drive away, negatively impacting sales. You need to find a solution.

You hire a parking lot consultant, a thin fellow who drives a very small car, and receive the consultant's report. The recommendation is to restripe the parking lot, making each space half the width it is now. Make each parking space narrower, and voilà... you can double the number of cars in the parking lot. More parking spaces, more cars in the lot, more customers in the stores...well, you get the picture (lots of car door dents).

That's what the FCC is doing: making each radio channel occupy half the amount of radio spectrum it uses now. You can't see the radio spectrum, but it's like the parking lot. Only a certain number of channels can fit; make the channels narrower, and you can have more channels. More channels means fewer radio users per channel, less channel sharing, and less interference (maybe).

All radios legally offered for sale in the United States have to be certified by the FCC. Any radio submitted to the FCC since 1997 has had to be narrowband-compliant. That means it either had to be narrowband to begin with, or be programmable for narrowband operation. What about radios certified before 1997? They are probably wideband only. The FCC assumed that most radios are replaced on a seven-year budget cycle, or at least were fully depreciated in that time period. That assumption might be correct for local governments and large businesses, but not for ski patrols.

Ski patrol radios are typically used only seasonally, some for as few as four months per year. Many patrollers own their own equipment, and it's well known that personally-owned equipment is better maintained and lasts longer than "community property."

If a particular radio cannot be made narrowband, it cannot be legally used after January 1, 2013, regardless of its condition, and there are compatibility problems if some radios on your patrol are wideband and others are narrowband. These issues typically manifest themselves as audio problems.

What should you do now? Take an inventory of your existing patrol radios, including personally-owned equipment, and determine what has to be replaced on or before January 1, 2013. Budget and save now, and start to replace the oldest, noncompliant radios. Replace a few each year, so that when 2013 rolls around, you're not up the creek without an antenna. +