

July 13, 2007

Subject: Federal Communications Commission Frequency Narrowbanding
Incompatibility

The Federal Communications Commission (FCC) has begun issuing narrowband VHF-FM frequencies to states, local governments, and private organizations which some federal land management agency VHF-FM radios cannot operate on. This may prohibit federal land management agencies from communicating on these frequencies.

Background

The FCC began transitioning from 15 kHz (wideband) to 7.5 kHz (narrowband) channel spacing in 2005 for the 150 to 174 MHz frequency band. The FCC will only be issuing channels spaced 7.5 kHz apart in the future.

The FCC controlled 150 to 174 MHz frequency band is used by states, local governments, and private organizations in the same manner as the federally controlled 162 to 174 MHz frequency band. FCC's narrowbanding plan (15 kHz to 7.5 kHz channel spacing) is separate from the largely completed federal narrowbanding plan (25 kHz to 12.5 kHz channel spacing). The federal narrowbanding plan is controlled by the National Telecommunications and Information Administration (NTIA). The FCC manages frequency use for states, local governments, and private organizations while the NTIA manages frequencies for federal users. NTIA's narrowbanding plan was completed in 2005 while the FCC plan began in 2005 and is expected to be completed for public safety users on January 1, 2013.

This issue first manifested itself on the Sweat Farm Road fire in Georgia where a local 7.5 kHz type frequency was being used. The fire could not use NIFC fire cache assigned B/K EPH radios. That is because B/K EPH radios will not operate on these newly issued 7.5 kHz spaced frequencies. The fire was immediately sent B/K DPH replacement radios. When the Oregon Department of Forestry activated several new mountain repeater sites, utilizing recently issued 7.5 kHz spaced channels, the same problem occurred with locally owned USFS radios. As the FCC will only be issuing 7.5 kHz spaced channels in the future, incompatibility issues with existing federal radios will only increase.

Symptoms of Incompatibility

Any radio experiencing 7.5 kHz channel spacing incompatibility will not be able to have the new 7.5 kHz spaced frequencies programmed into them. There are many new FCC frequencies resulting from this channel spacing plan. Three of the new 7.5 kHz type frequencies are 151.1525, 158.7825, and 159.2925. Users should attempt to program any of these three frequencies into a radio to determine 7.5 kHz compatibility. A quick radio test will confirm that the radio successfully operates.

Effectuated Equipment

Radios *designed* before 1997 will probably be 7.5 kHz *incompatible*. Radios manufactured after 1997, using a *pre-1997 design*, will also likely be *incompatible*. However, radios designed since 1997 should be 7.5 kHz compatible. Of primary concern are B/K EPH model radios. The B/K EPH radio is widely used by federal land management agencies and **is not** 7.5 kHz channel compatible. Take note that it is a radio's design date and not the radio's manufacture date which is important. NIFC's fire cache has several B/K EPH radios built and purchased in 2002 which are 7.5 kHz *incompatible*.

The following radios are known to be 7.5 kHz **incompatible**:

- B/K models: LPH and EPH
- Northern Airborne Technologies: NPX138
- Wulfsberg Electronics: 9600
- Eureka Radio: ERS96000

The following radios are known to be 7.5 kHz **compatible**.

- B/K models: GPH and DPH
- Motorola: XTS2500 and XTS5000
- Thales (Racal): P25
- EF Johnson: 5113, 5123, and 5133
- Datron: Guardian
- Technisonic Industries: TFM-138B and TDFM-136
- Northern Airborne Technology: NTX138 and NPX136D

Note: Some individuals are able to program a NAT NPX138's display to show 7.5 kHz channel spacing operation. NAT is aware of this and has said while the display shows 7.5 kHz operation the radio will continue to operate on the nearest non-7.5 kHz frequency. NAT disavows this work-around and reiterates that the NPX138 is not 7.5 kHz channel spacing capable.

Correction of Problem

Local communication personnel should determine if local state and governments have recently been issued VHF-FM 7.5 kHz frequencies from the FCC. This information must be provided to dispatch centers so appropriate action can be taken. Resources responding to an area (where the use of 7.5 kHz spaced channels play an important role in a local communications plan) must be informed of any radio limitations prior to the resource's arrival.

Aviation resources will have to cope with this issue until January 1, 2010. After January 1, 2010 all aviation resources will have converted to P25 digital radios. All P25 digital radios (aviation, mobile, and portable) are 7.5 kHz channel spacing compatible. Ground resources will have to transition to newer 7.5 kHz compatible radios as conditions and funding permit.