Interoperability: The Real Story

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Public safety communications interoperability has been a big catch word in the media lately in the aftermath of Hurricane Katrina. Politicians in Washington are pushing hard to move TV stations out of the UHF spectrum to establish a new 700 MHz interop band. If you believe the rhetoric from our elected officials in DC, there are no interop frequencies and we need the new 700 MHz band immediately.

What politicians are not telling you is that interop frequencies have already been set aside in each band. Nor do many taxpayers realize that, thanks to this new 700 MHz band, analog television sets will go the way of the musket and ball, and we’ll all have to purchase a new digital television set or converter if we want to watch television.

We decided to investigate what the real world situation is, so we have compiled a list of nationwide VHF/UHF interop and mutual aid frequencies from official government sources, Association of Public-Safety Communication Officers (APCO) information, and Federal Communications Commission (FCC) rules and regulations.

In addition to our nationwide list, there are also local, regional and state frequencies set aside for inter-system, agency, and mutual aid channels throughout the nation. We have not included those in our list below, due to space constraints. But, as an example to illustrate our point, here are statewide mutual aid frequencies in Tennessee that are not on our nationwide list:

**Statewide, Tennessee**

- 154.7500 Law enforcement base/mobile (Law VNAO)
- 155.2800 EMS base/mobile (EMS205)
- 155.2900 EMS base/mobile (EMS280)
- 156.0150 Law enforcement mobile only (Law VMA)
- 159.7050 Tennessee Police/Fire/EMS/Medical Agencies interoperability (1TNTAC)
- 460.4000 Law enforcement base/mobile (Law UMA)
- 465.4000 Law enforcement mobile only (Law UMA)

The VHF/UHF spectrum is loaded, not only with public safety interop frequencies, but with business itinerants, oil spill frequencies and emergency channels which are also available for multiple agency use. Again, due to space they are not listed in our frequency table which follows.

### NATIONWIDE LISTINGS

#### Public Safety/Government Interagency/Interoperability/Itinerant Frequencies

- 27.5750 Simplex............Government Itinerant, short distance, low-power service
- 27.5850 Simplex............Government Itinerant, short distance, low-power service
- 39.4600 Base/Mob.............Law enforcement inter-system <3LAW-1>
- 39.4800 Base/Mob.............Fire inter-system <3FIRE-2> [Proposed]
- 45.8600 Base/Mob.............Law enforcement inter-system <3LAW-12>
- 45.8800 Base/Mob.............Fire inter-system <3FIRE-13>
- 47.4200 Base/Mob.............Special emergency, reserved for assignment only to national organizations eligible for disaster relief operations.
- 151.1375 Base/Mob...........Public safety (all agencies) interoperability, including local, state and federal agencies.
- 152.0075 Base/Mob...........Special emergency paging <1EMS-6>
- 154.2650 Mobile..............Fire inter-system <1FIRE-7>
- 154.2725 Base/Mob...........Fire inter-system <1FIRE-8>
- 154.2800 Base/Mob...........Fire inter-system <1FIRE-9>
- 154.2875 Base/Mob...........Fire inter-system <1FIRE-10>
- 154.2950 Mobile..............Fire inter-system <1FIRE-11>
- 154.3025 Base/Mob...........Fire inter-system <1FIRE-12>
- 154.4525 Base/Mob...........Public safety (all agencies) interoperability, including local, state and federal agencies.
- 155.1600 Base/Mob...........National Search and rescue Common, widely used but not an official allocation.
- 155.3400 Base/Mob...........Special emergency inter-system item, Medical Hospital Emergency Ambulance Radio (1EMER-14)
- 155.3475 Base/Mob...........Special emergency inter-system <1EMS-15>
- 155.3700 Base/Mob...........Law enforcement mutual aid/inter-system, widely used but not an official allocation.
- 155.4750 Base/Mob...........Law enforcement nationwide <1LAW-16>
- 155.4825 Base/Mob...........Law enforcement nationwide <1LAW-17>
- 155.7925 Base/Mob...........Public safety (all agencies) interoperability, including local, state, and federal agencies.
- 157.2250 Mobile..............Public safety (all agencies) interoperability, selected inland US areas only <1TAC-21D>
- 157.2500 Mobile..............Public safety (all agencies) interoperability, selected inland US areas only <1TAC-19D>
- 157.2750 Mobile..............Public safety (all agencies) interoperability, selected inland US areas only <1TAC-20D>
- 158.7375 Base/Mob...........Public safety (all agencies) interoperability, including local, state and federal agencies.
- 159.4725 Base/Mob...........Public safety (all agencies) interoperability, including local, state and federal agencies.
- 161.8250 Base/Mob...........Public safety (all agencies) interoperability, selected inland US areas only <1TAC-25>
- 161.8500 Base/Mob...........Public safety (all agencies) interoperability, selected inland US areas only <1TAC-24>
- 161.8750 Base/Mob...........Public safety (all agencies) interoperability, selected inland US areas only <1TAC-26>
- 162.0875 Mobile..............Interagency Law Enforcement VHF Interoperability <1FLAW-39>
- 162.7250 Mobile..............Interagency Law Enforcement VHF Interoperability <1FLAW-36>
- 163.8250 Mobile..............Interagency Law Enforcement VHF Interoperability <1FLAW-37>
- 163.1000/168.3500 Government Itinerant, wide-area, common use repeaters
- 163.2875 Mobile..............Interagency Law Enforcement VHF Interoperability <1FLAW-38>
- 163.4250 Mobile..............Interagency Law Enforcement VHF Interoperability <1FLAW-37>
- 164.7125 Mobile..............Interagency VHF Incident Response <1FCAL-40>
- 165.2500 Mobile..............Interagency VHF Incident Response <1TAC-41>
- 165.9625 Mobile..............Interagency VHF Incident Response <1TAC-42>
- 165.5750 Mobile..............Interagency VHF Incident Response <1TAC-43>
- 167.0875 Simplex............Interagency Law Enforcement VHF Interoperability <1FIRE-1> [1FLAW-35D] [167.9 Hz PL]
- 167.0875/162.0875...........Interagency Law Enforcement VHF Interoperability <1FIRE-1> [1FLAW-35D] [167.9 Hz PL]
- 167.2500 Simplex............Interagency Law Enforcement VHF Interoperability (1FLAW-36D/LE-6) [167.9 Hz PL]
- 167.2500/162.2625...........Interagency Law Enforcement VHF Interoperability <1LE-2> [167.9 Hz PL]
- 167.3250 Mobile..............Interagency VHF Incident Response <1FCAL-44>
- 167.7500 Simplex............Interagency Law Enforcement VHF Interoperability <1FLAW-37D/LE-7> [167.9 Hz PL]
- 167.7500/162.8375...........Interagency Law Enforcement VHF Interoperability <1LE-3> [167.9 Hz PL]
- 168.1125 Simplex............Interagency Law Enforcement VHF Interoperability <1FLAW-38D/LE-6> [167.9 Hz PL]
- 168.1125/163.2875...........Interagency Law Enforcement VHF Interoperability <1LE-1> [167.9 Hz PL]
- 168.4625 Simplex............Interagency Law Enforcement VHF Interoperability <1FLAW-39D/LE-9> [167.9 Hz PL]
- 168.4625/163.425...........Interagency Law Enforcement VHF Interoperability <1LE-5> [167.9 Hz PL]
- 168.6125 Simplex............Government Itinerant, local-area, common use simplex
- 169.5375 Simplex............Interagency VHF Incident Response <1FCAL-40D/IR-5>
- 169.5375/164.7125...........Interagency VHF Incident Response <1FCAL-40D/IR-5>
- 170.0125 Simplex............Interagency VHF Incident Response <1TAC-41D/IR-6>
- 170.0125/165.2500...........Interagency VHF Incident Response <1R-1>
- 170.4125 Simplex............Interagency VHF Incident Response <1FLAW-42>
- 170.4125/165.9625...........Interagency VHF Incident Response <1IR-2>
- 170.6875 Simplex............Interagency VHF Incident Response <1IR-2>
- 170.6875/166.5750...........Interagency VHF Incident Response <1IR-3>
- 173.0375 Simplex............Interagency VHF Incident Response <1TAC-44D/IR-9>
- 173.0375/167.3250...........Interagency VHF Incident Response <1IR-4>
- 173.6250/167.1375...........Government Itinerant, local-area, common use repeaters
- 220.8025-220.8475...........Public safety (all agencies) mutual aid (channels at 5 kHz intervals)
- 396.8750 Simplex...........Department of Defense Inter-Squad Radios <Channel 2>
- 397.1250 Simplex...........Department of Defense Inter-Squad Radios <Channel 2>
- 397.1750 Simplex...........Department of Defense Inter-Squad Radios <Channel 3>
- 397.3750 Simplex...........Department of Defense Inter-Squad Radios <Channel 4>
- 397.4250 Simplex...........Department of Defense Inter-Squad Radios <Channel 5>
- 397.4750 Simplex...........Department of Defense Inter-Squad Radios <Channel 6>
- 397.5500 Simplex...........Department of Defense Inter-Squad Radios <Channel 6>
800 MHz National Interop Frequencies

In accordance with the National Plan for 821-824/866-869 MHz, interoperability among federal, state, and local governments during both routine and disaster operations will take place primarily on five common channels in the following configurations:

821.025 Mobile  ... National Public Safety nationwide mutual aid <8CAL-90>
822.0125 Mobile  ... National Public Safety nationwide mutual aid <8TAC-91>
823.015 Mobile  ... National Public Safety nationwide mutual aid <8TAC-93>
866.2125/821.0125  ... National Public Safety nationwide mutual aid <8CAL-9D> <8CAL>
866.25/821.2125  ... National Public Safety nationwide mutual aid <8TAC-9D> <8TAC-2>
867.0125/822.0125  ... National Public Safety nationwide mutual aid <8TAC-9D> <8TAC-1>
868.0125/823.0125  ... National Public Safety nationwide mutual aid <8TAC-9D> <8TAC-3>
868.0125/823.0125  ... National Public Safety nationwide mutual aid <8TAC-9D> <8TAC-4>

800 MHz Statewide Frequencies

In addition to the above frequencies, civilian agencies may permit federal use of a non-federal communications system. Below is a sample list of four states’ statewide 800 MHz tactical frequencies:

583.875/808.375  ... Florida Mutual Aid Channel 866.000/821.000  ... California MIRECS 866.000/821.000  ... California MIRECS 867.7750/822.7750  ... California MIRECS 867.7750/822.7750  ... California MIRECS

In closing, we reiterate the statement made by David Boyd of the Homeland Security Department to a congressional sub-committee, that people, not technology, create the greatest obstacle to achieving interoperable communications. As we can see above, frequencies are already available: We respectfully submit that agencies should quit squabbling and use them!

February 2006

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