



FIRST RESPONDERS STAY CONNECTED WITH APX™ 7000 P25 MULTIBAND RADIOS



CUSTOMER PROFILE

Organization

- Nebraska State Patrol

Location

- Lincoln, Nebraska

Industry

- Public Safety, Law Enforcement

Motorola Solution

- Multiband APX™ Project 25-capable portable radios
- ASTRO® 25 System
- 700 MHz P25 Digital Vehicular Repeaters

Solution features

- Multiband operation for seamless interoperability
- Best-in-class audio
- Emergency button alerting dispatch
- GPS to identify location
- Text messaging for added information
- Designed for future expandability

When Nebraska State Troopers are out of their cars, their portable radios let them stay in touch.

SITUATION

The Nebraska State Patrol (NSP) monitors public safety and enforces the law over 10,000 miles of highways throughout the state. But whether tracking a fugitive or responding to an accident scene, the demands on Nebraska State Troopers escalate whenever they pull off the road and step out of their patrol cars.

Typically working in remote, rural locations, Nebraska Troopers were relying on portable radios that were subject to the limits of low-band, analog technology. This combination of circumstances, compounded by the persistent challenges of Midwestern weather, stifled the ability of troopers to reach dispatchers, fellow officers or other agencies at critical moments. "We had many dead spots where there was diminished or no radio coverage under the low-band system," explained NSP Lt. Col. Thomas Schwarten.

When the state of Nebraska recently collaborated with the Nebraska Public Power District (NPPD) to install a VHF ASTRO® 25 statewide trunking network, Schwarten and his colleagues insisted on APX portables for their agency as a means to conquer their long-standing radio restrictions.

CASE STUDY

NEBRASKA STATE PATROL
MOTOROLA APX RADIOS

SOLUTION

As the state of Nebraska was finalizing plans with Motorola to build a statewide interoperable ASTRO 25 VHF trunking network, the state zeroed in on the next-generation Motorola APX 7000 multiband portables as the radio of choice for NSP Troopers.

Featuring a large LCD display on one side to enable text messaging and 1-watt loud audio speaker on the other side, an ergonomic shape designed for first responders, a GPS receiver and multiband operation, the APX 7000 is the equivalent of a hand-held computer in radio form, according to Schwarten. "We were eager to use the new APX," Schwarten said. "It's a state-of-the-art radio, having the ability of multiple bands, GPS and the emergency button—all critical features for the safety of our troopers that we never had before."

RESULT

With the addition of 700 MHz P25 Digital Vehicular Repeaters (DVR), NSP Troopers have portable communications that are both reliable and efficient. The vehicular repeater takes the signal from the portable and repeats it at a higher power level in order to communicate with the towers and then back to other users on the system.

"When a trooper is out of the car in a very rural area and not in range of a tower, he'll basically use the patrol vehicle and the repeater system to take care of the connection for us," Schwarten said. In cases where troopers are within coverage of a radio tower, they can use their APX portable radios to connect directly to a dispatcher. "That's one less step, one less issue to deal with. We're going right from the portable radio to the tower to speak to the dispatcher," Schwarten added.

"The 1-watt loud audio speaker helps a lot. If a trooper is alongside a road, in a noisy environment, this helps the officer hear."

—Ron Lehms, Electronics Section Supervisor, Nebraska State Patrol



AGENCY INTEROPERABILITY WITH THE APX 7000

There may be no greater frustration for a public safety officer than if he or she can't connect with another officer, especially if that officer is barely beyond shouting distance. In the era before the new statewide trunking network, it's a scenario that haunted Nebraska State Troopers. "It can be very unnerving for a trooper ... when a local agency goes by, running with their sirens to an emergency somewhere and he has no idea what's going on," Schwarten said.

The APX 7000, with its multiband capability, has opened a new world of agency interoperability for NSP that it lacked under the previous low-band technology. "It will allow us the possibility of responding to urgent calls with local agencies to assist when available."

CASE STUDY

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CLEAR COMMUNICATION AT LONG DISTANCES

With the need to talk across Nebraska's wide-open spaces, NSP Troopers have found the APX 7000 radio to be a revelation. During the ceremonial launch of the final phase of the statewide trunking network, Nebraska Governor Dave Heineman picked up an APX 7000 and called an NSP dispatcher 450 miles away to activate the system. "It's just phenomenal the crystal clear digital signal that is transmitted by those radios," Schwarten said. "It's hard for us to even imagine ... that you can be talking to a dispatcher 450 miles away and it sounds like you are standing next to him or her."

Additionally, audio quality is enhanced with 2-microphone noise suppression and a 1-watt speaker. "The 1-watt audio speaker helps a lot," said Ron Lehms, Electronics Section Supervisor for the NSP. "If a trooper is alongside a road, in a noisy environment, this helps the officer hear."

DESIGNED WITH EMERGENCIES IN MIND

For first responders, a moment saved may be a life saved. The dual-display APX 7000 with text-messaging capabilities is engineered for easy reading in situations where voice communications can delay a vital announcement. "For instance, when we put out an Amber Alert or other widespread message, we can put it in a text message and

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have it right in front of all troopers rather than do it on a voice call," said Lehms, who added that the bright, high-resolution display on the APX 7000 reinforces messaging clarity.

An ergonomic design for easy handling and rugged construction for durability are also high on Lehms' list of APX 7000 traits. "It feels good in your hand—you don't feel like you're going to drop it," Lehms said. He praised the water resistance and ruggedness of the APX 7000, which was tested in a spring snowstorm soon after the ASTRO 25 system was launched. "The water resistance kept everyone working, which allowed us to do our jobs."

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READY FOR NETWORK EXPANSION

NSP officials also wanted a radio that easily connected with new users on the system. This was an important benefit as the state deployed the ASTRO 25 statewide trunking network, which eventually will include all of the state’s first-responder agencies as well as numerous local agencies and public power utilities.

The adaptability of the APX is the ideal fit for agencies such as Nebraska’s Department of Correctional Services, Schwarten said. “They’re based in a confined location such as a penitentiary and they need radio coverage

within the facility.” According to Terry R. Ewing, Special Services Administrator for the Nebraska Department of Correctional Services, the APX portable radio is used by the agency’s executive staff, wardens and emergency preparedness personnel. “Corrections leadership has the ability to communicate with one another during routine and emergency activities and talk to external support agencies if needed,” Ewing said. “Until now, we did not have these valuable capabilities in a single radio.”

And if troopers respond to a penitentiary incident, the APX 7000 allows dispatchers to separate radio transmissions into different talk groups and avoid the confusion that can occur when officers from multiple agencies are talking all at the same time. “That’s something that 9/11 taught us,” Schwarten said.

Schwarten believes his agency is only beginning to realize the benefits of APX portables, including the ability to connect a large number of talk groups and switch easily between bands. “I think we’re probably just touching the surface of what APX radios are able to do for us.”

Learn more at www.motorolasolutions.com/apx
or call 866-850-8696.

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