COMMUNICATIONS INTEGRITY.
INFORMATION ASSURANCE.
BACKWARD COMPATIBILITY.

PRESERVE YOUR PRESENT AND SECURE YOUR COMMUNICATIONS FUTURE

Photo Courtesy Senior Airman Jonathan Steffen, U.S. Air Force

Photo Courtesy Cpl Ryan Tomlinson, US Marine Corps

Whether you're a military commander overseeing operations or a fire chief battling a blaze on base, lives depend upon secure, coordinated communication in extreme environments — no matter where in the world the mission unfolds.

In the heat of action, your personnel depend upon every word being heard and every transmission being understood on any radio and any system they use. They need never-say-die devices that perform in loud noise, lots of water, dust and chemical foams. They expect their radio to have extreme ergonomics while they're wearing heavy gloves, clear audio and extended battery life to withstand the harshest conditions, loudest backgrounds and longest hours.

COMMUNICATE ACROSS GENERATIONS OF RADIOS

The state of digital radio equipment is changing and the military is striving to keep pace. Today, the military operates at least three generations of radio systems, including analog or digital conventional, analog trunking, and APCO 16 compliant with 3600 baud control trunking.

The armed forces are seeking to move communications forward with future-proof technology that can support their mission in the next generation. As branches of the military migrate to Project 25 (P25) Phase 1 and 2 TDMA as the U.S. Marines have, they require communication solutions that are as forward capable as they are backwards compatible across five generations of radios.

ASSURE SECURITY FOR SENSITIVE INFORMATION

Every branch of the military depends upon tamperproof solutions to ensure the highest level of secure communications. Information cannot be compromised anytime during a mission, even if radios are misplaced, lost or stolen. The armed forces depend upon battle-tested, military trusted communications that comply with the Department of Defense standards for waveform and encryption and meet the Federal Information Processing Standard (FIPS) 140-2 Level 3 security to allow for deployment in the most sensitive operations.

With multiple generations of radios in use –analog to APCO 16 compliant to P25 capable – how do you make sure your personnel communicate easily and securely, from Arkansas to Afghanistan?

YOUR MOMENT IS COMING….. IS YOUR RADIO READY?

Are your personnel well-prepared? Are your soldiers and firefighters well-equipped? Do your commanders have the real-time information they need to make the right decision when that mission critical moment happens?

PROTECT YOUR INVESTMENT WITH FUTURE-PROOF SOLUTIONS

While the armed forces agencies grasp the importance of migrating to a next generation solution that delivers the critical features they need — from backward compatibility with previous technologies to the highest levels of information assurance — they may lack the funding to see it through. Some replace only non-functioning equipment; others use three or four different older technologies and are concerned about compatibility if they migrate to a new radio system.

The military walks a fine line between holding onto mature technologies and making a smart investment in a communication solution that lets them migrate at their own pace and budget and is capable of mission critical support for many years.

The challenge is clear: **what can the military do to protect their investment, maximize total cost of ownership and establish the best strategic plan for their communications future?**

ASK THESE KEY QUESTIONS AS YOU REVIEW YOUR COMMUNICATIONS TECHNOLOGY:

1. **Are your radios backwards compatible and future ready?**

2. **Will they interoperate easily with three, four, or even five generations of radios?**

3. **Are they FIPS 140-2, Level 3 capable to secure information at the highest level?**

4. **Were your radios designed by actual users? Are there specific solutions for your firefighters, soldiers and security teams?**

5. **Are all the layers of protection in place to assure any unauthorized radio, without the correct key, is denied access to the system?**

6. **Do your radios have the right features for extreme environments? Are they fully certified intrinsically safe?**

7. **Are your radios built to last and outlast the harshest conditions, noisiest places and toughest situations?**

APX™ SERIES RADIOS DELIVER WHAT MATTERS MOST TO THE MILITARY

BACKWARD COMPATIBLE AND FORWARD CAPABLE WITH YOUR RADIO SYSTEMS

With APX Series radios, you don't have to replace your existing radio system or set up a second network. That's because APX works with five generations of radio systems. APX radios are so backwards compatible, they handle your previous generations of systems — including analog, digital conventional, digital 3600 trunking (P16), and P25 TDMA Phase 1.

With solutions specific to every member of the military — from soldiers to security to fire service —APX radios bring 25 years of legacy systems forward and are forward compatible with the new TDMA Phase 2 narrowbanding solutions for increased trunking capability. You can deploy APX radios on virtually any system so your teams can communicate seamlessly around the world.

HIGHEST LEVEL OF ENCRYPTION AND INFORMATION ASSURANCE

For nearly 40 years, Motorola Solutions has worked together with federal, military and intelligence agencies to deliver the highest levels of encryption in the industry. Our legacy of information assurance continues with APX.

The FIPS 140-2 Level 3 validated hardware encryption on every APX radio provides tamperproof security to ensure the highest level of secure communications. Encrypted Programming Over Project 25 (POP 25) for trunking or conventional enables subscriber radios to be programmed securely over the air while they're in the field, without interrupting voice operations.

RADIO INTEROPERABILITY

APX portables work across multiple P25 systems and digital and analog networks to achieve true interoperability, no matter the system. When it comes to multiband operation, the APX 7000 series delivers seamless interoperability.

EXTREME RADIOS DESIGNED BY USERS FOR USERS

Working closely with first responders around the world, we designed the first mission critical two-way radio for personnel safety in extreme environments. Every feature and function of the APX 7000XE is designed with safety in mind, from its best-in-class audio to industry-leading ergonomics including a unique T-grip design, exaggerated control top, enlarged top display to read information at a glance, neon green housing for finding it in the dark, and oversized knobs that are easy to operate with heavy gloves on.

Advanced features such as multiband operation with intrinsically safe certification, dual microphones with advanced noise suppression, powerful 1-Watt speaker and GPS location tracking make the APX 7000XE a perfect fit for the military.

WHEN THE MOMENT ARRIVES, APX RESPONDS

SCENARIO #1

**SNIPER TARGETS
U.S. MARINE CAMP**

2114 HRS
U.S. Marine Corps Captain uses his APX 7000 Series portable radio to communicate with First and Second Lieutenants on their SRX™ 2200, APX 6000, XTS 5000 and XTS 2500 radios to assess the situation and coordinate a response.

2114 HRS
First and Second Lieutenants report on squad preparedness and current locations to the Captain using their radio text messaging feature.

2115 HRS
Using his APX 7000 Series radio with FIPS 140-2 Level 3 security and AES 256 encryption, he sends instructions for a squad to establish positions and begin a sweep.

2116 HRS
Marines hear instructions clearly, even over loud background noise, with the powerful 1-Watt audio speaker on their SRX 2200 radios.

2119 HRS
Squad confirms using the dual microphones on their SRX 2200 radios. Its advanced noise suppression filters out loud background noise so they can clearly understand the command "don't shoot" instead of "shoot".

2122 HRS
Marines triangulate on the lone sniper. Using their SRX 2200 radios, they communicate with First and Second Lieutenants on their APX 6000, SRX 2200 and XTS Series radios and the Captain on his APX 7000 Series radio.

2123 HRS
Dispatch monitors the squad using integrated GPS location tracking on their SRX 2200 radios to confirm all are accounted for. The "man down" application alerts them if a Marine is in trouble.

2128 HRS
Sniper is apprehended. Using SRX 2200 radios, Marines communicate with officers on their APX 7000, APX 6000, SRX 2200, XTS 5000 and XTS 2500 radios to confirm the mission is complete.

SCENARIO #2

FIRE BREAKS OUT ON A MILITARY BASE

0327 HRS

Apparatus from several stations are dispatched as flames emanate from a storage facility. Using his APX 7000XE Series multiband radio with intrinsically safe certification, the Fire Chief coordinates operations on the fireground.

0339 HRS

Firefighters hear and talk clearly over the roar of pumper trucks with the dual microphones and noise-cancelling technology on their APX 7500XE radios and XE remote speaker microphones.

0339 HRS

A team of four breaks down the door and enters the building. They know APX's excellent in-building coverage will enable them to talk effectively with incident command, even with the clamor of chainsaws and PASS alerts in the background.

0342 HRS

Dispatch monitors first responders using integrated GPS location tracking on the APX radios to ensure all are accounted for. A "man down" application will alert them if anyone is in trouble.

0345 HRS

Attacking the fire with tons of water and foam, firefighters report to incident command on their APX portables. Even with heavy gloves on, the radio's oversized controls and knobs are easy to locate and operate.

0417 HRS

Incident command sends out a roll call alert to verify who is on the fireground. Firefighters press the push-to-talk (PTT) on their APX radios to acknowledge. If any does not respond, a may-day will be triggered.

0458 HRS

Fire is contained and incident command confirms with dispatch using their APX 7000XE radios linked to an ASTRO 25 system.

SCENARIO #3

SOLDIERS PATROL OUTPOST IN AFGHANISTAN

2200 HRS

New arrivals grab the same SRX 2200 radios they used on the U.S. base and head out on patrol.

2204 HRS

As an added security check, each solider authenticates himself by punching in an individual code on their SRX 2200 radios.

2205 HRS

Dispatch receives six different codes and confirms each is the correct soldier.

2210 HRS

Bio-metric monitors on each solider transmit vital health statistics wirelessly to headquarters from their radios.

2215 HRS

The "man down" application on the SRX 2200 radios indicates a soldier has fallen in rugged terrain. Individual location tracking on his portable pinpoints his exact position along the fence line.

2219 HRS

Squad locates the injured soldier and using secure, encrypted communications on their SRX 2200 radios talk with dispatch clearly, despite the challenging terrain and dust blowing in the background.

2224 HRS

Dispatch coordinates with squad on SRX 2200 radios and medical team on their XTS radios. Soldier is transported out safely.

KEEP FOCUSED ON YOUR MISSION, NOT YOUR TECHNOLOGY

Behind every APX radio is a complete support team to help you at every phase: Professional, Integration, Support and Managed Services. Especially for the military challenged with rising operational costs and increasing technological complexity, we can reduce risk, lower capital and operational costs, deliver higher levels of service, tailor networks to reflect organizational needs and ultimately free the armed forces to focus on their core mission.

SECURING MISSION CRITICAL COMMUNICATIONS

Why look to Motorola Solutions? It starts with the industry-leading techniques we pioneered to provide end-to-end encryption in the P25 environment for millions of mission-critical users around the world. We've served the U.S. government for 80 years strong with innovative technology, proven platforms and complete solutions. What's more, for 35 years our teams have worked closely with military, intelligence, federal law enforcement and public safety communities to deliver information assured communications, from the mission to the base and battlefield.

APX FITS YOUR MISSION, YOUR SYSTEM AND YOUR BUDGET

Radio	SRX 2200	APX 7000/XE	APX 6000/XE	APX 7500	APX 6500
Backward compatible with previous analog and APCO 16 compliant radios and previous Motorola systems	X	X	X	X	X
Multiband operation with intrinsically safe certification		X		X	
Extreme audio including dual microphone noise suppression and 1-Watt audio speaker		X			
IMPRES™ Smart Energy charging for long battery life	X	X	X		
Delta T water immersion for 2 hours at 2 meters	X	X	option/standard		
T-grip prevents radio from slipping out of hand	X	X	X		
Display remote speaker microphone	X	X	X		
Integrated Voice and Data					
Encrypted Programming Over Project 25(POP25) for trunking or conventional	X	X	X	X	X
Secure text messaging	X	X	X	X	X
"Man down" application	X	X	X		
Internal GPS – Blue Force tracking	X	GPS	GPS	GPS	GPS
Option slot for 3rd party applications		X		X	
Security					
Information Assurance: FIPS 140-2, Level 3	X	X	X	X	X
Authentication	X	X	X	X	X
Code plug locks and password software protection	X	X	X	X	X
Secure Bluetooth® connectivity with audio accessories and applications	X	X	X		
Secure integrated voice and data utilizing data packets	X	X	X	X	X

To learn how to achieve security, interoperability and backward compatibility with one radio system, visit www.motorolasolutions.com/apx

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