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Special Government Issue

Wireless Technology Solutions Emerge that are Tailored Specifically to the Needs of the Federal Government

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Today's Wireless World™

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COVER STORY:

Wireless Technology Solutions Emerge that are Tailored Specifically to the Needs of the Federal Government

The effective use of wireless technology in a local, state, and federal government setting was still something of an elusive pipedream when Jerry Denham, then the CEO of Bear Communications, and Motorola executive Mark Kroh met 25 years ago. The relationship grew and ultimately flowed upstream as a powerful partnership emerged between the telecom giant, Motorola, and its emerging partner, soon-to-be-called BearCom.

Today, BearCom is Motorola's largest channel partner when it comes to selling wireless technology products and solutions to businesses. Along the way, wireless technology has become an indispensible tool for the federal government as well. Motorola products are now commonly used throughout the ranks of government.

So it should surprise no one that the latest menu of products and solutions developed by Motorola are creating an unprecedented buzz in the federal government. "Typically, we are very proactive with the federal government in all its agencies and departments," said John Czapko, Vice President of Sales at BearCom. "That has started to change in recent years, as prospective customers are now calling us."

Motorola also recently enhanced its offering to the federal government with a number of new and updated products and solutions, including:

- *ASTRO 25 networks:* This important technology provides integrated voice and data communications for emergency response.
- *APX 7000 multi-band portable two-way radio:* This is the first two-way radio to obtain a Federal Information Processing Standards (FIPS) 140-2 Level 3 certificate.
- *Three new information assurance services for data protection:* These services assist government and public safety organizations in the protection of their networks through monitoring, provision of timely security updates, and securing against intrusion, while helping to lower their total cost of ownership through increased efficiency and a reduction of maintenance costs.

Once the technology is deployed, the benefits to government are many.

For example, mobile data access at military bases improves efficiency, accountability, and accuracy in everyday processes. The ability to verify an identity with the scan of a barcode ensures that only authorized personnel are granted access to a particular area on base. With a quick scan of a barcode on a truck, helicopter, or engine of a ship or fighter plane, the maintenance history, repair procedures, parts availability, and other information can be instantly reported in order to ensure that the right service is performed rapidly and accurately. Audit trails document the work performed, who performed the work, and when it occurred. This improves accountability and ensures dependable performance for mission-critical assets.

Word is spreading about a menu of Motorola solutions involving enhanced security and increased mobility. Among them are its AirDefense product line, a highly advanced solution for vendor-agnostic rogue wireless detection, network performance management, remote troubleshooting, policy enforcement, and intrusion prevention.

AirDefense offers features that mitigate an assortment of risks:

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"BearCom's 26 sales and service facilities located across the United States provide strong support to a number of federal agencies for their wireless communications needs."

Jim Mears

Vice President and General Manager, Motorola

Dealing with a myriad of interoperability issues has become a real challenge throughout the federal government, as is wireless data security. Motorola and BearCom have partnered to provide a number of effective solutions for government agencies to address those challenges, such as Motorola's AirDefense system, which helps protect wireless LANs from unauthorized intrusions.

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- *Rogue wireless devices, such as access points (APs):* These devices provide attackers with unrestricted access, bypassing firewalls and VPNs to internal servers, just as if they were connected to an internal wired port.
- *Identity theft:* Once the network has been compromised, identity theft becomes a real problem. Hackers can masquerade as an authorized wireless device and download what is supposed to be secure data.
- *Denial-of-service (DoS) attacks:* Hackers can easily perform wireless DoS attacks, preventing devices from operating properly and disrupting critical operations.
- *Non-compliant APs:* Gartner Group recently wrote that a majority of all wireless security incidents happen as a result of misconfigured devices.

AirDefense is specifically tailored to block these threats, allowing the organization to enjoy the full benefit of wireless technology. Another unique aspect of AirDefense is that it is vendor neutral, with the ability to provide not only command and control features to Motorola's enterprise WLAN products, but also to its closest competitors.

Given the completeness of the solution, AirDefense attracted the interest of the Federal Aviation Administration (FAA) a few years ago when it sought to secure its local area networks. The FAA's networks are typically required to meet the highest levels of federal government security, so the fact that the AirDefense solution had obtained one of the most stringent certifications all but closed the deal. In so doing, the FAA joined many high-security government agencies, including the Department of Defense, Department of Homeland Security, and Department of Transportation, which were already relying on AirDefense.

Other agencies and departments in the government sector may be following. "Many government entities have failed to deploy wireless LAN to the same degree as enterprises," according to Frost & Sullivan. "By adding AirDefense's WIPDS product into Motorola's wireless LAN offering, Motorola will increase traction in this sector."

Another Motorola offering that is turning heads in the public sector is its new mobile-based voice over wireless LAN (VoWLAN) technology. Motorola has combined the devices that act as smartphones with a wireless services manager and a network services

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For decades, agencies and departments within the federal government have been overly reliant on wired communications networks. That dependence could change soon, however, if new technologies introduced by Motorola are approved for use by such entities. The most

powerful of these technologies may be Motorola's VoWLAN solution, called TEAM (Total Enterprise Access & Mobility). Fueled by two trends–the shift to all IP-based voice networks and the introduction of wireless local area networks based on the IEEE 802.11 WiFi standards–there is no longer any reason for federal employees to be constrained by the limits imposed by wired communications. They should be able to move about freely and collaborate on a moment's notice, yet still be available to citizens and co-workers. That time is now, thanks to TEAM.

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manager, giving users in the federal government mobile access to voice and data services while away from their desks. The solution is called TEAM, or Total Enterprise Access and Mobility.

"The TEAM solution is designed from the ground up to provide the voice quality, interoperability, mobility, scalability, and security that most end users require," said Imran Akbar, Motorola's Vice President and General Manager of Converged Enterprise Communications. "TEAM is a non-intrusive overlay and is easily deployed without changes to existing infrastructure."

It's that ease of use and interoperability that is sure to attract a following among governmental entities. The system can scale from a few users to thousands of users. The system is also designed to easily incorporate future features, such as VoWLAN and cellular, as well as the extension of services to other voice-capable Motorola devices, such as mobile computers and wireless barcode scanners.

Another benefit is that the TEAM VoWLAN solution is designed to address a typical government agency's IT requirements. Users and devices, for example, are authenticated on the WLAN network and by the TEAM solution, providing a high level of security for voice and data communications. The server-based architecture enables easy integration with a range of legacy TDM and SIP-based PBXs to leverage the existing infrastructure investments and delivers enterprise-level scalability, supporting up to 4,500 users per server. TEAM has expectedly drawn a lot of attention from impartial third parties. In fact, Government Computer News (GCN) recently honored TEAM as a winner at the annual FOSE 2009 conference and expo. GCN's editors and technology analysts chose the winners based on four criteria: innovation, usability and applicability to government, relative performance based on specifications, and overall value. Furthermore, this is a technological advancement whose time has come, according to a recent report from Frost & Sullivan that predicts that the North American market for enterprise VoWLAN devices will increase tenfold by 2014.

Motorola is also enhancing mobility in the federal government sector with its point-to-point wireless Ethernet bridges. The PTP 400 Series provides high-speed connectivity that helps to enable greater situational awareness, improved response, and seamless connectivity to critical voice, data, and video applications. These bridges help create, complement, and complete broadband coverage with high-performance networks that are secure, fast, scalable, and easy to deploy–allowing customers to improve decision making, transform operations, and increase efficiency.

Motorola's point-to-point system offers broadband wireless connections that maintain a connection across long-range paths and even over water. The cost-effective technology provides a highly reliable connection (35-43 Mbps) in high-interference areas. High-level encryption is employed, so security is not compromised, and the PTP solution meets high-bandwidth requirements even when space is limited.

Employed by the U.S. Coast Guard, the PTP 400 Series was chosen by Project Hawkeye, a sector that gives the Coast Guard the ability to identify and track vessels in harbor and coastal waters, giving watch officers the ability to make operational decisions based on real-time information. Project Hawkeye acts as eyes on the coast to prevent any threats by sea in support of the U.S. Department of Homeland Security. Motorola's PTP 400 Series was selected because the solution met all of the necessary requirements. It is also durable in seaport conditions and salt water.

"We were in need of a solution that could provide us with high bandwidth without compromising reliability," said Coast

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Motorola APX ™ P25 Multi-Band Radios

MOTOROLA TWO-IN-ONE RADIOS FOR ONE-OF-A-KIND INTEROPERABILITY

When every second counts, your military personnel must be able to communicate with other federal, state, and local agencies for rapid and effective joint responses. Motorola's APX™ multi-band radios deliver interoperability on demand with superior voice and data capabilities in an easy-to-use form factor for intuitive, mission-critical performance, especially in high-stress situations. And they are backwards compatible to most legacy systems and future ready for the next generation networks. It's just another way Motorola puts seamless mobility in the palm of your hand. HELLOMOTO™

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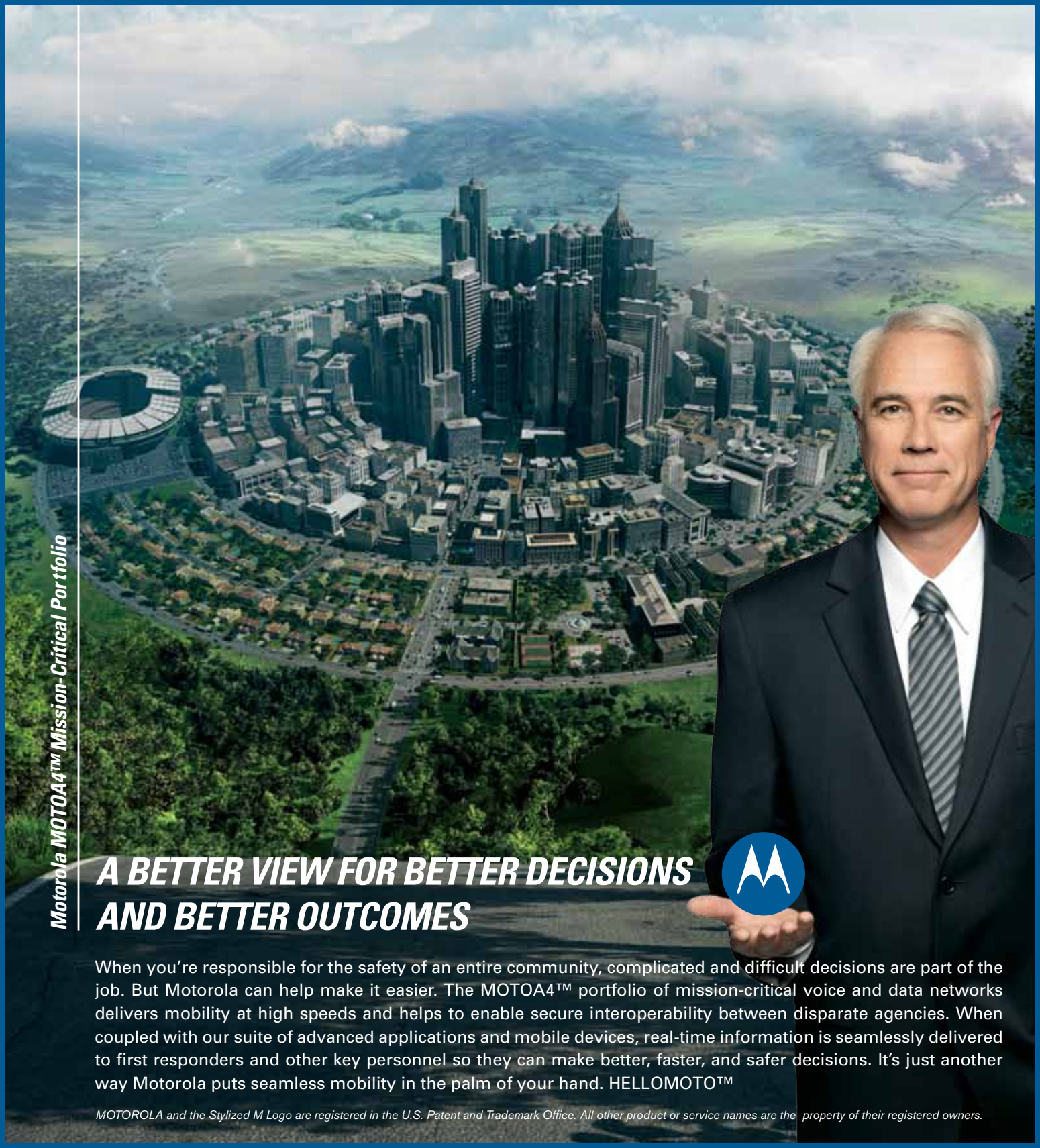

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Guard Lieutenant Rhett Rothberg. "For Hawkeye to be successful, our system needed to maintain maritime domain awareness at all times via real-time live data. We are now able to maintain a watchful eye on the Port of Miami because of the reliability and security Motorola's PTP 400 gives us, even in extremely high interference paths."

Wireless technology also provides immediate benefits to doctors and nurses in military and VA hospitals, as well as medics in combat conditions. And mobility can provide the tools required to deliver extraordinary patient care. For example, real-time access to electronic medical records provides crucial patient information, including medical history, blood type, and medication allergies. Access to online medical libraries and research centers enables better decision making, not to mention the ability to order tests, view the results, and then order medication in real time, which improves the speed of care.

Another example: laboratory technicians can print specimen labels right at the patient's bedside, ensuring that the right specimen is placed in the right container—and that the right patient receives the right diagnosis. For most medics in tactical medical forces on the battlefield, the ability to capture and transfer critical information at the point of injury better prepares future medical personnel for the patient's arrival.

Federal civil agencies can benefit from barcode scanning and Wi-Fi locationing as well. These technologies can enable the real-time tracking of everything from office supplies, parts, and tools to IT assets, evidence, documents, and critical files. Very little human intervention is required, which improves supply chain efficiency, prevents data loss, and enables cost-effective compliance with accounting laws. In addition, facilities and vehicle fleets require routine inspection, maintenance, and repair. On-time service is ensured by real-time access to electronic work orders, asset history, product manuals, and more, better protecting the life cycle of high-dollar vehicle fleets.

Furthermore, such facilities can be secured around the clock, since security personnel are able to scan an employee badge or capture a fingerprint to query databases to verify an identity in seconds. The result is the instant intelligence required to prevent the entry of unauthorized personnel into the country or a facility.

Third-party analysts, such as Gartner, have clearly identified Motorola as a market leader, even placing the company in the "Leaders" quadrant of its highly respected "Wireless LAN Infrastructure Magic Quadrant" report. Gartner "evaluates technology providers on the quality and efficacy of the processes, systems, methods, or procedures that enable IT provider performance to be competitive, efficient, and effective, and to positively affect revenue, retention, and reputation. Ultimately, technology providers are judged on their ability and success in capitalizing on their vision."

According to the report, "A vendor in the Leaders' quadrant will have demonstrated an ability to fulfill a broad variety of customer requirements, provide an end-to-end, infrastructure-based solution, and have financial viability to continue that support beyond a strong single installation. Leaders should have demonstrated an ability to shape the market, maintain strong relationships with their channels and customers, and have no obvious gaps within the portfolio."

Motorola was "excited" to elicit such praise. One Motorola executive noted that "Motorola believes this is a strong testament to our continued commitment to deliver a comprehensive, innovative portfolio of wireless LAN solutions that enable the all-wireless enterprise." ●

As anyone who has purchased a cell phone for personal use knows, the accessories are what make the wireless device reach its fullest potential, whether that accessory is a car charger, carry case, or headset. It is no different with one of Motorola's two-way radios. Motorola, a leader in the

federal government sector, offers an assortment of accessories that can satisfy virtually any need. One popular choice is the surveillance kit, which is in wide use across many federal government entities. A rapid-rate charger is another impactful accessory. Although Motorola IMPRES batteries are designed to stand up to demanding work environments, they will inevitably lose their power. Tri-chemistry chargers will charge the standard-capacity batteries in less than three hours, ensuring the power cells will be ready to go when needed.

Q&As:

GSA, Project 25, and Two-Way Radio Accessories

Question:
I have heard that the General Services Administration can be a big help when it comes to purchasing telecommunications equipment. What is the GSA? What can you tell me about the benefits of the GSA? What types of products are available?

Answer:
First, the basics. As the federal government's purchasing agent, the GSA connects federal purchasers with some of the most cost-effective and high-quality commercial products and services in the world. And it influences the management of $500 billion in federal assets.

This is accomplished by first building a relationship with a trusted source, like Motorola or a full-service wireless products and solutions dealer and integrator like BearCom. The government then negotiates a price with that source, which is essentially the guaranteed lowest price in the market.

The GSA is hardly a new program. It was established by President Harry Truman on July 1, 1949 to streamline the administrative work of the federal government. This new agency consolidated the National Archives Establishment, the Federal Works Agency and its Public Buildings Administration, the Bureau of Federal Supply and its Office of Contract Settlement, and the War Assets Administration into one federal agency.

The GSA's original mission was to dispose of war surplus goods, manage and store government records, handle emergency preparedness, and stockpile strategic supplies for wartime. It also regulated the sale of various office supplies to federal agencies.

The benefits to government buyers are many. They gain time because they are not using the regular request-for-proposal process, which greatly reduces the amount of paperwork. There also is a wide selection from which to choose. BearCom, for example, now offers more than 300 different Motorola products on its current GSA schedule.

John Czapko, BearCom's Vice President of Sales, told *Today's Wireless World* that it is a rigorous process to get on the GSA list, but well worth it, since more and more federal governmental entities are utilizing the service.

Question:
What is Project 25, and why should I care? If I need to convert, what manufacturer should I consider?

Answer:
Project 25 (P25) is a standard for the manufacture of interoperable, digital two-way wireless communications products. Developed in North America with the input of federal, state, and local entities, as well as the Telecommunications Industry Association (TIA), this standard is gaining worldwide acceptance, particularly in the government sector. The published P25 standards suite is administered by the TIA Mobile and Personal Private Radio Standards Committee. Radio equipment that demonstrates compliance with P25 is able to meet a set of minimum requirements to fit the needs of public safety. These include the ability to interoperate with other P25 equipment, so that users on different systems can talk via direct radio contact.

The Project 25 Technology Interest Group (PTIG) has suggested that P25 targets four primary objectives: "Allow effective, efficient, and reliable intra-agency and inter-agency communications . . . so organizations can easily implement interoperable and seamless joint communication in both routine and emergency circumstances; ensure competition in system life cycle procurements . . . so agencies can choose from multiple vendors and products, ultimately saving money and gaining the freedom to select from the widest range of equipment and features; provide user-friendly equipment . . . so users can take full advantage of their radios' lifesaving capabilities on the job—even under adverse conditions—with minimal training; (and) improve radio spectrum efficiency . . . so networks will have enough capacity to handle calls and allow room for growth, even in those areas where the spectrum is crowded and it is difficult for agencies to obtain licenses for additional two-way radio frequencies."

As far as why any federal government agency or department should care, the aforementioned PTIG says that "many organizations have mandated that new land mobile radio system purchases follow P25 standards."

Lorraine Lutz, the Federal Radio Solutions Channel Manager for Motorola, told *Today's Wireless World* that the P25 standard was developed to embrace new technology and the benefits that come with it. Interoperability is a big one. "If a customer buys a P25 system from a different manufacturer, a Motorola P25 two-way radio will perform correctly on the system," Lutz said. "Likewise, other manufacturers' radios will work on one of Motorola's ASTRO 25 systems."

It has been widely reported that Motorola has the best P25 solution with the most features and benefits. So it isn't surprising that the ASTRO 25 Phase 1 trunked systems have been a popular choice since they were introduced in 2001. In fact, ASTRO 25 is the most widely used P25 mission-critical voice and data communication system for public safety agencies, with more than 200 systems installed worldwide and about one million users. Clearly, Motorola has the edge as the

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next evolution of P25, the Phase 2 Standard, is introduced. Phase 2 will include TDMA (Time Division Multiple Access) technology to increase spectrum efficiency and voice capacity without added frequencies. ASTRO 25 software-defined G series site equipment and APX subscriber radios are Phase 2 TDMA ready. Motorola's Dynamic Dual Mode will allow agencies to dynamically operate on both Phase 1 and Phase 2 TDMA, providing the utmost in seamless interoperability and improved voice capacity.

As agencies work toward important interoperability goals, Motorola is designing the ASTRO 25 platform to support increasing levels of interoperability. Already, these networks provide services like mission-critical voice and data requirements for day-to-day and emergency response operations, uncompromising real-world performance and acclaimed Motorola reliability, and an evolutionary solution with practical innovations and performance-driven capabilities.

As one prominent federal agency recently told us, "We went straight to Motorola when the P25 standard was announced. The company not only sold us the products to meet the standard but has remained readily available to us. Motorola is a trusted partner."

Question:
Are there any specific accessories that I should be aware of for my two-way radios and other wireless devices?

Answer:
There certainly are, from batteries to microphones and surveillance kits to carry cases.

Among the most valuable accessories are the IMPRES two-way radio batteries and chargers from Motorola. As soon as a battery is inserted into an IMPRES charger, information is collected and shared with administrators to easily determine proper actions, such as ensuring all users have the appropriate capacity batteries based on their needs or proactively removing poorly performing batteries from the fleet. Data that has been gathered is then managed through pre-defined or customizable reports that provide key information to ensure users operate their batteries and chargers to maximum efficiency.

Nick Candotti, Director of Global Accessory and Energy Business, Motorola Enterprise Mobility Solutions, pointed out to *Today's Wireless World* that "managing the performance of the two-way radio batteries is an important part of ensuring optimal performance of the entire two-way radio system. When users begin their shifts, it is critical they understand the exact capacity of their radio batteries and whether to replace poor-performing batteries in advance to help ensure worker productivity, safety, and security."

With IMPRES Radio Fleet Management, system administrators are no longer guessing when batteries need to be replaced within their fleets, and that minimizes the amount of spare battery stock they need to keep on hand. Administrators can save significant time and money by utlizing a system like this that provides all key IMPRES battery and charger information in one central, easy-to-access location.

One user told us that IMPRES Radio Fleet Management allowed him "to quickly run reports and analyze data on IMPRES batteries and chargers we previously managed manually. Having this information at our fingertips allows us to automate our battery management, saves significant time, and ensures our firefighters have batteries that operate at maximum efficiency."

IMPRES Radio Fleet Management is ideal for mid-to-large sized organizations that have at least 100 IMPRES batteries in their fleets, such as federal government agencies and departments. IMPRES Radio Fleet Management is scalable from a single site to a multi-site networked system and supports up to 25,000 IMPRES batteries in the same location or over geographically dispersed areas.

Another powerful accessory is the IMPRES remote speaker-microphone. The technology behind this product allows the microphone to communicate identification information to the host radio, enabling the radio to optimize its audio level for the microphone. Included is a 3.5mm audio jack and emergency button for discreteness and communication flexibility.

In addition, Motorola offers IMPRES three-wire surveillance kits. This accessory is the most flexible and discreet communication option for surveillance activity. It includes one wire for receiving, one wire for the microphone, and one wire for push-to-talk functionality. Another important feature associated with the surveillance kits is that the technology provides for enhanced audio gain capability—a critical feature when whispering is required to remain discreet.

Given that the technology of today's Motorola radios is sure to be relevant for years, it is increasingly important to protect those devices from damage that can be caused by everyday use. This is where the latest in carry cases and holsters can make a difference. Designed to withstand harsh conditions, Motorola offers these options: a fixed belt loop or a quick-release swivel latch (for a secure fit in high-activity environments) and the universal carry holder (which includes a sturdy, hard plastic case with a belt clip designed to support the APX 7000 dual-display portable). The large display in this model remains protected by facing in on the belt.

Whether it be quality two-way radios or functional accessories, Motorola seems to really appreciate its customers in the federal government sector, delivering flexibility and compatibility to meet their specific needs. ●

"The BearCom staff was a joy to work with. They're all talented, dedicated, creative, and hard-working pros."

David Chagnon
Chief Technical Officer
VISN 16

SUCCESS STORY:

Implementing a P25 Two-Way Radio System for VISN 16 and 21

The Customer
VISN 16 and VISN 21 are only two of 21 VISNs (Veterans Integrated Service Networks), which are part of the VA (Department of Veterans Affairs) and VHA (Veterans Health Administration). Together, VISN 16 and 21 serve nearly two million veterans. VISN 16 covers 170,000 square miles from southern Missouri through Oklahoma, Texas, and all the way to Florida. VISN 21 serves parts of Nevada, California, and Hawaii and across the Pacific Ocean through the Pacific Islands (including Guam and American Samoa), as well as the Philippine Islands.

Although VISN 16 and 21 cover different geographical areas, they both have the same vision: to improve the health and functional status of veterans and to be widely recognized for excellence in patient care and superior customer satisfaction.

The Challenge
VISN 16 and 21 were faced with the difficult task of migrating their two-way radio systems to the congressionally mandated 12.5 kHz bandwidth (wideband to narrowband). David Chagnon, Chief Technical Officer for VISN 16, realized that he would need help to accomplish that task. After a competitive bidding process, Chagnon awarded the contract to several companies, including BearCom as the overall systems integrator and installer.

The Solution
BearCom worked closely with Chagnon and the other selected partners to tackle the project. BearCom took on most of the responsibility by taking charge of the equipment staging, installation, project management, and system implementation, such as testing and employee training. The architecture consisted of equipment from two two-way radio manufacturers, including Motorola. The solution included Motorola base stations that provided backbone connectivity to remote locations. These locations were connected via VISN's wide-area network (WAN) backbone to create a voted multicast/simulcast coverage area. All P25 voice was encrypted using AES standards, which provided secure communications for federal law enforcement officers. The wideband-to-narrowband transition included more than 70 transmitters, 8,000 pagers, 30 consoles, 30 mobile two-way radios, and almost 1,250 portable two-way radios. During the configuration and installation process, BearCom was able to solve a major problem with the project when the VA's outpatient clinic needed to be connected to the main VA hospital facilities. That solution involved utilizing IP connectivity for radio communications.

The Results
BearCom and the other project partners were able to help the VA meet the criteria for the narrowband operation on time and on budget. Today, both VISN 16 and 21 are P25 compliant and fully operational. Also, the VA plans to install its tenth radio paging system and continue its expansion to the P25 multicast and high-frequency two-way network, using BearCom as one of its preferred vendors. ●

Motorola P25 Two-Way Radio System

MOTOROLA P25 RADIOS CAN IMPROVE YOUR RESPONSE TO MISSION-CRITICAL SITUATIONS

Motorola's diverse portfolio of Project 25 portable and mobile two-way radio products for government and public safety allows users to focus on their demanding missions, not the technology. Every feature and function of these top-quality, time-proven devices is designed with users in mind–from the rugged, easy-to-operate designs to the loud, clear audio. All of this leads to better information and the ability to make better decisions in the field, which ultimately means a better outcome. It's just another way Motorola puts seamless mobility in the palm of your hand. HELLOMOTO™

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SOLUTION SPOTLIGHT:

Motorola Helps Facilitate Environmentally Conscious Departments and Agencies

Federal departments and agencies know all about leadership. As the "corporate" embodiment of the U.S. government, they are held up as examples by politicians and watchdog groups, making it all the more imperative that they are both cost-efficient and good "corporate" citizens. Today's wireless technology gives federal departments and agencies a chance to accomplish both objectives.

ABI, a research group that focuses on technology, recently undertook an exhaustive study of technology companies and how effectively they introduce environmentally conscious products and solutions to companies and agencies in both the private and public sector. The resulting report, "Green Wi-Fi, Data Centers, and Network Switches–Who are the Greenest Vendors?," provides a roadmap for accomplishing the aforementioned objectives.

One of the stops on that roadmap is Motorola, which was credited with having "the greenest Wi-Fi equipment." But what exactly does this mean? "Our WLAN equipment and other solutions take up less floor space, reduce power consumption, and are packaged efficiently. We also lead the industry in reduced disposal costs," said Steve Powell, Director of Federal Government Market Solutions at Motorola.

This is a relatively new concept in the marketplace, according to ABI research analysts Stan Schatt and Clint Wheelock. "Until recently, Wi-Fi equipment vendors had no 'green' marketing campaign because of the relative low power of their APs (access point)," the analysts wrote in their report. "That is changing, though, since centralized Wi-Fi networks place a premium on their controllers. These controllers differ significantly in their power consumption, depending on the WLAN equipment vendor's architecture. The growth of 802.11n means that centralized controllers require more capacity, which means higher power consumption. Most distributed architectures do not require as power hungry a controller. The market's embrace of 802.11n technology also impacts Wi-Fi APs because of PoE (power over Ethernet) requirements."

This is where Motorola comes in. "Motorola has the greenest Wi-Fi equipment," they continued. "While its controller does not have the lowest power consumption, its numerous green features more than compensate. The company coupled such features as a hybrid architecture, controller-less remote offices, load balancing of 802.11n power requirements, and built-in protection against obsolescence with a very strong internal green initiative that includes quantifiable carbon footprint goals."

Others have agreed with ABI, including the Cutter Consortium's Benchmark Review. Cutter used a survey to determine that European firms are ahead of their U.S. counterparts in "reducing their environmental footprint." But the gap is closing. "Key drivers fueling the transition to more environmentally friendly practices and products are: mounting consumer pressure, government regulation, and a growing recognition by companies that going green may just make good financial sense, resulting in significant cost savings in the long run."

Motorola is far from resting on its laurels when it comes to environmentally conscious products, whether it means making products rugged so they will last for many, many years or researching alternatives to the polyvinyl chloride (PVC) materials and brominated flame retardants (BFRs) that are currently being used in its products. "As a leader in this space, we take our responsibility very seriously," said Powell. "That means we not only offer products today that will make a difference for our client, but also products for the future." ●

TECHNOLOGY REVIEW:

Mobile Command Centers Bring Mobility to Federal Law Enforcement

It is a technological marvel, incorporating electronic equipment from the likes of Motorola, Firetide, Dell, Cisco, AgileMesh, Raytheon JPS, Panasonic, RGB Spectrum, Firecom, NEC, and Tyco. But more than that, BearCom's mobile command center (MCC) can be a modern-day lifesaver for federal law enforcement agencies.

Lt. Jeff Cotner of the Dallas Police Department recently said as much when he compared past technology-laden vehicles to the latest version. "Previous mobile command posts did not have wireless or satellite connectivity, radio interoperability, video conferencing, or the ability to receive varied video feeds," said Cotner. "Also, space limitations precluded cross-discipline on all hazards responses. The City needed a vehicle with multi-use rooms and the ability to stay on station for days, not hours."

The MCC, he said, has been used "primarily for SWAT callouts and planned special events, such as the White Rock Marathon or the Dallas Veterans Day Parade. The vehicle also has been used to support the Dallas PD dive team and various training exercises."

The typical configuration for the MCC is four to six workstations for real-time communications, a conference room for on-site meetings, a galley, and a lavatory. The exterior features a workstation that has access to a phone, radio, and audio/video equipment. A telescoping mast provides closed-circuit video to survey the incident and can include thermal imaging or infrared camera options. Local television and satellite "send and receive" capabilities are accessed via a satellite feed. ●

BearCom's new mobile command center (MCC) is a technology-laden vehicle that can provide federal law enforcement officials with an effective way to mitigate the damage of criminal and terrorist activity. Already deployed by the Dallas Police Department's SWAT team, the MCC gives officials much of the same technological capabilities they have at the central command facility.

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PRODUCT CATALOG:

Motorola Rolls Out New Technologies for Federal Government Customers

New wireless technology is making it easier than ever for agencies and departments within the federal government to do their jobs. The Motorola products on the pages that follow bear this out. One of the most compelling aspects of the products herein are that they have evolved from a long, rich history of product development at Motorola, an industry leader for more than 75 years.

Back then, the company was rolling out one of its first products, combining a receiver and transmitter into a single handheld unit, which became known as the Handie-Talkie. At the modest weight of 2.3 kilograms, the device also had a range of 1.6 to 4.8 kilometers. Motorola made 130,000 Handie-Talkies between 1941 and 1945. Toward the end of that product cycle, the company introduced a backpack model, the Walkie-Talkie, which heralded a new era in personal, portable communications and became a staple of the U.S. Army Signal Corps.

Given the success of the technology in the battlefield, by the way, the federal government began to rethink the idea of personal, non-licensed use of radio frequencies, leading to a wireless technology revolution.

At the forefront of this movement was Motorola, a position the company has not relinquished well into the 21st century. Its recent launch of two-way radio systems that are compliant with ASTRO 25 only serve to amplify this. Among them are the APX6000/7000 portables and APX6500/7500 mobiles. All of these radios are P25 “phase two” capable and designed to redefine safety for first responders in the federal government sector with best-in-class features, functionality, and design.

Another example of Motorola’s strong commitment to technology is the recent advancement in batteries. Such batteries are subjected to rigorous tests to ensure they will survive even the most extreme weather conditions. The company’s IMPRES technology even provides automated battery maintenance that optimizes the battery’s lifecycle and maximizes talk time. This means fewer battery replacements and greater cost savings over time.

Beyond batteries, there are other ways that Motorola’s two-way radios promote cost efficiency. First, there are no monthly service fees, meaning Motorola’s radios can save hundreds or even thousands of dollars over other portable communication equipment, such as cell phones. Second, the use of Motorola’s technology can reduce fuel expense. This is because dispatchers monitoring traffic conditions can communicate alternate routes to drivers or operators in the field where necessary.

Take a couple of recently introduced accessories that promote greater flexibility, efficiency, and worker safety: There’s the IMPRES visor microphone for Motorola devices, which clips onto the visor and allows hands-free operation, enhancing safety. This IMPRES technology also helps block out much of the vehicle noise, improving audio so transmissions get through clearly. Another is the keypad microphone, which allows radio users to send quick text messages back to dispatch, updating status of pickups and delivery, traffic congestion, etc.

All in all, as the products on the following pages demonstrate, Motorola is bent on making new history when it comes to wireless technology. ●

MOTOROLA
Authorized Two-Way Radio Dealer

A powerful combination of next-generation wireless technologies from Motorola is helping to transform federal government operations, beginning with the mission-critical core and expanding to broadband connections, rich-media applications, and collaborative devices. Motorola portable and mobile two-way radios allow government personnel to stay in contact and work toward a common goal of getting the job done–on time and on target. BearCom, with its 26 branch locations across the United States, is the largest Motorola radio dealer in the nation and is a proud supplier to our federal government.

Motorola APX7000 Portable

- Channels: 96-1,250
- Power: 1-3W (700/800 MHz), 1-6W (VHF), 1-5W (UHF)
- Dual-band capable
- Size, weight: 6.55”H x 2.98”W x 1.65”D, 18.4 oz.
- Included: battery, antenna, belt clip
- Extended warranty available

Motorola APX7500 Mobile

- Channels: 1,250
- Power: 10-35W (700/800 MHz), 25-110W (VHF)
- Dual-band capable
- Size, weight: 2.0”H x 7.0”W x 8.6”D, 7.0 lbs.
- Included: speaker, microphone, mounting bracket, power cable
- Extended warranty available

Motorola XTS4000 Portable

- Channels: 512
- Power: 2W (VHF), 2W (UHF)
- Size, weight: 5.77”H x 2.17”W x 1.12”D, 8.8 oz.
- Included: Li-Ion battery, antenna, belt clip, starter guide
- Extended warranty available

Motorola XTS1500 Portable

- Channels: 48-96
- Power: 1-3W (700/800 MHz), 1-5W (VHF), 1-5W (UHF)
- Size, weight: 10.86”H x 2.3”W x 1.5”D, 19.85 oz.
- Included: battery, antenna, belt clip, operating instruction manual
- Optional: intrinsically safe
- Extended warranty available

Motorola XTS2500 Portable

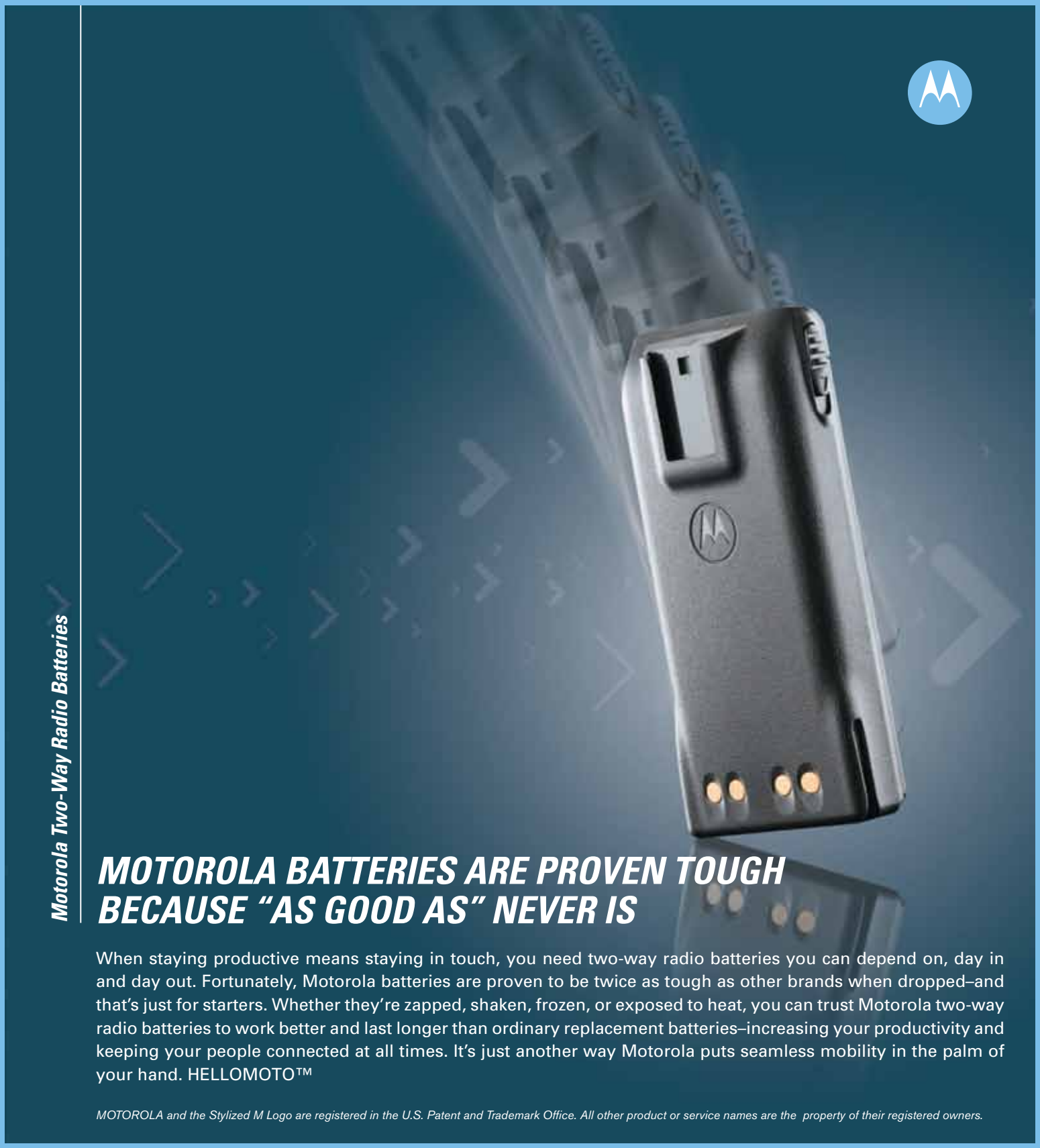
- Channels: 48-870
- Power: 1-3W (700/800 MHz), 1-5W (VHF), 1-5W (UHF)
- Size, weight: 10.86”H x 2.3”W x 1.5”D, 19.85 oz.
- Included: battery, antenna, belt clip, operating instruction manual
- Optional: intrinsically safe
- Extended warranty available

Motorola XTS5000 Portable

- Channels: 48-1,000
- Power: 1-3W (700/800 MHz), 1-6W (VHF), 1-5W (UHF)
- Size, weight: 12.72”H x 2.44”W x 1.83”D, 21.06 oz.
- Included: battery, antenna, belt clip, operating instruction manual
- Optional: intrinsically safe
- Extended warranty available

Motorola APX6000 Portable

- Channels: 96-870
- Power: 1-3W (700/800 MHz), 1-6W (VHF), 1-5W (UHF)
- Size, weight: 5.47”H x 2.96”W x 1.6”D, 12.2 oz.
- Included: battery, antenna, belt clip, operating instruction manual
- Extended warranty available



Motorola Two-Way Radio Batteries

MOTOROLA BATTERIES ARE PROVEN TOUGH BECAUSE "AS GOOD AS" NEVER IS

When staying productive means staying in touch, you need two-way radio batteries you can depend on, day in and day out. Fortunately, Motorola batteries are proven to be twice as tough as other brands when dropped–and that's just for starters. Whether they're zapped, shaken, frozen, or exposed to heat, you can trust Motorola two-way radio batteries to work better and last longer than ordinary replacement batteries–increasing your productivity and keeping your people connected at all times. It's just another way Motorola puts seamless mobility in the palm of your hand. HELLOMOTO™

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To learn more about how wireless solutions from Motorola and BearCom can help keep you communicating clearly, call BearCom at 866.742.9117 or visit www.BearCom.com/government.

BEARCOM®
Wireless Worldwide

Motorola XTL1500 Mobile

- Channels: 48
- Power: 10-50W (136-174 MHz), 10-40W (380-470 MHz), 10-45W (450-520 MHz), 10-35W (764-870 MHz)
- Size, weight: 2.6”H x 7.3”W x 9.8”D, 5.2 lbs.
- Included: speaker, microphone, mounting bracket, power cable
- Extended warranty available

Motorola XTL2500 Mobile

- Channels: 870
- Power: 10-50W (136-174 MHz), 10-40W (380-470 MHz), 10-45W (450-520 MHz), 10-35W (764-870 MHz), 25-110W (136-174 MHz), 25-110W (380-470 MHz)
- Size, weight: 2.35”H x 7.1”W x 9.1”D, 6.1lbs.
- Included: speaker, microphone, mounting bracket, power cable
- Extended warranty available

Motorola XTL5000 Mobile

- Channels: 1,000
- Power: 10-50W (136-174 MHz), 10-40W (380-470 MHz), 10-45W (450-520 MHz), 10-35W (764-870 MHz), 25-110W (136-174 MHz), 25-110W (380-470 MHz)
- Size, weight: 2.0”H x 7.1”W x 9.1”D, 6.1lbs.
- Included: speaker, microphone, mounting bracket, power cable
- Extended warranty available

Motorola APX6500 Mobile

- Channels: 870
- Power: 10-30W (700/800MHz)
- Size, weight: 2.0”H x 7.0”W x 9.6”D, 7 lbs.
- Included: speaker, microphone, mounting bracket, power cable
- Extended warranty available

Motorola Healthcare Solutions

EXCELLENT PATIENT CARE WITHOUT ANY BOUNDARIES

Motorola extends mobility to the point of care and beyond. Our suite of handheld wireless devices allows government healthcare personnel to share real-time information anywhere–inside or outside their facilities–to increase patient safety and provide more attentive care. These innovative devices also enable government healthcare organizations to surpass previous limits on operational excellence and regulatory compliance. That means your staff will be more productive and spend more time focusing on caring for their patients. It's just another way Motorola puts seamless mobility in the palm of your hand. HELLOMOTO™

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To learn more about how wireless solutions from Motorola and BearCom can help keep you communicating clearly, call BearCom at 866.742.9117 or visit www.BearCom.com/government.

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MOTOROLA
Authorized Two-Way Radio Dealer

Users in the federal government who need rugged wireless devices know that Motorola (formerly Symbol) mobile computers will fit the bill. These powerful devices offer a comprehensive range of capabilities, including integrated voice and data, allowing the capture and exchange of mission-critical information. A single technology platform enables centralized and remote management capabilities, which are needed to maximize user uptime. It also reduces the complexities and costs typically associated with the management of mobile computers. A wide variety of models are available, as are the associated applications.

Motorola MC75A Mobile Computer

- The only enterprise digital assistant to offer five keypads
- Motorola MAX Locate for more robust location-based applications
- Comprehensive centralized device management
- MAX Data Capture for maximum business functionality
- 3.5-inch color high-definition VGA display

Motorola MC9090-G Mobile Computer

- Handheld RFID reader for global deployments
- Forward scanning, pistol grip ergonomics
- API for Microsoft, Windows, CE.NET 4.2, and Windows Mobile 5.0 and 6.1
- Integrated 802.11a/b/g enables real-time data communications
- 3.5-inch color high-definition VGA display

Motorola ES400 Mobile Computer

- Motorola MAX FlexWAN is dual user selectable 3.5g broadband
- Best-in-class 3-inch color touch screen display
- Motorola MAX Locate for more robust location-based applications
- Compatibility with Motorola's Mobile Security Suite
- High-resolution 3.2 MP autofocus digital camera

MOTOROLA
Authorized Two-Way Radio Dealer

Barcode scanners from Motorola (formerly Symbol) are the foundation of many mobile operations, providing superior data capture performance and seamless integration with other networks and information systems. Government entities that operate in harsh, dirty, or extreme environments can benefit from these rugged handheld workhorses, which can be used for numerous applications, such as inventory control and management, tracking of medications, retail checkout, etc. Motorola barcode scanners offer advanced data formatting, a working distance from 4 inches to 45 feet, Bluetooth capabilities, and much more.

Motorola DS3578 Handheld Scanner

- Ability to read both 1D and 2D bar codes
- 524 MHz processor, fast sensor shutter speed and fast pulse illumination
- Cordless freedom improves productivity
- Omni-directional scanning with exceptional motion tolerance
- Supports RSM (remote scanner management), which reduces IT expenses

Motorola DS6707 Handheld Scanner

- Supports all major 1D, PDF, postal, 2D, and DPM symbologies
- Cordless freedom improves productivity
- Omni-directional scanning; wide working range, laser aiming pattern
- Supports RSM (remote scanner management), which reduces IT expenses
- Healthcare model available, which is disinfectant-ready

Motorola DS6708 Handheld Scanner

- Supports all major 1D, PDF, postal, 2D symbologies
- Supports RSM (remote scanner management), which reduces IT expenses
- Omni-directional scanning; wide working range, laser aiming pattern
- Cordless freedom improves productivity
- Embedded and server-based parsing agents for PDF-417 barcodes

MOTOROLA
Authorized Two-Way Radio Dealer

Combined with powerful software tools for wireless network design, best-of-breed security, management, and troubleshooting, Motorola's wireless network solutions deliver trusted networking and access to federal government entities all across the globe. Motorola's proven, end-to-end indoor solutions–including wireless local-area network (WLAN) and voice over wireless local-area network (VoWLAN)–work together to deliver reliable and secure access to information, right where and when it's needed most. Other applications include Internet access, voice over IP (VoIP), and security surveillance.

Motorola Wireless Switches/Access Points

- Wireless LAN switching and voice communications platform for medium to large enterprises
- Designed for fast installation using existing in-place CAT5/6 cabling
- Tri-radio 802.11a/b/g/n offers an unparalleled combination of features that re-define the standard for access points

Motorola TEAM VoWLAN Solution

- Enables a truly mobile office experience
- Easily integrates into existing IT infrastructure, including wireless LANs and PBXs
- Creates a single common platform for delivery of integrated voice and data services
- Provides workers with mobile access to six key voice and data business services

Motorola Wireless LAN with AirDefense

- Wireless infrastructure and intrusion protection and monitoring
- Most powerful vendor-agnostic system available
- Policy compliance monitoring, robust performance monitoring and troubleshooting, and location tracking
- Scalable for large organizations
- Provides comprehensive protection and operational support for all 802.11n networks

MOTOROLA
Authorized Two-Way Radio Dealer

Motorola's wireless outdoor broadband solutions help government professionals maximize their investments in network infrastructure and gain efficiencies with innovative wireless applications. Motorola's point-to-point, point-to-multipoint, and mesh networks enable a number of fixed and mobile wireless broadband solutions. Serving a wide range of licensed and unlicensed spectrums, these solutions are designed to provide high-speed access, voice, video, and data services. Now federal government entities can better maintain maximum performance and secure connections for high-bandwidth networks.

Motorola Point-to-Point/Point-to-Multipoint Bridges

- Point-to-multipoint solution offers licensed WiMAX interoperability and high-performance connectivity
- Motorola takes 802.11n technology outdoor with powerful mesh wide-area network solution
- Rapidly deploy data, voice, and video applications with low total cost of ownership
- Broad range of licensed and unlicensed spectrums
- Secure network makes maintenance of advanced networks inexpensive and seamless

Motorola Wide-Area Mesh Networks

- Robust mesh portfolio enables applications that generate revenue and improve public safety and city services
- Intelligent access point (IAP) provides wireless gateways
- Local network management of wireless routers and client devices
- Fixed reference point for position location services
- Mobility management

Applications for Motorola Devices

- E-citation
- Biometrics
- Patient triage
- Paper forms replacement
- Asset and evidence tracking

Warning: This Ad Contains Strong Language.

Throughout the federal government, BearCom has always had a **strong** reputation. We've been going **strong** for more than 29 years, but now we're sending an even **stronger** signal than before.

BearCom is fully committed to **strong** customer service, has **stronger** relationships with the leading manufacturers of wireless equipment, and has the **strongest** wireless product line in the world. If that weren't enough, we also have some of the **strongest** minds in the business, and our wireless experts number approximately 400 **strong**. Simply put, we're **strong** medicine for all your wireless communications needs.

We think we've made a compelling, **strong** statement with this ad, but if you're still not convinced, contact BearCom today. We'll show you firsthand how we can help you build a **stronger** foundation for your wireless communications system. And we promise not to mention the word **strong** when you call.

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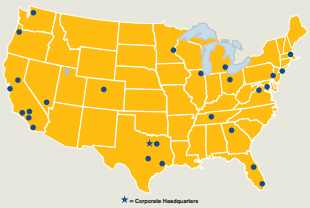

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