



MOTOROLA APPLICATION BRIEF

YOUR MISSION DEPENDS ON BEING WELL CONNECTED. WE'LL GET YOU ONLINE FAST.



POINT-TO-POINT DEPLOYABLE BROADBAND



“DROP-IN” COMMUNICATIONS VIRTUALLY ANYWHERE

The area is inhospitable, hot and dusty. There are no passable roads, no power and certainly no cell phone reception. Your first orders of business are to set up temporary shelter and get communications running. Your system should be online within the hour, putting you in direct communication with command.

The wireless system you’re depending on is our point-to-point deployable broadband system. With one radio mounted on your vehicle and the other installed at command, you can quickly align the radios and establish a communication link. Our radios are rugged and can operate reliably in hot and dusty terrain. So, the communication link is one less thing to worry about.

WE CAN GO WHERE YOU GO

For typical day-to-day operations, classically-deployed wireless communication networks serve your needs quite well. However, special situations can arise that require communications to be deployed immediately and in challenging environments. Such situations include:

- Emergencies and natural disasters
- Tactical military operations
- Drug enforcement and covert operations
- Special events such as New Year’s Eve celebrations, sporting events and presidential inaugurations

In these instances, reliable, real-time access to your back-office applications and wide-area communication networks can be crucial to public safety and national security. A deployable broadband system may be required for a week or two, as in the case of an inauguration, or may span several months or years, as in the case of the devastating Haiti earthquake in 2010.

Regardless of the amount of time it will be needed, the time available to deploy the system is always very short. At Motorola, we have configured and delivered many deployable broadband systems around the world for applications such as inaugurations, disaster response, tactical military operations and special operations. Many systems have been up and running in a matter of hours.

PTP 600 – Optimized for Deployable Communications

PTP 25600 – 2.5 GHz
(licensed for educational use)

PTP 45600 – 4.5 GHz
(licensed for U.S. Federal and NATO use)

PTP 48600 – 4.8 GHz
(licensed for U.S. Federal, NATO and public safety use)

PTP 49600 – 4.9 GHz
(licensed for public safety use)

PTP 54600 – 5.4 GHz (license exempt)

PTP 58600 – 5.8 GHz (license exempt)

PTP 59600 – 5.9 GHz (license exempt)

DEPENDABLE BROADBAND

Because most deployable communications are installed in less-than-ideal locations, a successful deployment has to operate reliably in harsh terrain, bad weather and extreme temperatures. Radios frequently have to contend with non-line-of-sight (NLOS), long-distance line-of-sight (LOS) and high interference environments and may need to communicate over water or desert terrain.

Operating at Ethernet data rates up to 300 Mbps, our PTP 600 Series Wireless Ethernet Bridges fulfill all these criteria. The systems are engineered to deliver carrier-grade, high-speed, secure connectivity and backhaul in virtually any environment. The ruggedized radios can withstand temperatures between -40° and 140° Fahrenheit and wind speeds up to 202 miles per hour. Whether in the heat and dust of the Sahara, the cold and ice of Antarctica or the salty sea air of the Atlantic, you can have confidence that your PTP 600 radios will perform where and when you need them.

PTP 600 radios with FIPS 140-2 Level 2 certification meet regulatory requirements for cryptographic algorithms, key security and tamper evidence.

Based on your specific requirements, you have the flexibility to choose the deployable broadband alternative that best fits your situation.

- **Ship and Deploy Radios:** With this approach, you simply order the number of PTP links needed. Then, working in cooperation with our partners, we can expedite shipment to accommodate your timetable. As soon as the links arrive, you can quickly configure the links for your requirements using our time-saving PTP LINKPlanner tool. The LINKPlanner's detailed performance report provides easy-to-follow deployment-assistance information to guide you through an easy, fast installation. You may even want to purchase one or more PTP links and have them on hand for operations such as special events, drug enforcement operations and undercover operations.
- **Pre-Configure and Pre-Mount Links:** With this approach, you can pre-configure pairs of radios to create communication links in locations where one or more radios cannot be deployed on a building or tower. If you have a standing data or command center, you can deploy a link, with one radio installed on a tower or rooftop and the other radio deployed on a stationary vehicle. However, in areas devastated by a major event, you may not have standing buildings or towers on which to install radios. Then, links can be formed between radios deployed on vehicles. Each link would be achieved by aligning a radio mounted on one vehicle with a partner-radio on a second vehicle. The vehicles can be virtually any type of land-based vehicles, including trucks, trailers and vans.

In such cases, each vehicle can serve as a mobile command center with computer equipment inside and one or more PTP radios installed outside on a vehicle-mounted mast. After driving the vehicles to the desired sites, you would park the vehicles, align each pair of radios and start communicating. Situations where this approach may be valuable include tactical military operations, forest fires and areas devastated by warfare or natural disaster.

TYPICAL USES

Deployable broadband solutions can be used for a wide variety of connectivity and backhaul requirements such as:

- **Rapid-Response Communications:** Restore communications between law enforcement agencies, fire stations and emergency medical services
- **Tactical Communications:** Provide reliable, secure communications from a forward operating base to command or from battalion to command
- **Video Backhaul:** Cost-effectively stream video from surveillance cameras to a dispatch or command center
- **Situational Awareness:** Supply always-on, real-time Internet and database access, streaming video and historical data to responders and field personnel
- **Intra-Agency and Inter-Agency Collaboration:** Enable high-speed, secure communications between teams within your agency as well as other agencies such as the U.S. National Guard and the Federal Emergency Management Agency (FEMA)
- **Network Redundancy:** Provide back-up communications during a temporary network shutdown or power outage
- **Event Communications:** Establish data, voice and video communications for crowd control and public safety during temporary events
- **Backbone:** Provide supplemental capacity for backbone operations or re-establish backbone communications during an emergency or disaster

ADVANTAGES

Our PTP 600 solutions utilize a unique combination of technologies that work together to deliver exceptional range, capacity, reliability and throughput in highly challenged path conditions. Those technologies provide you with a number of significant communication advantages, including:

- **Anywhere Communications:** You can establish communications wherever needed – in NLOS, long-distance LOS and high-interference environments as well as over water and desert terrain.
- **Licensed Performance for Federal, NATO and Public Safety Usage:** PTP 600 radios operate in the 4.5, 4.8 and 4.9 GHz licensed bands, allowing you to communicate without interference from users in the unlicensed bands.
- **High Spectral Efficiency:** PTP 600 systems can deliver high-throughput with minimal spectrum usage.
- **Collocate Radios:** In some situations, you may need to install multiple radios on a single rooftop or tower. Our PTP 600 radios let you synchronize transmit and receive signals to eliminate or greatly reduce the cross interference that typically occurs between collocated radios.
- **Robust, Multi-Level Security:** While our systems are engineered to be inherently secure, PTP 600 systems have added security capabilities and compliance certifications to protect your sensitive communications. Currently, PTP 600 systems support FIPS-197 128/256-bit Advanced Encryption Standard (AES) encryption, HTTPS/TLS, SNMPv3 and FIPS 140-2 Level 2.
- **Extremely Durable:** With more than 1.5 billion field hours logged and Mean Time Between Failures (MTBF) averaging 377 years, our radios are proven to withstand the rigors of outdoor use. The radio casings are Ingress Protection (IP) 66 rated for resistance to dust and water ingress. Certain PTP 600 radios are also ATEX (ATmospheres EXplosibles) and HAZLOC (Hazardous Locations) certified for operation in environments with a potentially explosive atmosphere.
- **“No Surprises” Link Planning:** Prior to purchase, our easy-to-use PTP LINKPlanner tool lets you accurately predict link performance based on geography, distance, antenna height and other factors specific to your deployment. LINKPlanner is available as a stand-alone tool or included in our One Point Wireless Suite.
- **Fast Deployment and Easy Operation:** One person can setup communications in a very short amount of time, and the intuitive graphical user interface simplifies operations.
- **Performance-Enhancing Tools:** The system provides industry-leading metrics to help you get the best possible performance out of your wireless network. Metrics include antenna alignment information, measurements of interference, throughput, signal level and signal quality, and troubleshooting diagnostics.

SUMMARY

Whether for crowd control, a wildfire or a stake-out, our PTP 600 deployable broadband systems can support you with reliable, high-capacity and secure communications. Your personnel can quickly setup and take down a system. Plus, you’ll be pleased with how affordable the system is, especially in today’s economic climate.

WIRELESS NETWORK SOLUTIONS

At Motorola, our unrivaled wireless network solutions include indoor WLAN, outdoor wireless mesh, point-to-multipoint and point-to-point networks as well as voice over WLAN systems, giving you the agility and seamless connectivity you need to better protect and serve the public. Combined with powerful software for wireless network design, security and management, our solutions deliver trusted networking and anywhere access to organizations worldwide.

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Motorola, Inc. 1303 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. www.motorola.com/ptp

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