



# SECURE P25 COMMUNICATIONS WITH ASTRO END-TO-END ENCRYPTION

Recent advances in technology make it easier than ever for organizations to share information. They also introduce new threat vectors that can enable attackers to gain access to sensitive data. As a result, law enforcement, military and other sensitive environments require high security standards.

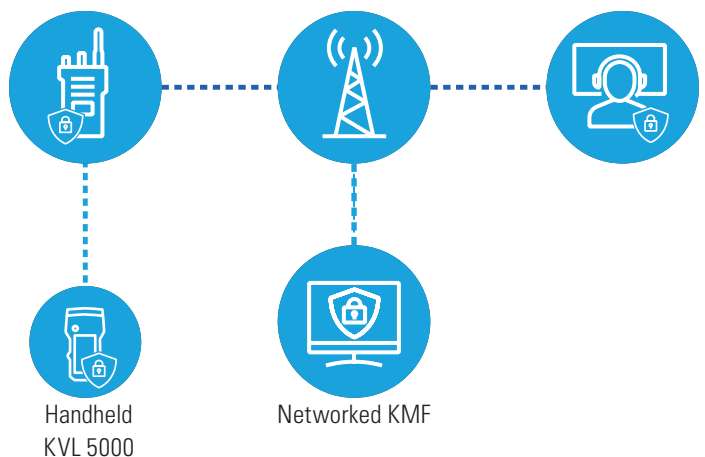
At Motorola Solutions, protecting your voice and data communications begins with safeguards built into our P25 radio systems that include the use of Advanced Encryption Standard (AES) and National Institute of Standards and Technology (NIST) framework.

## ASTRO P25 RADIO ENCRYPTION FEATURES

Equipped with AES-256 encryption and the Motorola Advanced Cryptographic Engine (MACE) chip, Motorola Solutions' APX radios protect your critical communication and the integrity of your operational. Validated at FIPS 140-3 Level 3, your voice and data communications are protected from misuse and illicit activity.

## ADVANCED KEY MANAGEMENT - KEY MANAGEMENT FACILITY (KMF)

Advanced Key Management is provided via a centralized and feature-rich platform for effectively managing secure interoperable communications across all of your devices. The KMF's web-based client improves key operations via the interactive and easy to use interface from virtually anywhere.

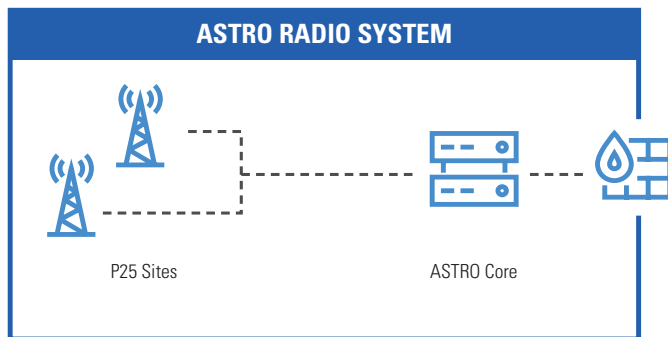


## ASTRO SYSTEM ENCRYPTION FEATURES

Ensuring the integrity of data within the network is of equal importance to the overall security of the ASTRO platform. To enable security at every step of the way we employ a variety of methods, including secure access controls, data traffic monitoring and encryption, based on the National Institute of Standards and Technology (NIST) framework and industry best practices.

**Service Access Architecture** provides secure remote access via WAN, VPN, dial-up or a remotely located LAN. For security purposes, authenticated access can be provided via two-factor authentication, hard tokens or soft tokens.

**Centralized Authentication/Event Logging** manages the unique identification of site administrative users and authenticates logins. Detection of suspicious events is recorded on a central server helping network technicians to promptly detect, diagnose, and respond to possible security breaches.



### TOUCHLESS KEY PROVISIONING (TKP)

This feature enables radios to receive encryption keys remotely. TKP is a one-time process used to deliver initial encryption keys to APX NEXT radios with the help of RadioCentral, KMF and Over-the-Air Rekeying (OTAR).

### HARDWARE SECURITY MODULE (HSM)

HSM offers optional encryption/decryption for ASTRO systems. This tamper-resistant encryption unit with integrated physical security is certified to FIPS 140-2 level 3 compliance, a very stringent standard for cryptographic modules.

### ENCRYPTED INTEGRATED DATA

We use Advanced Encryption Standard (AES) or Data Encryption Standard - Output Feedback (DES-OFB) encryption for conventional systems to protect inbound and outbound data traffic via CAI Data Encryption Module (CDEM) between the Packet Data Gateway (PDG) and the subscriber unit.

### INTRUSION DETECTION SYSTEM (IDS)

ASTRO network traffic is monitored via IDS for potential security threats using signature-based detection and anomaly-based detection. Both identification methods allow you to react quickly to cyber threats.

### SECURE SHELL PROTOCOLS (SSH)

SSH provides an encrypted point-to-point connection between two machines where both ends have been authenticated. SSH minimizes the potential for "man-in-the-middle" cyber attacks.

### ROUTER ENCRYPTION

Encryption at the router level protects in-transit information as it passes through untrusted zones. This includes Wide Area Network (WAN) links and DeMilitarized Zones (DMZ) between the radio network interface as well as the Customer Enterprise Network (CEN).



Learn more at: [https://www.motorolasolutions.com/en\\_us/products/p25-products/p25-story.html](https://www.motorolasolutions.com/en_us/products/p25-products/p25-story.html)



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