



# ASTRO SUBSCRIBER SOFTWARE CATALOG

This catalog provides a comprehensive overview of all available FLASHport software features for Motorola's P25 Subscribers including the XTS®, XTL™, and APX™ series radios. The matrix view shows which features are available by model, and the feature description section explains how each feature may be used. ASTRO Subscribers may be upgraded via FLASHport to work in new modes of operation, new encryption algorithms, enable data application capabilities and add additional capacity and intelligence to the radio to ultimately enhance first responder safety and operational efficiency.



# ASTRO SUBSCRIBER FEATURE DESCRIPTIONS

## INTEROPERABILITY

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### EXTEND COMMUNICATION AND COLLABORATION ACROSS INTEROPERABLE PROJECT 25 NETWORKS

#### **ANALOG SMARTNET/SMARTZONE TRUNKING**

Provides Type II Motorola Analog Trunking in 3600 baud. Designed to address the APCO-16 standard, Analog Smartnet/Smartzone trunking enables features like PTT ID, Emergency Calls, and Voice Encryption, among others.

**Portables:** Q443, Q326, Q327

**Mobiles:** Q443, G346, G347

#### **DIGITAL SMARTNET/SMARTZONE TRUNKING**

Provides Type II Motorola Digital Trunking in 3600 baud. Designed to address the APCO-16 standard, Digital Smartnet/Smartzone trunking enables features like Digital PTT ID, Emergency Calls, and Voice Encryption, among others.

**Portables:** Q575, QA02756

**Mobiles:** G50, G789, G346, G347, QA02756

#### **CONVENTIONAL VOTE SCAN**

Conventional Vote Scan allows the radio to scan up to 10 frequencies from multiple transmission towers and perform a voting process in order to select the strongest received signal. The feature is designed to provide wide area connectivity in areas where frequency spectrum is abundant, giving the user seamless coverage and enhanced access to critical communications.

**Portables:** Q387

**Mobiles:** G387

**Dependencies:** None

#### **3600/9600 INTEROPERABILITY**

This feature provides real-time interoperability between Type II Motorola Analog Trunking (3600 baud) systems and P25 Digital Trunked (9600 baud) systems. This allows mixed radio fleets the most flexibility while migrating from one to the other, while also providing the most interoperability for agencies serving cities, counties, or states that may be using both system types.

**Portables:** Q883 (XTS 2500 Only)

**Dependencies:** XTS 2500 radio with 9600 Baud P25 Trunking Q574

#### **SMARTZONE OMNILINK**

Smartzone Ominilink provides linkage for up to four multi-site Type II SmartZone systems together into one network, supporting up to 192 sites. This enables seamless roaming across very large wide area networks such as state-wide or national systems. This feature is automatically included with the purchase of 9600 Baud P25 Trunking operation.

**Portables:** Q173

**Mobiles:** G173

**Dependencies:** Subscriber must have SmartZone already.

#### **DIGITAL CAI**

Provides the ASTRO Digital Common-Air-Interface (CAI), based on the TIA-102 suite of standards, to a radio that may be operating in either analog conventional or analog smartnet/smartzone mode. This feature is required in order to achieve P25 Digital Conventional or P25 Trunked operation (FDMA or TDMA).

**Portables:** Q808

**Mobiles:** G808

#### **P25 DIGITAL CONVENTIONAL**

Provides P25 Talkaround (simplex or direct) and Repeater (half-duplex or indirect) operation that enables interoperable conventional digital coverage. P25 Conventional operation supports data features like Integrated Voice & Data (IV&D) that enables GPS, Text-messaging, and Over-the-air programming (OTAP).

**Portables:** Q811

**Mobiles:** Q811

### **P25 PHASE 1 FDMA DIGITAL TRUNKING**

Provides P25 Phase 1 FDMA digital trunking on narrow-band (12.5 kHz) channels with a control channel at 9600 baud, as described in the TIA-102 standard. Compliance to Project 25 standards for trunked voice systems enables seamless inter-agency communications and enhanced system capabilities such as Group Calls, Emergency Signaling, Private Calls, Call Alert, and more.

**Portables:** Q574, Q361, QA03161, QA02756

**Mobiles:** G361, G788, QA03161, QA02756

**Dependencies:** Radios must have Digital Smartzone and OmniLink. ASTRO25 7.7 or newer

### **DUAL BAND**

The Dual Band feature allows the APX 7000, APX 7000XE, and APX 7500 radios to access the secondary frequency band of the radio. With this feature, APX multiband radios have the ability to scan between different frequency bands, enabling seamless operations across completely disparate systems such as a 7/800MHz Trunked System and a VHF Conventional System. The secondary band can be 7/800MHz, VHF, UHF Range 1, or UHF Range 2.

**Portables:** QA00579

**Mobiles:** GA00579

**Dependencies:** APX radio must have been purchased as Dual-Band capable

### **ISSI 8000 AUTOMATIC ROAMING**

Provides seamless roaming across P25 Networks that have been mutually enabled with ISSI 8000. XTS, XTL, and APX subscribers roam from home network onto neighboring agency networks and can talk back to home dispatchers and users. The capabilities supported are Unit and Group Registration, Group Calls, PTT ID, Clear or Encrypted Audio, Emergency Alarm, and Emergency Call. This feature comes standard in all APX radios but must be purchased on XTS or XTL.

**Portables:** QA04444

**Mobiles:** GA04444

**Dependencies:** XTS, XTL, or APX with P25 TDMA or FDMA operation. ASTRO25 7.13 or newer.

## **TDMA**

### **DOUBLE YOUR CAPACITY WITHOUT ADDING NEW EQUIPMENT**

#### **P25 TDMA DIGITAL TRUNKING**

Provides P25 TDMA (2-slot on 12.5 kHz channel) digital voice trunking. With P25 TDMA, agencies can double their voice capacity within their fixed allocation of frequencies. Additional channel capacity can be used for achieving improved Grade of Service or integrating data applications such as GPS, OTAP, and Text messaging. P25 TDMA operation will meet the 2017 FCC regulatory requirement for 6.25e KHz operation in the 700 MHz band plans.

**Portables:** QA00580

**Mobiles:** GA00580

**Dependencies:** APX with P25 FDMA Digital Trunking. ASTRO25 7.11 or newer.





## SECURITY

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### PROTECT YOUR MISSION CRITICAL RADIOS FROM UNAUTHORIZED ACCESS OR MALICIOUS DISRUPTION WITH PROTECTIVE RADIO SOFTWARE FEATURES.

#### P25 RADIO AUTHENTICATION

The Radio Authentication solution provides an extra level of verification, every time a radio registers on the system. This enhances protection from cloned radios by requiring authentication before a radio can utilize the P25 System. Radios must be pre-provisioned with an authentication key via the KVL 4000 keyloader. This feature offers peace-of-mind to system administrators and maximum grade-of-service to end-users.

**Portables:** H345 for XTS and QA01767 for APX

**Mobiles:** W391 for XTL and GA01767 for APX

**Dependencies:** Radios with P25 Trunking on ASTRO 25 7.9 or newer

#### DES, DES-XL, DES-OFB

Data Encryption Standard (DES) provides 56-bit encryption for analog-only channels. DES-XL provides 56-bit encryption for analog and digital channels. DES-OFB provides 128-bit encryption for digital-only channels.

**Portables & Mobiles:** CA00840 (Hardware via UCM upgrade)

**Dependencies:** DES-OFB can run on P25 conventional channels, P25 trunked talk-groups, or Digital Smartnet / Smartzone talkgroups.

#### LEGACY SOFTWARE KEY

This option allows an APX radio to be programmed into any trunked system by loading either software or hardware system keys. This option provides the most flexibility for customers whose APX radios need to access various systems with different system key requirements. For example, a Motorola ASTRO25 system may require an Advanced System Key (hardware key), a Smartzone system may require a legacy software system key, and a non-Motorola P25 system may require a WACN Advanced System Key. This option would allow any combination by not restricting the radio to a hardware-based Advanced System Key only.

**Portables:** QA01749

**Dependencies:** APX with Type II, P25 Phase 1 FDMA or Phase 2 TDMA Digital Trunking

#### ADP

Advanced Digital Privacy (ADP) provides an affordable way to add software-based encryption to digital radio communications via a robust 40 bit algorithm. This is the ideal solution to protect police agencies from avoidable legal prosecution due to personal identity information transmitted over unsecure police channels, aiding criminals of identity theft. All APX radios automatically include a single key of Software ADP or Hardware ADP. Hardware ADP is used when operating in conjunction with another Hardware algorithm like AES or DES. Both versions of ADP must be purchased on the XTS and XTL radios.

**Portables:** Q667 (Software via FLASHport upgrade), CA00243 (Hardware via UCM upgrade)

**Mobiles:** G193 (Software via FLASHport upgrade), CA00243 (Hardware via UCM upgrade)

**Dependencies:** Software ADP can run on P25 conventional channels or P25 trunked talk-groups. Hardware ADP can run on P25 conventional channels, P25 trunked talk-groups, or Digital Smartnet / Smartzone talkgroups.

#### ADVANCED SYSTEM KEY (ASK HARDWARE DONGLE)

This option provides the most security for programming an APX radio onto a Motorola ASTRO25 system by requiring a hardware-based Advanced System Key to be present in the CPS upon programming. This restricts legacy software keys from being used to program any system on the radio. When the radio is ordered with this option the customer must provide a System ID that will be set in the radio and is known as the Owner System ID. For flexibility purposes, the Owner System ID ASK can be used to disable the hardware restriction, thereby supporting legacy software keys. Hardware-based Advanced System Keys are more secure since they cannot be electronically shared, they cannot be copied due to unique serial numbers, they can be set to expire, and they can be setup limits and ranges for some system fields like Unit and Talkgroup IDs.

**Portables:** QA01648

**Dependencies:** APX with P25 Phase 1 FDMA or Phase 2 TDMA Digital Trunking

## **AES**

Advanced Encryption Standard (AES) was adopted by APCO as the P25 encryption standard in 2002. AES offers 256-bit encryption and is defined in Federal Information Processing Standard 197 (FIPS-197). AES is currently the recommended and most robust type of digital encryption.

**Portables & Mobiles:** CA00182 (Hardware via UCM upgrade)

**Dependencies:** AES can run on P25 conventional systems, P25 trunked systems, or Digital Smartnet / Smartzone talkgroups.

## **MULTIKEY**

Multikey allows multiple encryption keys and multiple encryption algorithms to be loaded into a radio. These keys could be for different types of encryption algorithms or different keys associated with different talk-groups, personalities, or channels. Using multiple keys increases the security level of the system, making it more difficult to eavesdrop, intercept, or hack communications.

**Portables:** H869

**Mobiles:** W969

**Dependencies:** None.

## **WACN ADVANCED SYSTEM KEY (WACN ASK HARDWARE DONGLE)**

This option provides the most security for programming an APX radio onto a non-Motorola P25 system by requiring a hardware-based WACN Advanced System Key to be present in the CPS upon programming. This restricts legacy software keys from being used in this radio for other systems. When the radio is ordered with this option the customer must provide a WACN System ID that will be set in the radio and is known as the Owner System ID. For flexibility purposes, the Owner System ID ASK can be used to disable the hardware restriction, thereby supporting legacy software keys. Hardware-based Advanced System Keys are more secure since they cannot be electronically shared, they cannot be copied due to unique serial numbers, they can be set to expire, and they can be setup limits and ranges for some system fields like Unit and Talkgroup IDs.

**Portables:** QA02018

**Dependencies:** APX with P25 Phase 1 FDMA or Phase 2 TDMA Digital Trunking

## **P25 SYSTEM OTAR**

OTAR provides encrypted systems with the ability to quickly deliver new encryption keys to secure radios over-the-air via a radio channel from a centralized key management server using a P25 standards-based interoperable solution. This allows system security administrators to efficiently and securely redistribute encryption keys on systems with highly sensitive voice and data communications, making it more difficult to eavesdrop, intercept, or hack communications. The P25 System OTAR feature requires a KVL4000 key loader to deliver encryption keys to the radios and a central Key Management Facility (KMF). Tactical OTAR is included with the purchase of this feature.

**Portables:** Q498

**Mobiles:** G298

**Dependencies:** Radios must be operating in a P25 trunked system.

## **CONVENTIONAL TACTICAL REKEY (TACTICAL OTAR)**

Conventional Tactical Rekey (or Tactical OTAR) loads encryption keys into radios over the air on a digital talk-around (simplex) channel using a KVL4000 key loader. The key loader must be connected to a gateway radio via an RS232 cable. For smaller fleets, this feature allows administrators to efficiently and securely redistribute encryption keys in order to better protect the integrity of the system. Multikey is included with the purchase of this feature.

**Portables & Mobiles:** H04

**Dependencies:** Radios must have Radio Packet Data enabled on the digital channel.

## **3 DAY KEY RETENTION**

When using hardware encryption, Infinite Key Retention enables the radio to permanently store encryption keys, even when the radio's battery is removed or when the radio is reprogrammed. When disabled, all encryption keys are erased within 30 seconds whenever the radio's battery is removed or when the radio is reprogrammed. Optionally, users may extend the 30 second window by purchasing a 3-Day Key Retention mechanism that adds a 1GB flash memory card to the radio for temporary security storage.

**Mobiles:** GA00227

**Dependencies:** Supported on the APX 6500 and APX 7500 P25 mobile radios.

## OPERATIONAL ASSURANCE

### MAXIMIZE YOUR OPERATIONAL READINESS AND SAFETY WITH CRITICAL ASSET VISIBILITY AND CONTROL

#### MAN-DOWN

The Man-Down feature allows the APX portable radios to automatically send an Emergency Alarm or Emergency Call when the radio is motionless and horizontal. This feature is ideal for any lone-worker situation such as Police officers, Fire rescue personnel, Corrections officers, petro-chemical industry workers, military personnel, and utility workers. For the safety and security of Man-Down users, the feature will alert the on-scene supervisor or dispatcher of an emergency event. If a user has become incapacitated, experiences a fall, or is lying down and motionless, an automatic Man-Down alarm will be sent out on the programmed talk group.

**Portables:** QA01843

**Dependencies:** None

#### ONE TOUCH STATUS MESSAGING

One Touch Status Messaging allows the user to immediately transmit a pre-programmed Status, Message, Radio ID, Enhanced Private Conversation™, or Telephone Interconnect message on the selected channel with the touch of one button. This reduces the time it takes to complete these radio functions so that the user can focus on the task at hand.

**Portables:** H46

**Mobiles:** G683

**Dependencies:** None

#### APX 6000/6500 ENHANCEMENT LEVEL 2

The Level 2 feature enhances APX 6000 and APX 6500 radios from 75 to 125 zones, from 1000 to 2000 channels, 50 to 75 systems, from 1500 to 2,500 contacts, from 1000 to 2000 voice announcements, and from 64 to 128 encryption keys. This enables the radio to grow in capability as the customer's requirements grow in complexity with more users, sites, usability, and security measures.

**Portables:** QA01771

**Mobiles:** GA01771

**Dependencies:** None

#### DIGITAL TONE SIGNALING

Reduce response time to an incident by instantly alerting large groups of on-duty and off-duty responders over their APX radio.

- Commonly used in Fire Rescue to alert first responders to an incident by broadcasting a series of distinct, recognizable tones followed by a voice transmission from dispatch.
- This allows an entire fire department to be simultaneously alerted to an emergency situation, as opposed to unit to unit dispatch (Call Alert) which takes longer.
- It allows the responder to keep their radios in a quiet/silent mode until a critical alarm is raised.
- This feature works on P25 Conventional or Trunked systems, providing digital quick call II operation that is identical in operation as the legacy analog version.
- By 7.15.5, the feature will support encode from an APX portable or mobile with a DTMF keypad.

**Portables:** QA09000

**Mobiles:** QA09000

**Dependencies:** P25 operation (Digital CAI)

#### APX 4000/4500 ENHANCEMENT LEVEL 1

The Level 1 feature enhances APX 4000 and APX 4500 radios from 50 to 75 zones, from 512 to 1000 channels, from 35 to 50 systems, from 1000 to 1,500 contacts, from 500 to 1000 voice announcements, and from 48 to 64 encryption keys. This enables the radio to grow in capability as the customer's requirements grow in complexity with more users, sites, usability and security measures.

**Portables:** QA01770

**Mobiles:** GA01770

**Dependencies:** None

### **EXTREME 1-SIDED NOISE REDUCTION**

Extreme 1-Sided Noise Reduction was created for extremely loud environments. In this mode, the secondary microphone on the Display/Belt-clip side of APX portable radios is used as the primary noise cancelling microphone. This feature is most effective for first responders who want the confidence and security to be heard in deafening environments created by Pass Alarms, Chains Saws, or Sirens.

**Portables:** QA01833

**Dependencies:** None

### **DVRS PORTABLE ACTIVATION**

DVRS Enhanced PSU Activation allows an APX portable or mobile radio acting as a Portable Subscriber Unit (PSU) in a Digital Vehicular Repeater System (DVRS) environment to be used in areas where only Mobile Subscriber Unit (MSU) coverage is available and PSU coverage is either intermittent or non-existent. The PSU Activation provides access to a suite of system features that would otherwise not be available in DVRS mode. Some examples are PSU Registration/Deregistration, AES/DES Encryption, Private Call, Call Alert / Page, Failsafe / Out of Range / Site Trunking Indicator, single-unit OTAR, Phone Interconnect, Dynamic Regrouping, single-unit GPS, Remote DVR Activation, and Phase 2 TDMA operation.

**APX Portables & Mobiles:** QA00631

**Dependencies:** APX with P25 Phase 1 or Phase 2 operation

### **DVRS MOBILE ACTIVATION**

DVRS Enhanced MSU Activation allows an APX mobile radio acting as a Mobile Subscriber Unit (MSU) in a Digital Vehicular Repeater System (DVRS) environment to extend the system coverage to surrounding Portable Subscriber Unit (PSU) units. The MSU can be used in Local mode when only portable to portable communications are required, or it can be used in System mode which will enable full DVRS repeat locally and back into the system.

**APX Mobiles:** GA00631

**Dependencies:** APX Mobile with P25 Phase 1 or Phase 2 operation

### **APX SITE SELECTABLE ALERTS**

Ensure the safety of responders on scene by instantly alerting them of critical situations.

Alert all APX radio users at a site, notifying the users when there is a special or hazardous situation such as an evacuation from a burning building that's about to collapse or mine that is about to be blasted.

**Portables:** QA00982

**Mobiles:** QA00982

**Dependencies:** None

### **APX PERSONNEL ACCOUNTABILITY**

Personnel Accountability provides visibility to the Incident Commander via electronic & automatic identification of on-scene personnel via portable radios. This NIMS-compliant provides automatic user/company registration with PTT ID and Alias, Emergency Alarm indication, channel-left indication, low battery indication, power down indication, Roll Call, Evacuation Tones, Manual and automatic polling.

**Portables:** Q445

**Mobiles:** G319 used for APX Mobile in RF Modem mode

**Dependencies:** APX Mobile in RF Modem mode must have Radio Packet Data (W947)

### **RADIO TRACE / REMOTE MONITOR**

Radio Trace allows a radio to automatically key-up on a time-interval, making it easier to find a lost or stolen radio on a Type II Motorola Analog Trunking (3600 baud) system. This feature can help track down a dropped radio covered by debris on a fireground scene.

Remote Monitor allows the dispatcher to remotely activate a radio's microphone, letting the dispatcher hear any audio the microphone picks up. This feature can help a dispatcher discreetly monitor and support a potentially dangerous situation after an officer has initiated a silent emergency alarm.

**Portables:** H43

**Mobiles:** G170

**Dependencies:** XTS, XTL, or APX with Smartnet/Smartzone operation or P25 Trunking operation on Motorola Type II 4.1 System or ASTRO25 7.4 or newer

### **LEX COLLABORATION**

Use the LEX L10 to remotely manage the APX portable radio over Mission Critical Wireless Bluetooth. Control the zone, channel, volume. Monitor the signal strength and battery life. Activate the emergency.

- Discretely access & control nearby APX radios during covert operations or surveillance missions by using the LEX L10 mission critical LTE handheld.
- Easily navigate and control the APX radio without having to remove it from the holster.

**Portables:** QA03176

**Dependencies:** APX portable with Mission Critical Wireless Bluetooth and LEX L10 LTE Mission Critical Handheld

### **FRONT PANEL PROGRAMMING (FPP) & CLONE**

Front Panel Programming (FPP) & Clone allows users to change the radio parameters (channels/ zones) via the front panel controls of the radio without requiring a laptop or CPS radio configuration software. Users will also have the ability to clone the radio zone and channel information for one or more zones by copying zone and channel information from one radio to another. This feature is ideal for Wild-Land Fire, or Urban Search & Rescue operations, during large-scale disasters that require disparate agencies to communicate quickly and effectively.

**Portables:** Q53

**Dependencies:** Portable with Full Keypad and FPP Hardware Dongle NNTN7526A

### **GEO SELECT**

Ensure fast communication and collaboration across all responders arriving on a scene. Geo Select automatically changes the active talkgroup based on the radio's GPS location and the agency-designed geo-fence. For example, an incident commander can create a geo-fence around the 3-block radius of a burning building so that all arriving firefighters automatically go to the right talk-group.

**Portables:** QA04447

**Mobiles:** QA04447

**Dependencies:** APX Enabled with APX Geofence (QA04447); GPS Activation (QA00782/GA00229); ASTRO 25 IV&D (Q947/W947) For better performance on location reporting, recommend using Enhanced Data (QA003399). **Also requires:** ASTRO 25 Trunking IV&D with Enhanced Data A7.15 or later; CADI Interface; UNS version 4.0 or later; MotoMapping version 4.0 or later.

### **PTT ID DISPLAY**

PTT ID Display provides identification during radio communication so that dispatchers and radio users can see who the active talker on the channel is. Seeing and logging the ID of the talker can help radio administrators hold users accountable for their usage of system resources. This feature is automatically included in all APX radios.

**Portables:** H14

**Mobiles:** G114

**Dependencies:** None.

### **XTL 1500 SOFTWARE ENHANCEMENT PACKAGE**

This feature enhances the XTL1500 radio with a channel increase to 512, ADP encryption, Radio Packet Data, 16 Trunked Systems, 16 trunked personalities, 20 call lists, 25 call list members, and 20 scan lists. This enhancement protects the investment of the XTL1500, making it fully capable of supporting encryption, data applications, and larger fleet requirements as needed.

**Mobiles:** G871

**Dependencies:** None

### **TACTICAL RADIO STUN/KILL**

Tactical Radio Stun/Kill allows a radio administrator to remotely disable a potentially compromised radio via a talkaround (simplex) channel. This provides a reactive security tactic against cloned or stolen radios attempting to eavesdrop or interrupt critical communications.

**Portables:** H02

**Dependencies:** None

### **ENHANCED ZONE BANK**

The Enhanced Zone Bank feature allows the APX Model 1.5 portable radios to increase capacity from 96 to 1,200 channels by increasing the number of zone banks from 2 to 75. This feature ensures complete interoperability for chiefs or administrators who need to communicate with more users and agencies from the simplified user interface of a Model 1.5 form-factor.

**Portables:** QA01768

**Dependencies:** None



## DATA

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### EASILY AUGMENT YOUR MISSION CRITICAL VOICE COMMUNICATIONS TO ENABLE DATA FOR A SAFER, QUICKER AND MORE EFFECTIVE RESPONSE.

#### ASTRO 25 INTEGRATED VOICE & DATA (RADIO PACKET DATA)

Integrated Voice & Data (IV&D) allows the radios to support transmission and reception of data via an ASTRO 25 Integrated Voice & Data (IV&D) channel. This data capability enables features and applications such as POP25, GPS, Text Messaging, and Tactical OTAR. While data applications can enable significant safety and efficiency enhancements, Motorola has implemented the IV&D feature set so that voice always takes priority and can even interrupt data transmissions as needed. This ensures the added benefit of advanced data features without compromising on mission-critical voice communications..

**Portables:** Q947

**Mobiles:** W947

**Dependencies:** Radios must be operating on a P25 conventional or trunked system.

#### ENHANCED DATA - NON GPS LOCATION

Enhanced Data offers 12x greater throughput of Supervisory Control and Data Acquisition (SCADA), machine telemetry and/or personnel biometrics. These signals are sent from radios into the system at a faster rate providing higher resolution and real-time status of electronic sensors, crash notifications, maintenance needs, vehicle speeds, environmental conditions and weather updates among others.

**Portables/Mobiles:** QA03399

**Dependencies:** Radios must be operating on a P25 trunked system and have Radio Packet Data IV&D (Q947/W947)

**Enhanced Data with GPS location requires radio to be enabled with:** Radio Packet Data IV&D (Q947/W947); Enhanced Data (QA03399); APX GPS activation (QA00782/GA00229)

#### MISSION CRITICAL WIRELESS BLUETOOTH

Mission Critical Wireless Bluetooth allows radios to securely connect to Motorola Bluetooth accessories via simplified touch-and-go pairing. Motorola created an enhanced Bluetooth wireless solution to address security and usability concerns with off-the-shelf consumer Bluetooth accessories. This solution is designed with unique secure pairing that meets the needs of public safety users. In addition to voice, the Bluetooth feature also enables data connectivity with sensors that first responders may use to enhance the overall safety of the mission.

**Portables:** QA00583

**Dependencies:** APX7000 radios that shipped before August 2012, will not have the Bluetooth option board unless it was a specified option. Since August 2012, all APX portables that support the MCW BT feature will have the option board. To upgrade an older APX7000 with the option board, it must be sent to the depot. Please contact Motorola for more information.

#### PROGRAMMING OVER P25 (POP25)

POP25 provides remote radio configuration over-the-air via the ASTRO 25 Integrated Voice & Data (IV&D) system. This feature enables system administrators to securely update the radio remotely over the coverage area. Updates can be batched for multiple radios and only update those features needed and not the entire code plug in order to save time. This can help reduce costs and enhance efficiency during routine or critical radio configuration updates by avoiding the down-time associated with pulling radios from the field and delivering them to the radio shop for service.

**Portables & Mobiles:** G996

**Dependencies:** Radios must be operating on a P25 conventional or trunked system and have Radio Packet Data.

### **ENHANCED DATA WITH GPS LOCATION (APX GPS ACTIVATION)**

GPS enables the radio to send outdoor location information to dispatch operators so they may see the radio user's coordinates, direction, and speed. GPS information can be sent by the radio on a time-based or distance-based interval, requested on-demand by dispatchers, or sent real-time as a result of an emergency alarm or Man-Down situation. This feature can help dispatchers locate the nearest available resource that can provide back-up as quickly as possible. This feature also allows the radio user to see the current latitude, longitude, and UTC timestamp which may be helpful for ad hoc landing zones or to call in support at a specific location. This feature is only supported on APX radios because they include the GPS hardware.

**Portables:** QA00782

**Mobiles:** GA00229

**Dependencies:** APX radios with Radio Packet Data.

### **LTE DATA ON APX 7000L PORTABLE**

Enhance the efficiency of your APX 7000L radio fleet management and data applications by harnessing hi-speed LTE.

- Increase the speed of data communications to and from the radio by using Verizon 4G LTE or FirstNet Band 14 Public Safety LTE.
- Use LTE to deliver codeplug updates, firmware, text messages, GPS location updates, and more.

#### **Dependencies**

**Portable:** APX 7000L (QA03344AA)

APX 7000L with BC13 (QA03620) or BC14 (QA03621) LTE data capability

### **WIFI ON APX 8000**

Manage the APX 8000 fleet more efficiently by eliminating the down-time associated with driving the radio to the shop or driving the technician to the radio user in the field.

- Quickly update codeplug, firmware and FLASHport features using the hi-speed of WiFi 802.11n with WEP, WPA and WPA-2 security.
- Use APX Radio Management to automatically download update to radio as soon as it connects to a pre-provisioned WiFi access point or mobile hot spot.
- Maintain radio communications while APX 8000 is being updated via WiFi

#### **Dependencies**

**Portable:** APX 8000 (QA09001)

**PORTABLES**

SOFTWARE FEATURES	OPTION	XTS 1500	XTS 2500	XTS 5000	APX 1000	APX 4000	APX 6000Li	APX 6000/XE	APX 7000/XE	APX 7000L	APX 8000
<b>INTEROPERABILITY</b>											
Digital CAI/P25 Conventional	Q808/Q811	A	A	A	A	A	A	A	A	A	A
Conventional Vote Scan	Q387	U	A	A	A	A	A	A	A	A	A
P25 Digital 9600 Baud Trunking	Q574/Q361 QA03161/QA02756	A	A	A	A	A	A	A	A	A	A
Digital 3600 Trunking (SN / SZ)	Q575/QA02756	A	A	A	U	A	A	A	A	A	A*
Analog 3600 Trunking (SN / SZ)	Q443	A*	A	A*	U	A	A	A*	A*	A	A*
Smartnet Trunking (SN)	Q326	A*	A*	A	U	A*	A*	A*	A	A	A
Smartzone Trunking (SZ)	Q327	A*	A*	A	U	A*	A*	A	A	A	A
Smartzone Omnilink	Q173	A*	A*	A	U	A*	A*	A	A	A	A*
3600/9600 Interoperability	Q883	U	A	A*	U	U	U	A*	A*	A	A*
Dual Band	QA00579	U	U	U	U	U	U	U	A	A	S
P25 TDMA	QA00580	U	U	U	A	A	A	A	A	A	A
ISSI 8000 Automatic Roaming	QA369	A	A	A	S	S	S	S	S	S	S
<b>SECURITY</b>											
ADP Software - 40 Bit	Q667	A	A	A	S	S	S	S	S	S	S
ADP for UCM Hardware - 40 Bit	CA00243	U	A	A	U	S	S	S	S	S	S
Multikey	H869	U	A	A	A	A	A	A	A	A	A
Conventional Tactical Rekey	H04	U	A	A	U	A	A	A	A	A	A
P25 System OTAR	Q498	U	U	A	U	U	U	A	A	A	A
DES, DES-XL, DES-OFB	CA00840	U	A	A	U	U	A	A	A	A	A
DVP-XL	CA00146	U	A	A	U	U	U	A	A	A	A
DVI-XL	CA00145	U	A	A	U	U	U	U	U	A	A
AES - 256 Bit	CA00182	U	A	A	U	A	A	A	A	A	A
Radio Authentication	H345/QA01767	U	A	A	U	A	A	A	A	A	A
<b>OPERATIONAL ASSURANCE</b>											
Radio Trace/Remote Monitor	H43	U	A	A	A	A	A	A	S	S	S
Personnel Accountability	Q445	A	S	S	S	S	S	S	S	S	A
One Touch Button	H46	U	A	A	A	A	A	A	S	S	S
DVRS PSU Activation	QA00631	U	U	U	U	A	A	A	A	A	A
PTT ID Display	H14	A*	A*	A	S	S	S	S	S	S	S
Extreme 1-Sided Noise Reduction	QA01833	U	U	U	A	A	A	A	A	A	A
Man-Down Sensor	QA01843	U	U	U	U	A	A	A	A	A	A
Channel Announcement	Q446	A	S	S	S	S	S	S	S	S	S
Tactical Stun/Kill	H02	U	A	A	U	U	U	A	A	A	A
Digital Tone Signaling	QA09000	U	U	U	A	A	A	A	A	A	A
Site-Selectable Alerts	QA09000	U	U	U	A	A	A	A	A	A	A
Front Panel Programming	Q53	U	A	A	U	A	A	A	A	A	A
Reband Upgrade	QA00281/QA00276	A	A	U	U	U	U	U	U	U	U
Software Refresh	Q880/QA02912	A	A	A	A	A	A	A	A	A	A
Enhancement Level 2	QA01771	U	U	U	U	U	U	A	A	A	A
Enhancement Level 1	QA01770	U	U	U	U	A	S	S	S	S	S
Geo Select	QA04447	U	U	U	U	A	A	A	A	A	A
LEX Collaboration	QA03176	U	U	U	U	U	A	A	A	A	A
<b>DATA</b>											
Programming over P25 (POP25)	G996	A	A	A	A	A	A	A	A	A	A
Radio Packet Data	Q947	A	A	A	S	S	S	S	S	S	S
Enhanced Data	QA03399										
LTE Data	QA03344AA	U	U	U	U	U	U	U	U	A	U
Wifi Data	QA09001	U	U	U	U	U	U	U	U	U	A
Bluetooth Activation	QA00583	U	U	U	U	S	S	S	S	S	S
GPS Activation	QA00782	U	U	U	U	A	A	A	A	A	A
Enhanced Zone Bank (M1.5 Only)	QA01768	U	U	U	U	U	A	A	S	S	S
Radio Management Online	UA00049AA	U	U	U	A	A	A	A	A	A	A



# ASTRO SUBSCRIBER SOFTWARE CATALOG

MOBILES								
SOFTWARE FEATURES	OPTION	XTL 1500	XTL 2500	XTL 5000	APX 4500	APX 6500Li	APX 6500	APX 7500
INTEROPERABILITY								
Digital CAI/P25 Conventional	G808/Q811	A*	A	A	A	A	A	A
Conventional Vote Scan	G387	U	A	A	A	A	A	A
P25 Digital 9600 Baud Trunking	G361/G788 QA03161/QA02756	A	A	A	A	A	A	A
Digital 3600 Trunking (SN / SZ)	G50 / G789 QA02756	A	A	A	A	A	A	A
Analog 3600 Trunking (SN / SZ)	G346/G347/Q443	A	A	A	A	A	A	A
Smartnet Trunking (SN)	G346	A*	A*	A	A*	A*	A*	A
Smartzone Trunking (SZ)	G347	A*	A	A	A*	A*	A	A
Smartzone Omnilink	G173	A*	A	A	A	A	A	A
3600/9600 Interoperability	-	U	A*	A*	U	U	A*	A*
Enable Secondary Band	GA00579	U	U	U	U	U	U	A
P25 TDMA	GA00580	U	U	U	A	A	A	A
ISSI 8000 Automatic Roaming	GA04444	A	A	A	S	S	S	S
SECURITY								
ADP Software - 40 Bit	G193	A*	A	A	S	S	S	S
ADP for UCM Hardware - 40 Bit	CA00243	U	A	A	S	S	S	S
Multikey	W969	U	A	A	A	A	A	A
Conventional Tactical Rekey	H04	U	A	A	A	A	A	A
P25 System OTAR	G298	U	U	A	U	U	A	A
DES, DES-XL, DES-OFB	CA00840	U	A	A	U	A	A	A
DVP-XL	CA00146	U	A	A	U	U	A	A
DVI-XL	CA00145	U	A	A	U	U	U	U
AES - 256 Bit	CA00182	U	A	A	A	A	A	A
Radio Authentication	W391/GA01767	A	A	A	A	A	A	A
OPERATIONAL ASSURANCE								
Radio Trace/Remote Monitor	G170	A	A	A	A	A	A	S
One Touch Button	G683	U	A	A	A	A	A	A
DVRS PSU Activation	QA00631	U	U	U	U	A	A	A
DVRS MSU Activation	QA00631	U	U	U	U	U	A	A
PTT ID Display	G114	A*	A	A	S	S	S	S
Digital Tone Signaling	QA09000	U	U	U	A	A	A	A
Site-Selectable Alerts	QA00982	U	U	U	A	A	A	A
Reband Upgrade	QA00276	A	A	U	U	U	U	U
Software Refresh	G880/GA00771	A	A	A	A	A	A	A
Enhancement Level 2	GA01771	U	U	U	U	A	A	S
Enhancement Level 1	GA01770	U	U	U	U	S	S	S
Geo Select	QA04447	U	U	U	A	A	A	A
XTL 1500 Enhancement Package	G871	A	U	U	U	U	U	U
DATA								
Programming over P25 (POP25)	G996	A	A	A	A	A	A	A
Enhanced Data	QA03399	U	U	U	A	A	A	A
Radio Packet Data	W947	A*	A	A	S	S	S	S
GPS Activation	GA00229	U	U	U	A	A	A	A
Radio Management Online	UA00049AA	U	U	U	A	A	A	A

S: Standard A: Available for Purchase U: Unavailable for Purchase \*: Included with other feature

**For more information, please visit: [www.motorolasolutions.com/apx](http://www.motorolasolutions.com/apx)**

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