

Bell



Bell Subscriber Equipment Guide

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Introduction

Public safety communications are fundamental to the ongoing viability, sustainability and security of modern societies. The Province of Manitoba's commitment to migrate to a P25 network demonstrates a focus on citizen wellbeing by ensuring that mission-critical tools remain available to Manitoba first responders and public service organizations.

Leveraging technological innovation and driving evolution to next generation technologies such as LTE, Bell has been at the forefront of communication services in Canada for over 139 years. Recognized as a global leader in a broad range of communication technologies, we are a proven, professional network operator with extensive experience providing best-in-class solutions, services and devices.

Bell is pleased to present this Subscriber Equipment Guide to assist Public Safety Entities with radio equipment decisions

We understand that communication technologies for Public Safety Entities (PSEs) must perform flawlessly and without interruption. As the incumbent public safety radio communications service provider in Manitoba since 1997, we are able to leverage our full control of the existing FleetNet system and network to offer a seamless migration to the new Public Safety Communications Service (PSCS). Furthermore, our collaboration with the Province of Manitoba over the past several years and our extensive history working with Manitoba public safety agencies puts us in a unique position to understand PSE requirements to ensure you are equipped with the information you need to make strategic radio equipment decisions.

Bell combines the local expertise of our Bell MTS team with the scale, resources and innovation leadership of the Bell Mobility national radio team to deliver reliable, cutting edge network infrastructure for public safety personnel in Manitoba. Bell Mobility has over 30 years of experience providing mission-critical public safety land mobile radio service and currently provides province-wide service to governments in four provinces. With over 80,000 public safety radio subscribers in Canada, no other service provider is trusted more than Bell to support first responders and public service organizations when it matters most.

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PSCS Approved Radio List

Currently, only Motorola Solutions P25 radios are approved for use on the PSCS. Following transition, at the request of a PSE or third party, Bell is prepared to certify P25 compliant radios from other manufacturers for use on the PSCS. The requesting party will be responsible for all costs related to Bell’s certification testing process. The current list of approved radios and minimum software requirements is identified in Table 1.0:

Table 1.0 – Approved Radio List

Motorola Radio Model	Minimum Software Requirements	
	Non-Encrypted Radios	Encrypted Radios
APX™ 8000H All-Band P25 Hazloc Portable Radio MODEL 2.5 or MODEL 3.5	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 8000HXE All-Band P25 Hazloc Portable Radio MODEL 2.5 or MODEL 3.5	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 8000XE All-Band Portable Radio MODEL 1.5, MODEL 2.5 or MODEL 3.5	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 8000 All-Band P25 Portable Radio MODEL 1.5, MODEL 2.5 or MODEL 3.5	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 8500 All-Band P25 Mobile Radio	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OP APEX ✓ SMARTZONE OPERATION APX ✓ P25 TRUNKING SOFTWARE ✓ APX MOBILE RADIO AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OP APEX ✓ SMARTZONE OPERATION APX ✓ P25 TRUNKING SOFTWARE ✓ APX MOBILE RADIO AUTHENTICATION ✓ ASTRO 25 OTAR W/ MULTIKEY ✓ AES ENCRYPTION

Motorola Radio Model	Minimum Software Requirements	
	Non-Encrypted Radios	Encrypted Radios
APX™ 7000XE Multi-Band P25 Portable Radio MODEL 3.5	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 7000 Multi-Band Portable Radio MODEL 3.5	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 7500 Multi-Band Mobile Radio	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OP APEX ✓ SMARTZONE OPERATION APX ✓ P25 TRUNKING SOFTWARE ✓ APX MOBILE RADIO AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OP APEX ✓ SMARTZONE OPERATION APX ✓ P25 TRUNKING SOFTWARE ✓ APX MOBILE RADIO AUTHENTICATION ✓ ASTRO 25 OTAR W/ MULTIKEY ✓ AES ENCRYPTION
APX™ 6000XE P25 Enhanced Portable Radio 7/800 MHZ MODEL 1.5, MODEL 2.5 or MODEL 3.5	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 6000 P25 Enhanced Portable Radio 7/800 MHZ MODEL 1.5, MODEL 2.5 or MODEL 3.5	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 6500 P25 Mobile Radio 7/800 MHZ	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OP APEX ✓ SMARTZONE OPERATION APX ✓ P25 TRUNKING SOFTWARE ✓ APX MOBILE RADIO AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OP APEX ✓ SMARTZONE OPERATION APX ✓ P25 TRUNKING SOFTWARE ✓ APX MOBILE RADIO AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY

Motorola Radio Model	Minimum Software Requirements	
	Non-Encrypted Radios	Encrypted Radios
APX™ 4000 P25 Portable Radio 7/800 MHZ MODEL 2 or MODEL 3	<ul style="list-style-type: none"> ✓ 3600 OR 9600 TRUNKING BAUD SIN ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ 3600 OR 9600 TRUNKING BAUD SIN ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 4500 P25 Mobile Radio 7/800 MHZ	<ul style="list-style-type: none"> ✓ 3600 OR 9600 TRUNKING BAUD SIN ✓ APX MOBILE RADIO AUTHENTICATION 	<ul style="list-style-type: none"> ✓ 3600 OR 9600 TRUNKING BAUD SIN ✓ APX MOBILE RADIO AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 3000 P25 Covert Portable Radio 7/800 MHZ MODEL 1	<ul style="list-style-type: none"> ✓ SOFTWARE TRUNKING 9600 BAUD OR 3600 BAUD ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ SOFTWARE TRUNKING 9600 BAUD OR 3600 BAUD ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY
APX™ 1500 P25 Mobile Radio 7/800 MHZ	<ul style="list-style-type: none"> ✓ SW P25 TRUNKING (9600 only) ✓ APX MOBILE RADIO AUTHENTICATION 	Not available
APX™ 1000 P25 Portable Radio 7/800 MHZ MODEL 2 or MODEL 3	<ul style="list-style-type: none"> ✓ P25 TRUNKING (9600 only) ✓ 25 LINK LAYER AUTHENTICATION 	Not available
APX™ 900 P25 Portable Radio 7/800 MHZ MODEL 2 and MODEL 3	<ul style="list-style-type: none"> ✓ P25 TRUNKING (9600 only) ✓ P25 LINK LAYER AUTHENTICATION 	Not available

Motorola Radio Model	Minimum Software Requirements	
	Non-Encrypted Radios	Encrypted Radios
APX™ Consolettes	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION 	<ul style="list-style-type: none"> ✓ ASTRO DIGITAL CAI OPERATION ✓ SMARTZONE OPERATION ✓ P25 9600 BAUD TRUNKING ✓ P25 LINK LAYER AUTHENTICATION ✓ AES ENCRYPTION ✓ ASTRO 25 OTAR W/ MULTIKEY

Motorola XTL and XTS Flash kits are no longer available from Motorola, and these radios will not operate on the PSCS unless previously upgraded with the minimum software requirements. For this reason, XTL and XTS radios have been removed from the approved radio list in Table 1.0.

PSEs who already have Motorola Solutions APX series radios that do not meet the minimum software requirements can upgrade their radios with a Flash kit, which must be purchased from Motorola Solutions or an authorized agent. PSEs are responsible for all costs related to upgrading their radios.

Once a radio has been provisioned with the appropriate software, the radio needs to be programmed with various features and functionality. A software codeplug is developed to capture the unique programming requirements for each radio, and then the codeplug is applied to the radio.

Bell will work with the individual PSEs to develop one standard codeplug per approved radio model purchased by the PSE, from Bell, without any additional charges.

For example, if a PSE purchases three APX 8000 radios and three APX 6000 radios, the PSE will receive two codeplugs: one for the APX 8000 radios and another for the APX 6000 radios. In this example, the three APX 8000 radios would have identical programming and the three APX 6000 radios would have identical programming resulting in no additional codeplug development charges applying.

For PSEs who require multiple codeplugs for the same radio model, additional codeplug development charges may apply.

Subscriber Radio Recommendations

Bell is pleased to provide PSEs with the opportunity to purchase Motorola Solutions APX Series P25 two-way radios. Purchasing your radio from Bell comes with the following advantages:



Configuration

Extensive experience configuring and programming Motorola two-way radios

Bell will ensure that your operational requirements are matched with the appropriate software, features and radio model. Codeplug development and testing is included at no extra charge.



Transition

Fully managed transition ensures you are ready for the new Public Safety Communications Service

Purchasing your radio through Bell will result in a smooth transition to the PSCS. Bell will fully manage the process from radio purchase through configuration and transition to the PSCS.



Support

National service desks staffed by trained, experienced public safety radio service technicians

At Bell's national radio service centres, our only job is to support public safety radio. Only experienced public safety radio service technicians will manage your urgent service requests.

Please see Appendix A for a list of Motorola Solutions APX P25 radios Bell recommends for use on the Public Safety

Communications Service. For more information on purchasing an approved radio from Bell, please contact Bell's authorized radio dealers, or contact Bell directly at:

PSCSSupport@BellMTS.ca

Appendix A – Bell Recommended Radios



APX 8000HXE

All-band P25 portable radio with Adaptive Audio, designed for fire and rescue teams, Class I Div 1 HazLoc



APX 8000H

All-band P25 portable radio with Adaptive Audio, designed for law enforcement agencies, Class I Div 1 HazLoc



APX 8000XE

All-band P25 portable radio with Adaptive Audio, designed for fire and rescue teams



APX 8000

All-band P25 portable radio with Adaptive Audio, designed for law enforcement agencies



APX 8500

All-band P25 mobile radio, available in mid-power (up to 50 W) and high-power (up to 100 W) versions



APX 6000XE

Single-band P25 portable radio with optional Adaptive Audio, designed for fire and rescue teams



APX 6000

Single-band P25 portable radio with optional Adaptive Audio, designed for law enforcement agencies



APX 6500

Single-band P25 mobile radio, available in mid-power (up to 50 W) and high-power (up to 100 W) versions



APX 4000

Single-band P25 portable radio, designed to balance performance with affordability



APX 4500

Single-band P25 mobile radio, designed to balance performance with affordability



APX 1000

Single-band entry-level P25 portable radio, designed for simple public safety applications



APX 1500

Single-band entry-level P25 mobile radio, designed for simple public safety applications



APX 900

Single-band P25 entry-level portable radio, designed for non-Public-Safety applications