800MHZ CONV

STOP | PLAY | PLAYBACK

XL-200P Full-Spectrum Multiband
XL-185P Single Band

Portable Radios

HARRIS® TECHNOLOGY TO CONNECT, INFORM AND PROTECT™

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MANUAL REVISION HISTORY

REV.	DATE	REASON FOR CHANGE
-	Sep/15	Initial release.
A	Sep/15	Added Section 3.
B	Nov/15	Added CE information.
C	Jan/16	Updated Declaration of Conformity. Added EU regulatory approval information (standards) and EU RF exposure information.
D	Jul/16	Updated Table 1-1 and Tableau 2-1. Updated for XLP R2A. Added note to Section 4.3.1 regarding charging the battery before first use. Updated Appendix A. Updated Section 4.3.3.
E	Jan/17	Updated Sections 1.2, 4.1, 4.6, 5.8, 5.12, 10, included XLP R3A features, and added Sections 4.3.4, 5.35, and 5.6.
F	Apr/17	Updated to add XLP R4A features.
G	Jul/17	Added XL-185P, XLP R5A features, and C1D1 information.

AT	CZ	FI	GR	IT	LU	PL	SI	UK	DK
BE	DK	FR	HU	LV	MT	PT	ES	IS	LI
CY	EE	DE	IE	LT	NL	SK	SE	NO	RO
BG									

CE1588 ①

This device is a RF transceiver intended for land mobile radio applications. The device may have use restrictions, which require that the national authority be contacted for any system licensing requirements, frequency use, allowable power level, etc.

R&TTE Declaration of Conformity (DoC)
Unique identification of this DoC: 2014119TCF

We,   Harris Corporation, Communications Systems Division
   221 Jefferson Ridge Parkway
   Lynchburg, VA 24501
   Phone 434-455-6600
declare under our sole responsibility that the product:

product name: XL-200P

trade name: Harris ®

type or model: XL-PFM1M, XL-PFM1Y, XL-PFM1B, XL-PFM1G, XL-PPM1Y, XL-PPM1B, XL-PPM1G, XL-PPM1M

 relevant supplementary information: Land Mobile radio for public safety, utilities and transit

to which this declaration relates is in conformity with the essential requirements and other relevant requirements of the R&TTE Directive (1999/5/EC).
The product is in conformity with the following standards and/or other normative documents:

HEALTH & SAFETY (Art. 3(1)(a)): EN 60950-1: 2006 + A11:2009 + A12:2011 + A1:2010 + A2:2013; European Council Directive 89/391/EEC; EN 62311:2008

EMC (Art. 3(1)(b)): EN 301 489-1 V1.9.2, EN 301 489-5 V1.3.1, EN 301 489-17 V2.2.1

SPECTRUM (Art. 3(2)): EN 300 086-2 V1.3.1, EN 300 113-2 V1.5.1, EN 300 328 V1.8.1, EN 301 893 V1.7.1, EN 300 440-2 V1.4.1

OTHER (incl. Art. 3(3) and voluntary specs): N/A

Limitation of validity (if any): N/A

Supplementary information:
Notified body involved: American Certification Body (NB#1588)
        6731 Whittier Avenue, Suite C110
        McLean Virginia 22101, USA
        Telephone: 703-847-4700

  Technical file held by: Harris Wireless Ltd., RF Communications Division
        270 Wharfedale Road
        Winnersh, Wokingham, Berkshire, United Kingdom
        RG41 5TP

Place and date of issue (of this DoC): December 4, 2015

   Signed by or for the manufacturer:

   William H Pertner

   Name (in print): William H. Pertner
   Title: Regulatory Manager

R&TTE Declaration of Conformity (DoC)
Unique identification of this DoC: 2015217TCF

We, **Harris Corporation, Communications Systems Division**
221 Jefferson Ridge Parkway
Lynchburg, VA 24501
Phone 434-455-6600
declare under our sole responsibility that the product:

product name: XL-200P Non-Rebanded

trade name: Harris ®

type or model: XL-PFM2M, XL-PFM2Y, XL-PFM2B, XL-PFM2G, XL-PPM2Y, XL-PPM2B, XL-PPM2G, XL-PPM2M

relevant supplementary information: Land Mobile radio for public safety, utilities and transit

to which this declaration relates is in conformity with the essential requirements and other relevant requirements of the R&TTE Directive (1999/5/EC).
The product is in conformity with the following standards and/or other normative documents:

HEALTH & SAFETY (Art. 3(1)(a)): EN 60950-1: 2006 + A11:2009 + A12:2011 + A1:2010 + A2:2013; EN 62311:2008

EMC (Art. 3(1)(b)): EN 301 489-1 V1.9.2, EN 301 489-3 V1.6.1; EN 301 489-5 V1.3.1, EN 301 489-17 V2.2.1

SPECTRUM (Art. 3(2)): EN 300 086-2 V1.3.1, EN 300 113-2 V1.5.1, EN 300 328 V1.9.1, EN 300 440-2 V1.4.1

OTHER (incl. Art. 3(3) and voluntary specs): N/A

Limitation of validity (if any): N/A

Supplementary information:
Notified body involved: American Certification Body (NB#1588)
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                              McLean Virginia 22101, USA
                              Telephone: 703-847-4700

     Technical file held by: Harris Wireless Ltd., RF Communications Division
                              270 Wharfedale Road
                              Winnersh, Wokingham, Berkshire, United Kingdom
                              RG41 5TP

Place and date of issue (of this DoC): March 02, 2016

          Signed by or for the manufacturer:

          William H Pertner

          Name (in print): William H. Pertner
          Title: Regulatory Manager

DECLARATION OF CONFORMITY

Česky [Czech]	*Harris Corporation* tímto prohlašuje, že tento *XL-200P* je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede Harris Corporation erklærer herved, at følgende udstyr XL-200P overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erklärt *Harris Corporation,* dass sich das Gerät XL-200P in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Eesti [Estonian]	Käesolevaga kinnitab *Harris Corporation* seadme *XL-200P* vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, *Harris Corporation*, declares that this *XL-200P* is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente *Harris Corporation* declara que el *XL-200P* cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ *Harris Corporation* ΔΗΛΩΝΕΙ ΟΤΙ *XL-200P* ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente Harris Corporation déclare que l'appareil XL-200P est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente Harris Corporation dichiara che questo XL-200P è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo *Harris Corporation* deklarē, *XG 25P UHF-L (378-470 MHz), 7/800 (764-870MHz)* atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo *Harris Corporation* deklaruoja, kad šis *XL-200P* atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart Harris Corporation dat het toestel XL-200P in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, *Harris Corporation*, jiddikjara li dan *XL-200P* jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, Harris Corporation nyilatkozom, hogy a XL-200P megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
Polski [Polish]	Niniejszym *Harris Corporation* oświadcza, że *XL-200P* jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Português [Portuguese]	Harris Corporation declara que este XL-200P está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	*Harris Corporation* izjavlja, da je ta *XL-200P* v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	*Harris Corporation* týmto vyhlasuje, že *XL-200P* spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	Harris Corporation vakuuttaa täten että XL-200P tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar Harris Corporation att denna XL-200P står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Íslenska [Icelandic]	Hér með lýsir Harris Corporation yfir því að XL-200P er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.
Norsk [Norwegian]	Harris Corporation erklærer herved at utstyret XL-200P er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.

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1. REGULATORY AND SAFETY INFORMATION

1.1 SAFETY CONVENTIONS

The following conventions are used throughout this manual to alert the user to general safety precautions that must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warning elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. Harris assumes no liability for the customer's failure to comply with these standards.

⚠ **WARNING**	**The WARNING symbol calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury. Do not proceed beyond a WARNING symbol until the conditions identified are fully understood or met.**
⚠ **CAUTION**	The **CAUTION** symbol calls attention to an operating procedure, practice, or the like, which, if not performed correctly or adhered to, could result in damage to the equipment or severely degrade the equipment performance.
ⓘ **NOTE**	The **NOTE** symbol calls attention to supplemental information, which may improve system performance or clarify a process or procedure.

1.2 SAFETY TRAINING INFORMATION

⚠ **WARNING**	**The Harris XL-200P/XL-185P portable radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as "Occupational Use Only," meaning it must be used only during the course of employment by individuals aware of the hazards and the ways to minimize such hazards. This radio is NOT intended for use by the "General Population" in an uncontrolled environment.**

The XL-200P/XL-185P portable radio has been tested and complies with the FCC RF exposure limits for "Occupational Use Only." In addition, this Harris radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

- FCC KDB Publication 447498 General RF Exposure Guidance

- American National Standards Institute (C95.1 – 1992[1]), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

- American National Standards Institute (C95.3 – 1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave.

- IC Standard RSS-102. Radiofrequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands).

- European Council Directive 89/391/EEC.

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[1] Tested to ANSI C95.1-1992 in compliance with 47 CFR 2.1093. Meets or exceeds safety requirements of ANSI C95.1-2005.

1.2.1   RF Exposure Guidelines

⚠️ **CAUTION**	To ensure that exposure to RF electromagnetic energy is within the EU/AU/FCC/IC allowable limits for occupational use, always adhere to the following guidelines:

- DO NOT operate the radio without a proper antenna attached, as this may damage the radio and may also cause the FCC RF exposure limits to be exceeded. A proper antenna is the antenna supplied with this radio by Harris or an antenna specifically authorized by Harris for use with this radio. (Refer to Table 4-1.)

- DO NOT transmit for more than 50% of total radio use time ("50% duty cycle"). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded. The radio is transmitting when the "TX" indicator appears in the display. The radio will transmit by pressing the "PTT" (Push-To-Talk) button.

- ALWAYS transmit using low power when possible. In addition to conserving battery charge, low power can reduce RF exposure.

- ALWAYS use Harris authorized accessories (antennas, batteries, belt clips, speaker/mics, etc.). Use of unauthorized accessories may cause the FCC Occupational/Controlled Exposure RF compliance requirements to be exceeded. (Refer to Table 1-1.)

- As noted in Table 1-1, ALWAYS keep the housing of the transmitter *AT LEAST* 0.47 inches (1.2 cm) from the body and at least 0.98 in (2.5 cm) from the face when transmitting to ensure EU/AU/FCC/IC RF exposure compliance requirements are not exceeded. However, to provide the best sound quality to the recipients of your transmission, Harris recommends you hold the microphone at least 2 in (5 cm) from mouth, and slightly off to one side.

- Refer to Standard EN 62311:2008.

Table 1-1: RF Exposure Compliance Tested Distances (Worst Case Scenario)

RADIO FREQUENCY	Body[2]	Face
VHF (136 - 174 MHz)	0.47 in (1.2 cm)	0.98 in (2.5 cm)
UHF (378 - 522 MHz)	0.47 in (1.2 cm)	0.98 in (2.5 cm)
700/800 MHz (768 - 776 MHz) (798 - 806 MHz) (806 - 824 MHz) (851 - 870 MHz)	0.47 in (1.2 cm)	0.98 in (2.5 cm)
900 MHz (935-944 MHz) (896-902 MHz)	0.47 in (1.2 cm)	0.98 in (2.5 cm)
2400 MHz (2412 - 2472 MHz)	0.47 in (1.2 cm)	0.98 in (2.5 cm)
5 GHz (5.18 - 5.825 GHz)	0.47 in (1.2 cm)	0.98 in (2.5 cm)

---

[2] This is worst case based on the thinnest body mount accessory (belt clip).

> **NOTE**
>
> SAR Evaluation: 1g averaged, 50% PTT Duty Factor, Occupational/Controlled Exposure.

This device contains multiple transmitters that may operate simultaneously, see Table 1-2 Simultaneous Transmission Scenarios for the capable transmit configurations.

Table 1-2: Simultaneous Transmission Scenarios

NO.	CAPABLE TRANSMIT CONFIGURATION	HEAD	BODY-WORN ACCESSORY
1	LTE B13/14/4 + VHF	YES	YES
2	LTE B13/14/4 + UHF	YES	YES
3	LTE B14 + 800 MHz	YES	YES
4	LTE B13/14/4 + Bluetooth	YES	YES
5	LTE B13/14/4 + 2.4 GHz WLAN	YES	YES
6	LTE B13/14/4 + 5 GHz WLAN	YES	YES
7	LTE B13/14/4 + VHF + Bluetooth	YES	YES
8	LTE B13/14/4 + UHF + Bluetooth	YES	YES
9	LTE B14 + 800 MHz + Bluetooth	YES	YES
10	LTE B13/14/4 + VHF + WLAN	YES	YES
11	LTE B13/14/4 + UHF + WLAN	YES	YES
12	LTE B14 + 800 MHz + WLAN	YES	YES
13	LTE B13/14/4 + 900 MHz (XL-185P Only)	YES	YES
14	LTE B13/14/4 + 900 MHz + Bluetooth	YES	YES
15	LTE B13/14/4 + 900 MHz + WLAN	YES	YES

> **NOTE**
>
> LTE B13/14/4 + 700 MHz simultaneous transmission is not supported by this device.
> LTE B13/4 + 800 MHz simultaneous transmission is not supported by

> **NOTE**
>
> LTE is not supported by the XL Portable with the C1D1 option.

The information in this section provides the information needed to make the user aware of RF exposure, and what to do to assure that this radio operates within the FCC RF exposure limits.

1.2.2 Electromagnetic Interference/Compatibility

During transmissions, this Harris radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so. DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft, and blasting sites.

1.3 REGULATORY APPROVALS

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

1.3.1 Part 15

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. This device must accept any interference received, including interference that may cause undesired operation.

1.3.2 Industry Canada

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

1.4 OPERATING TIPS

Antenna location and condition are important when operating a portable radio. Operating the radio in low-lying areas or terrain, under power lines or bridges, inside of a vehicle, or in a metal framed building can severely reduce the range of the unit. Mountains can also reduce the range of the unit.

In areas where transmission or reception is poor, some improvement may be obtained by ensuring that the antenna is vertical. Moving a few yards in another direction or moving to a higher elevation may also improve communications. Vehicular operation can be aided with the use of an externally mounted antenna.

Battery condition is another important factor in the trouble-free operation of a portable radio. Always properly charge the battery.

1.4.1 Efficient Radio Operation

Keep the antenna in a vertical position when receiving or transmitting a message.

⚠️ WARNING	**Do NOT hold onto the antenna when the radio is powered on!**

1.4.2 Antenna Care and Replacement

⚠️ WARNING	**Do not use the portable radio with a damaged or missing antenna. A minor burn may result if a damaged antenna comes into contact with the skin. Replace a damaged antenna immediately. Operating a portable radio with the antenna missing could cause personal injury, damage the radio, and may violate FCC regulations.**

⚠️ **CAUTION**	Use only the supplied or approved antenna. Unauthorized antennas, modifications, or attachments could cause damage to the radio unit and may violate FCC regulations. (Refer to Table 4-1.)

1.4.3 Electronic Devices

⚠️ **CAUTION**	RF energy from portable radios may affect some electronic equipment. Most modern electronic equipment in cars, hospitals, homes, etc. is shielded from RF energy. However, in areas in which you are instructed to turn off two-way radio equipment, always observe the rules. If in doubt, turn it off!

1.4.4 Aircraft

⚠️ **WARNING**	• **Always turn off a portable radio before boarding any aircraft!** • **Use it on the ground only with crew permission.** • **DO NOT use while in-flight!!**

1.4.5 Electric Blasting Caps

⚠️ **WARNING**	**To prevent accidental detonation of electric blasting caps, DO NOT use two-way radios within 1000 feet of blasting operations. Always obey the "Turn Off Two-Way Radios" signs posted where electric blasting caps are being used (OSHA Standard: 1926.900).**

1.4.6 Potentially Explosive Atmospheres

⚠️ **WARNING**	**Areas with potentially explosive atmospheres are often, but not always, clearly marked. These may be fueling areas, such as gas stations, fuel or chemical transfer or storage facilities, and areas where the air contains chemicals or particles, such as grain, dust, or metal powders.** **Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.** **Turn off two-way radios when in any area with a potentially explosive atmosphere. It is rare, but not impossible that a radio or its accessories could generate sparks.**

2. RENSEIGNEMENTS SUR LA RÉGLEMENTATION ET SÉCURITÉ

2.1 CONVENTIONS SUR LES SYMBOLES DE SÉCURITÉ

Les conventions suivantes sont utilisées dans le présent manuel pour avertir l'utilisateur des précautions générales de sécurité qui doivent être observées pendant toutes les phases d'opération, d'entretien et de réparation de ce produit. Le non-respect de ces précautions ou d'avertissements précisés ailleurs enfreint les normes de sécurité de la conception, de la fabrication et de l'utilisation prévue du produit. Harris n'assume aucune responsabilité pour le non-respect de ces normes par le client.

MISE EN GARDE	**Le symbole MISE EN GARDE attire l'attention sur une procédure ou une pratique qui, si elle n'est pas correctement effectuée ou observée, pourrait entraîner une blessure personnelle. Ne pas poursuivre au-delà d'un symbole de MISE EN GARDE avant que les conditions identifiées soient complètement comprises ou satisfaites.**
AVERTISSEMENT	Le symbole **AVERTISSEMENT** attire l'attention sur une procédure ou une pratique opérationnelle qui, si elle n'est pas correctement effectuée ou observée, pourrait entraîner un bris d'équipement ou une importante baisse de rendement de l'équipement.
REMARQUE	Le symbole **REMARQUE** attire l'attention sur des renseignements supplémentaires qui peuvent améliorer le rendement du système ou clarifier un processus ou une procédure.

2.2 RENSEIGNEMENTS SUR LA FORMATION SUR LA SÉCURITÉ

MISE EN GARDE	**La radio portative Harris XL-200P/XL-185P produit de l'énergie électromagnétique des RF lorsqu'en mode de transmission. Cette radio est conçue et classée pour une « Utilisation professionnelle seulement », ce qui signifie qu'elle ne doit être utilisée que dans le cadre d'un emploi par des individus conscients des risques et des moyens de limiter ceux-ci. Cette radio N'EST PAS conçue pour une utilisation par la « Population générale » dans un environnement non contrôlé.**

La radio portative XL-200P/XL-185P a été testée et est conforme aux limites d'exposition aux RF de la FCC pour une « Utilisation professionnelle seulement ». De plus, cette radio Harris est conforme aux normes et directives suivantes quant à l'énergie des RF et aux niveaux d'énergie électromagnétique, ainsi qu'à l'évaluation de ces niveaux pour l'exposition aux humains:

- FCC KDB 447498

- American National Standards Institute (C95.1 – 1992), norme de l'IEEE sur les niveaux sécuritaires d'exposition humaine aux champs électromagnétiques des radiofréquences, 3 kHz à 300 GHz.

- American National Standards Institute (C95.3 – 1992), pratique recommandée par l'IEEE pour la mesure des champs électromagnétiques potentiellement dangereux – RF et micro-ondes.

2.2.1 Directives sur l'exposition aux RF

<table>
<tr><td>⚠️ AVERTISSEMENT</td><td>Pour s'assurer que l'exposition à l'énergie électromagnétique des RF se situe dans les limites acceptables de la FCC pour l'utilisation professionnelle, respectez toujours les directives suivantes :</td></tr>
</table>

- N'utilisez PAS la radio sans qu'une antenne appropriée y soit connectée, car ceci peut endommager la radio et également causer un dépassement des limites d'exposition aux RF de la FCC. Une antenne appropriée est celle fournie par Harris avec cette radio, ou une antenne spécifiquement autorisée par Harris pour être utilisée avec cette radio. (Reportez-vous à Tableau 2-1.)

- Ne transmettez PAS pendant plus de 50 % de la durée d'utilisation totale de la radio (« cycle de service de 50 % »). La transmission pendant plus de 50 % du temps peut causer un dépassement des exigences de conformité de la FCC en matière d'exposition aux RF. La radio transmet lorsque l'indicateur « TX » apparaît sur l'affichage. La radio transmet lorsqu'on appuie sur le bouton « PTT » (bouton de microphone).

- Transmettez TOUJOURS en basse puissance lorsque possible. En plus de préserver la charge de la pile, une faible puissance réduit l'exposition aux RF.

- Utilisez TOUJOURS des accessoires autorisés Harris (antennes, piles, pinces de ceinture, haut-parleurs/micros, etc.). L'utilisation d'accessoires non autorisés peut entraîner un dépassement des exigences de conformité pour une exposition aux RF professionnelle ou contrôlée de la FCC. (Reportez-vous à Table 4-1.)

- Tel qu'indiqué dans Tableau 2-1, conservez TOUJOURS l'appareil et son antenne à *AU MOINS* 1,2 cm du corps, et à au moins 2,5 cm du visage pendant la transmission, pour vous assurer de ne pas dépasser les exigences de conformité de la FCC en matière d'exposition aux RF. Cependant, pour offrir la meilleure qualité sonore aux auditeurs de votre transmission, Harris recommande de tenir le microphone à au moins 5 cm (2 po) de votre bouche et légèrement déplacé sur un côté.

Tableau 2-1 : Distances de test de conformité des expositions aux RF (pire des scénarios)

RADIOFRÉQUENCES	Corps[3]	Visage
VHF (136 - 174 MHz)	1,2 cm	2,5 cm
UHF (378 - 522 MHz)	1,2 cm	2,5 cm
700/800 MHz (768 - 776 MHz) (798 - 806 MHz) (806 - 824 MHz) (851 - 870 MHz)	1,2 cm	2,5 cm
900 MHz (935-944 MHz) (896-902 MHz)	1,2 cm	2,5 cm
2400 MHz (2412 - 2472 MHz)	1,2 cm	2,5 cm

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[3] Ce est le pire des cas basée sur le corps plus mince monter accessoire (clip ceinture).

RADIOFRÉQUENCES	Corps[3]	Visage
5 GHz (5.18 - 5.825 GHz)	1,2 cm	2,5 cm

Dans cette section figurent les renseignements nécessaires pour sensibiliser l'utilisateur à l'exposition aux RF et sur ce qu'il faut faire pour s'assurer que cette radio fonctionne dans les limites d'exposition aux RF de la FCC.

2.2.2   Interférence/Compatibilité Électromagnétique

Pendant les transmissions, cette radio Harris produit de l'énergie des RF qui peut causer de l'interférence avec d'autres appareils ou systèmes. Pour éviter de telles interférences, fermez la radio dans les zones où il est indiqué de le faire. N'utilisez PAS le transmetteur dans des zones sensibles aux radiations électromagnétiques, comme les hôpitaux, les avions et les sites de détonation.

2.3   INTERFÉRENCE DES RADIOFRÉQUENCES

2.3.1   Partie 15 de la FCC

Cet appareil est conforme à la Partie 15 de la réglementation de la FCC. Le fonctionnement est soumis aux deux conditions suivantes :

1. Cet appareil ne doit pas causer une interférence nuisible; et
2. Cet appareil doit accepter toute interférence reçue, y compris une interférence qui peut causer un fonctionnement non souhaité.

2.3.2   Industrie Canada

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

2.4   CONSEILS D'UTILISATION

L'emplacement et l'état de l'antenne sont importants pour l'utilisation d'une radio portative. L'utilisation de la radio dans des zones de faible élévation, sous des lignes électriques ou des ponts, à l'intérieur d'un véhicule ou dans un immeuble à ossature métallique, peut réduire la portée de l'appareil de manière considérable. Les montagnes peuvent également réduire la portée de l'unité.

Dans les zones où la transmission ou la réception est insatisfaisante, certaines améliorations peuvent être obtenues en s'assurant que l'antenne est verticale. Se déplacer de quelques mètres dans une autre direction ou à un emplacement plus élevé peut également améliorer les communications. L'utilisation d'une antenne fixée à l'extérieur peut faciliter le fonctionnement dans un véhicule.

L'état de la pile est un autre facteur important d'une utilisation sans tracas d'une radio portative. Chargez toujours correctement la pile.

2.4.1   Utilisation Efficace de la Radio

Gardez l'antenne dans une position verticale pendant la réception ou la transmission d'un message.

> ⚠️ **MISE EN GARDE**
>
> **Ne tenez PAS l'antenne lorsque la radio est allumée!**

2.4.1.1   Entretien Et Remplacement De L'antenne

> ⚠️ **MISE EN GARDE**
>
> **N'utilisez pas la radio portative si son antenne est endommagée ou absente. Une brûlure légère peut se produire au contact d'une antenne endommagée avec la peau. Remplacez immédiatement une antenne endommagée. L'utilisation d'une radio portative alors que l'antenne est absente peut causer des blessures, endommager la radio et pourrait enfreindre la réglementation de la FCC.**

> ⚠️ **AVERTISSEMENT**
>
> Utilisez seulement l'antenne fournie ou une antenne approuvée. Des antennes non autorisées, des modifications ou des ajouts à une antenne peuvent endommager la radio et enfreindre la réglementation de la FCC. (Reportez-vous à Table 4-1.)

2.4.1.2   Appareils Électroniques

> ⚠️ **AVERTISSEMENT**
>
> L'énergie des RF provenant de radios portatives peut affecter certains appareils électroniques. La majorité de l'équipement électronique moderne dans les voitures, les hôpitaux, les maisons, etc. est blindé contre l'énergie des RF. Cependant, dans les zones où l'on vous demande de fermer l'équipement de radio bidirectionnelle, respectez toujours les règles. En cas de doute, éteignez-le!

2.4.1.3   Avion

> ⚠️ **MISE EN GARDE**
>
> - **Éteignez toujours une radio portative avant d'embarquer à bord d'un avion!**
> - **Ne l'utilisez au sol qu'avec la permission de l'équipage.**
> - **NE l'utilisez PAS durant le vol!**

2.4.1.4   Détonateurs Électriques

> ⚠️ **MISE EN GARDE**
>
> **Pour prévenir la détonation accidentelle des détonateurs électriques, n'utilisez PAS de radios bidirectionnelles à moins de 305 m (1 000 pi) des opérations de détonation. Respectez toujours les indications « Éteindre les radios bidirectionnelles » situées là où des détonateurs électriques sont utilisés. (Norme OSHA : 1926.900)**

2.4.1.5 Atmosphère Potentiellement Explosive

MISE EN GARDE

Les zones ayant une atmosphère potentiellement explosive sont souvent, mais pas toujours, identifiées clairement comme telles. Il peut s'agir de zones d'alimentation en carburant, comme les postes d'essence, les installations de stockage ou de transfert de carburant ou de produits chimiques, ainsi que les zones dont l'air contient des produits chimiques ou des particules, comme des grains, de la poussière ou des poudres métalliques.

Des étincelles dans de telles zones peuvent provoquer une explosion ou un incendie, causant ainsi des blessures ou même la mort.

Éteignez les radios bidirectionnelles dans toute zone ayant une atmosphère potentiellement explosive. Il est rare, mais pas impossible qu'une radio ou ses accessoires produisent des étincelles.

3. HAZARDOUS LOCATIONS

3.1 CLASS 1, DIVISION 2 OPTION

Radios ordered with the Class 1, Division 2 option are suitable for use in Class 1, Division 2, Groups A, B, C, and D or non-hazardous (unclassified) locations only.

Les radios commandées avec l'option Classe 1, Division 2 sont adéquates pour utilisation en Classe 1, Division 2, Groupes A, B, C et D, ou en lieux non-hasardeux (non-classifiés) seulement

⚠ **WARNING**	**EXPLOSION HAZARD – REPLACE BATTERY PACK ONLY IN AN AREA KNOWN TO BE NON-HAZARDOUS, AND ONLY WITH HARRIS PART NO. 14035-4010-01.** **AVERTISSEMENT – RISQUE D'EXPLOSION – LES BATTERIES DOIVENT ÊTRE REMPLACÉES DANS UNE ZONE RECONNUE NON-HASARDEUSE SEULEMENT, ET SEULEMENT AVEC UNE BATTERIE HARRIS PORTANT LE NUMÉRO DE PIÈCE 14035-4010-01.**
⚠ **WARNING**	**EXPLOSION HAZARD – Substitution of any component may impair suitability for Class I, Division 2.** **AVERTISSEMENT – RISQUE D'EXPLOSION – Une substitution de toute composante pourrait compromettre la convenance pour la Classe I, Division 2.**
⚠ **WARNING**	**EXPLOSION HAZARD – Do not exceed maximum battery charging current of 5.250 A or maximum charging voltage of 12.0 V DC at any time.**
⚠ **WARNING**	**CAUTION - The battery used in this device may present a risk of fire or explosion when heated above 100°C (212°F) or incinerated. Replace battery with Harris Part No. 14035-4010-01 only. Use of another battery may present a risk of fire or explosion.**

Battery replacement instructions: Remove battery by 1) depressing battery latches then 2) remove battery from radio chassis. Install replacement battery by inserting battery in radio chassis opening and depressing battery into chassis until both battery latches are engaged. Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.

⚠ **WARNING**	**EXPLOSION HAZARD – In addition to any simple single-ended coil antenna and carrying case option, only the following Harris accessories may be used with this radio:**

PART NUMBER	DESCRIPTION
12082-0600-01	Speaker Microphone
12082-0600-02	Speaker Microphone, Emergency Button
12082-0650-01	Microphone, Palm,2 Wire, Black
12082-0650-02	Microphone, Palm, 2 Wire, Beige
12082-0650-03	Microphone, Mini-Lapel,3 Wire, Black
12082-0650-04	Microphone, Mini-Lapel,3 Wire, Beige
12082-0650-05	Earphone Kit, Black
12082-0650-06	Earphone Kit, Beige

PART NUMBER	DESCRIPTION
12082-0650-07	Headset, In-Ear, Boom Mic, In-Line PTT
12082-0650-08	Headset, Lightweight, Over-the-Head, Single Ear, In-Line PTT
12082-0650-09	Headset, Lightweight, Behind-the-Head, Dual Ear, In-Line PTT
12082-0650-10	Headset, Lightweight, Behind-the-Head, Dual Ear, Pigtail PTT
12082-0650-13	Headset, Heavy Duty, Behind-the-Head, w/PTT
12082-0650-14	Headset, Heavy Duty, Over-the-Head, w/PTT
12082-0650-15	Headset, Behind-the-Head, Boom Mic, Earpiece, w/PTT
12082-0650-16	Headset, Tactical, Boom Mic, Earpiece, w/PTT
12082-0650-17	Skull Mic, w/Body PTT and Earcup
12082-0650-18	Throat Mic, W/Acoustic Tube & Body PTT
12082-0650-19	Throat Mic, w/Acoustic Tube, Body and Ring PTT
LS103239V1	Earphone, Lapel Microphone, 2.5mm
LS103239V2	Earphone, Lapel Microphone, 2.5mm, RT Angle
12150-1000-01	Speaker Mic, Premium, Fire (FSM), Noise Cancelling

3.2   CLASS 1, DIVISION 1 OPTION

APPLIES TO XL-200P C1D1 NON-REBANDED, XL-200P C1D1 REBANDED, XL-185 C1D1 NON-REBANDED, XL-185P C1D1 REBANDED, XL-185 C1D1 UHF, and XL-185 C1D1 VHF

Radios ordered with the Class 1, Division 1 option are considered "intrinsically safe apparatus" and are suitable for use in the following locations:

US:

Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D or non-hazardous (unclassified) locations only.

Classe I, Division 1, Groupes C et D; Classe II, Division 1, Groupes E, F et G; Classe III, Division 1 emplacements dangereux; Classe 1, Division 2, Groupes A, B , C et D, ou en sites non-hasardeux (non-classifiés) seulement.

Canada:

Class 1, Division 2, Groups A, B, C, and D or non-hazardous (unclassified) locations only.

Classe 1, Division 2 sont adéquates pour utilisation en Classe 1, Division 2, Groupes A, B, C et D, ou en lieux non-hasardeux (non-classifiés) seulement

⚠ WARNING	**EXPLOSION HAZARD – REPLACE BATTERY PACK ONLY IN AN AREA KNOWN TO BE NON-HAZARDOUS, AND ONLY WITH HARRIS PART NO. 14035-4045-01.** **AVERTISSEMENT – RISQUE D'EXPLOSION – LES BATTERIES DOIVENT ÊTRE REMPLACÉES DANS UNE ZONE RECONNUE NON-HASARDEUSE SEULEMENT, ET SEULEMENT AVEC UNE BATTERIE HARRIS PORTANT LE NUMÉRO DE PIÈCE 14035-4045-01.**
⚠ WARNING	**EXPLOSION HAZARD – Substitution of any component may impair suitability for Class I, Division 1; Class II, Division 1; Class III, Division 1; or Class 1, Division 2.** **AVERTISSEMENT – RISQUE D'EXPLOSION – Une substitution de toute composante pourrait compromettre la convenance pour la Classe I, Division 1; Classe II , Division 1; Classe III , Division 1; ou Classe 1 , Division 2.**

⚠ **WARNING**

EXPLOSION HAZARD – Do not exceed maximum battery charging current of 1.7 A or maximum charging voltage of 8.4 V DC at any time.

⚠ **WARNING**

CAUTION - The battery used in this device may present a risk of fire or explosion when heated above 100°C (212°F) or incinerated. Replace battery with Harris Part No. 14035-4045-01 only. Use of another battery may present a risk of fire or explosion.

Battery replacement instructions: Remove battery by 1) depressing battery latches then 2) remove battery from radio chassis. Install replacement battery by inserting battery in radio chassis opening and depressing battery into chassis until both battery latches are engaged. Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire.

⚠ **WARNING**

EXPLOSION HAZARD – In addition to any simple single-ended coil antenna and carrying case option, only the following Harris accessories may be used with this radio:

PART NUMBER	DESCRIPTION	Approved Hazardous Locations
12082-0600-01	Standard Speaker Mic – Non-Antenna	US: Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D Canada: Class 1, Division 2, Groups A, B, C and D
12082-0600-02	Speaker Microphone, Emergency Button	US: Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D Canada: Class 1, Division 2, Groups A, B, C and D
12082-0600-03	Speaker Microphone, Emergency Button, Antenna, 18"	US: Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D Canada: Class 1, Division 2, Groups A, B, C and D
12082-0650-13	Headset, Heavy Duty, Behind-the-Head, w/PTT	US: Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D Canada: Class 1, Division 2, Groups A, B, C and D
12082-0650-14	Headset, Heavy Duty, Over-the-Head, w/PTT	US: Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D Canada: Class 1, Division 2, Groups A, B, C and D

PART NUMBER	DESCRIPTION	Approved Hazardous Locations
LS103239V1	Earphone for speaker/mic	US: Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D Canada: Class 1, Division 2, Groups A, B, C and D
LS103239V2	Earphone for speaker/mic, Right Angle	US: Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D Canada: Class 1, Division 2, Groups A, B, C and D
12082-0600-04	Speaker Microphone, Emergency Button, Antenna, 25.6"	US: Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D Canada: Class 1, Division 2, Groups A, B, C and D
12082-0600-05	Speaker Microphone, Emergency Button, Antenna, 30"	US: Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F and G; Class III, Division 1 hazardous locations; Class 1, Division 2, Groups A, B, C and D Canada: Class 1, Division 2, Groups A, B, C and D

4. INTRODUCTION

4.1 DESCRIPTION

The XL-Series portable radios provide the advanced connectivity that first responders require while addressing evolving voice and data communications. They meet MIL-STD-810G for durability and are certified to more stringent MIL-STD parameters for contamination by fluids and explosive atmospheres. XL portable radios support P25 Trunking, P25 Conventional, Enhanced Digital Access Communications System (EDACS), analog conventional, and BeOn® over a Wi-Fi® or LTE network.

NOTE	EDACS operation is not supported in UHF or VHF.
	Refer to Feature Manual 14221-7200-6130 for details on configuring and using BeOn on the XL Series radios.

Radio features include:

- Extremely Rugged – exceeds the standards of other radios on the market.

- Multiband Operation – supports any combination of VHF, UHF, and 700/800 MHz frequencies. Also, allows different bands to be enabled for selected users.

- Single-key DES Encryption – provides basic secure communications without having to buy the complete encryption option.

- Instant Recall of Received Audio – allows user to replay the last transmission received to avoid unnecessary repetition.

- Active Noise Cancellation – with three internal microphones to transmit intelligible audio from users in loud environments.

- Built-in GPS – for location reporting and rapid response for emergencies.

- Integrated Bluetooth® – for wireless interface to selected accessories.

- Wi-Fi Connectivity – permits simple and easy radio software and personality updates.

- Wi-Fi Access Point – Radios that include the LTE option can be configured via RPM2 to act as a Wi-Fi access point and/or router, providing access to broadband data for Wi-Fi devices. Refer to RPM2's online help when configuring the radio for these functions.

- Covert Mode – allows users to quickly configure the radio for operation in a covert environment.

- Fully Programmable Keypad – each key can be programmed to a variety of functions.

- 4-position switch – provides added configuration flexibility.

- Unique User Interface – tools specially designed by first responders make radio operation simple and intuitive. An easy-to-read multi-color front display and a monochromatic top display with optional colored backlighting enhance communications for improved user safety.

For optional accessories, refer to Table 4-1. Additional accessories may have been added since publication of this manual; contact Harris for more information.

4.2 STORAGE GUIDELINES

Store your radio and batteries in a clean, cool (not exceeding 86 °F [+30 °C]), dry, and ventilated storage area.

4.3   BASIC SETUP

4.3.1   Assemble the Radio

⚠️ **WARNING**	**Only use a Harris charger approved for the battery chemistry. Injury could occur from improper charger use.**
⚠️ **CAUTION**	Do not over-tighten the antenna as damage could result.
🛈 **NOTE**	Please charge battery fully before first use. Due to government regulations, batteries ship in a discharged state and may require up to two (2) minutes in a charger for successful initialization. During initialization, the charger will not show any charge indication. After this initialization period, charging will resume normally.

1. Make sure batteries are charged per the manual supplied with the charger.

2. To attach optional belt clip, remove the existing tab from the back of the radio above the battery compartment. Slide the belt clip into the groove.

3. Lift clip, if installed, and slide top of battery into top of battery compartment at the rear of the radio.

4. Press down on bottom side of battery until it snaps into place.
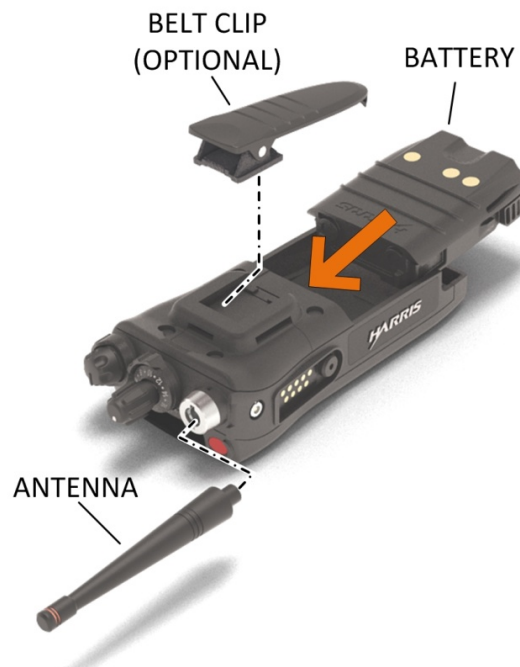
Figure 4-1: Radio Assembly

4.3.2   Removing the Battery

To remove, press and hold the two tabs at the bottom of the battery and then pull battery up and out of the radio.

Figure 4-2: Remove the Battery

4.3.3   Removing the Optional Belt Clip or D-Post

Remove the battery before removing the belt clip or D-Post. To remove the belt clip, pry up on the metal spring towards the top of the battery compartment (see Figure 4-3) using a flat head screwdriver and slide the belt clip or D-Post out of the groove in the back of the radio.

Pry up on the metal spring here to release the belt clip or D-Post.

Do **NOT** attempt to pry here! This is part of the speaker port.
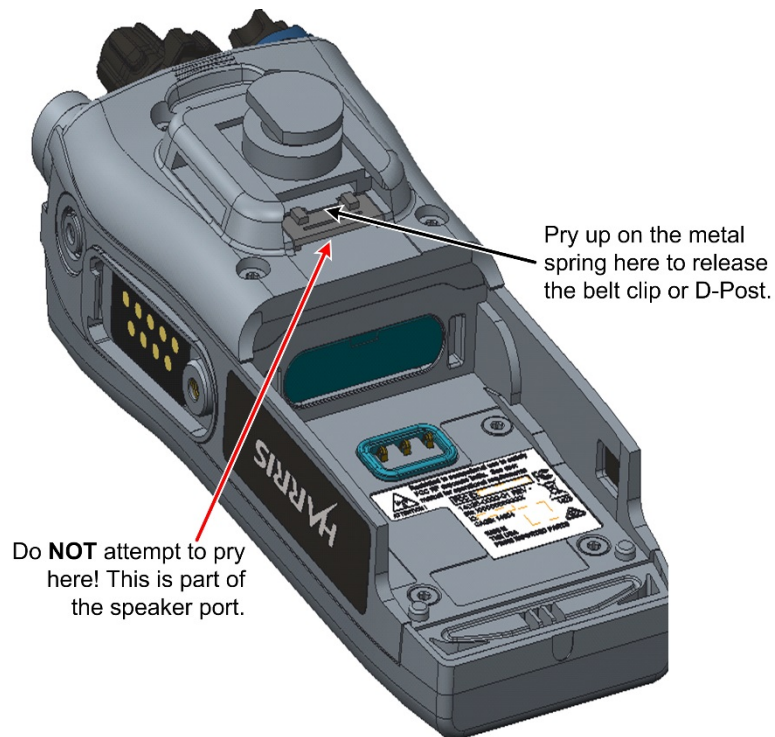
Figure 4-3: Remove Belt Clip

4.3.4 Install the SIM Card

Figure 4-4 shows how to install the SIM card in the LTE version of the radio.

Note:
The SIM card must be oriented with the alignment notch as shown in the diagram above.

Figure 4-4: SIM Card Installation

4.4   UNIVERSAL DEVICE CONNECTOR

The Universal Device Connector (UDC) provides connections for external accessories such as a headset, a speaker-microphone, audio test box, audio test cables, and programming cables. The UDC is located on the right side of the radio, opposite the PTT Button. The UDC facilitates programming and testing the radio. The UDC pins perform different functions depending on the accessory attached to the UDC.

Figure 4-5: Universal Device Connector

4.5   CLEANING

Keep the exterior of the radio, battery, antenna, and radio accessories clean.

Periodically clean using the following procedures:

1. To remove dust and dirt, clean using damp clean cloth (warm water and mild detergent soap).

2. Follow by wiping with damp (warm water) clean cloth. Wipe dry with clean cloth.

3. Remove the battery and wipe the battery and radio contacts using a soft dry cloth to remove dirt or grease. This will ensure efficient power transfer from the battery to the radio.

4. Remove any accessories and clean the UDC contacts using a clean dry cloth. When the UDC is not in use, cover the connector with the protective dust cap to prevent the build-up of dust or water particles.

5. If the radio is used in a harsh environment (such as driving rain, salt fog, etc.), it may be necessary to periodically dry and clean the battery and radio contacts with a soft dry cloth or soft-bristle non-metallic brush.

For more rigorous cleaning, use the following procedure:

⚠ CAUTION	Do not use chemical cleaners, spray, or petroleum-based products. They may damage the radio housing. We recommend using Chemtronics® Electro-Wash® PR (ES-1603) or equivalent.

1. Apply the cleaning solution to a clean damp cloth and clean the radio.

ⓘ NOTE	Do not spray cleaning solution directly on radio. To clean the radio in the speaker and microphone areas, carefully wipe these areas but prevent the cleaning solution from entering the speaker or microphone openings.

2. Wipe off the radio with clean damp cloth using mild warm soapy water.

3. Follow up by wiping off the radio with clean damp cloth using warm water only.

4. Wipe dry with clean cloth.

4.6 OPTIONS AND ACCESSORIES

Only use Harris approved accessories. Refer to Harris' Product and Services catalog for the complete list of options and accessories available. Contact Harris for requirements not contained in this list:

⚠ CAUTION	Always use the correct options and accessories (battery, antenna, speaker/mic, etc.) for the radio. Immersion rated options must be used with an immersion rated radio. Refer to Table 4-1.

⚠ CAUTION	**ONLY accessories marked with an asterisk (*) are approved for use with C1D1 radios.**

Table 4-1: Options and Accessories

DESCRIPTION	PART NUMBER	OPTION NUMBER
ANTENNAS		
Antenna, Full Spectrum XL-200P Only*	14035-4000-01*	XL-NC5Z*
Antenna, Whip Wideband 378-520 MHz, 762-870 MHz XL-200P Only*	14035-4420-01*	XL-NC8E*
Antenna, Whip, 1/4 Wave, 762-870 MHz XL-200P Only*	14035-4440-02*	XL-NC8F*
Antenna, Whip, 1/2 Wave, 762-870 MHz XL-200P Only*	14035-4440-01*	XL-NC8D*
Antenna, Whip, 1/4 Wave, 762-944 MHz XL-185P Only (Not approved w/LTE Option)	14035-4450-02	XL-NC9F
Antenna, Whip, 1/2 Wave, 762-944 MHz XL-185P Only (Approved w/LTE Option)	14035-4450-01	XL-NC9D
Antenna, 896-941 MHz XL-185P Only (Not approved w/LTE Option)	KRE1011223/02	MAEX-NNC1Z
BATTERIES/CHARGERS		
Battery, Lithium, Standard Capacity	14035-4010-01	XL-PA3V
Battery, Li-Ion, 3100 mAH	14035-4010-04	XL-PA3V

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* Approved for use with C1D1 radios.

DESCRIPTION	PART NUMBER	OPTION NUMBER
Battery, Li-Ion, 3100 mAH, UL	14035-4010-05	
Battery, Li-Ion, 7.2VDC, 3100 mAh C1D1*	14035-4045-01*	XL-PA4F*
Charger, Single Bay*	14035-1800-01*	XL-CH4X*
Charger, Multi Bay*	14035-1800-02*	XL-CH5A*
Charger, Vehicular*	14035-4100-01*	XL-CH4W*
AUDIO ACCESSORIES		
Speaker Microphone*	12082-0600-01*	XL-AE9N*
Speaker Microphone, Emergency Button*	12082-0600-02*	XL-AE4B*
Speaker Microphone, Emergency Button, Antenna, 18"*	12082-0600-03*	XL-AE2K*
Speaker Microphone, Emergency Button, Antenna, 25.6"*	12082-0600-04*	XL-AE2J*
Speaker Microphone, Emergency Button, Antenna, 30"*	12082-0600-05*	XL-AE2L*
Speaker Microphone, Wireless, Bluetooth	12082-0681-01	XL-AE6K
Speaker Microphone, Premium, Fire, Noise Cancelling	12150-1000-01	XL-AE1T
Speaker Microphone, Premium, Fire, Noise Cancelling, High Visibility Yellow	12150-1000-05	XL-AE1X
Microphone, Palm, 2-Wire, Black	12082-0650-01	XL-AE6G
Microphone, Palm, 2-Wire, Beige	12082-0650-02	XL-AE6M
Microphone, Mini-Lapel, 3-Wire, Black	12082-0650-03	XL-AE6H
Microphone, Mini-Lapel, 3-Wire, Beige	12082-0650-04	XL-AE6N
Earphone Kit, Black	12082-0650-05	
Earphone Kit, Beige	12082-0650-06	
Headset, In-Ear, Boom Mic, In-Line PTT	12082-0650-07	XL-AE2A
Headset, Light Weight, Over-the-Head, Single Ear, In-Line PTT	12082-0650-08	XL-AE2B
Headset, Light Weight, Behind-the-Head, Dual Ear, In-Line PTT	12082-0650-09	XL-AE2C
Headset, Light Weight, Behind-the-Head, Dual Ear, Pig Tail PTT	12082-0650-10	XL-AE2D
Headset, Light Weight, Behind-the-Head, Dual In-Ear, In-Line PTT	12082-0650-11	XL-AE2E
Headset, Light Weight, Behind-the-Head, Dual In-Ear, Pig Tail PTT	12082-0650-12	XL-AE2F
Headset, Heavy Duty, Behind-the-Head, w/PTT*	12082-0650-13*	XL-AE1P*
Headset, Heavy Duty, Over-the-Head, w/PTT*	12082-0650-14*	XL-AE1R*
Headset, BTH Boom Mic, Earpiece, w/PTT	12082-0650-15	XL-AE2G
Headset, Tactical, Boom Mic, Earpiece, w/PTT	12082-0650-16	XL-AE1H
Skull Mic, w/Body PTT, Earcup	12082-0650-17	XL-AE1L
Throat Mic, w/Acoustic Tube, Body PTT	12082-0650-18	XL-AE1M
Throat Mic, w/Acoustic Tube, body and Ring PTT	12082-0650-19	XL-AE1N
Bluetooth, Covert, Earpiece/MIC/PTT, Radios	12082-0684-01	XL-AE1S
Earphone, Lapel Microphone*	LS103239V1*	XL-AE3Z*
Earphone, Speaker Mic, Right Angle, 2.5 MM*	LS103239V2*	XL-AE1K*
MISCELLANEOUS ACCESSORIES		
Cable, Data Interface	12082-0445-A1	XL-CJ4A
Cable, MATQ-03424, Test	12082-0435-A1	
Cable, USB, Key Loading/Programming	12082-0410-A1	XL-CJ3A
Cable, KVL, Key Loading	12082-0400-A1	XL-CJ3B
Adapter, 6-Pin Hirose	14002-0197-01	XL-CJ4B
Holster, Leather, Radio, Premium	14035-4200-01	
Holster, Leather W/Rings, Radio, Premium	14035-4200-02	
Holster, Nylon, Black, Radio, Premium	14035-4200-03	
Holster, Ring, Leather, Radio, Premium	14035-4200-04	
Case, Leather, Premium, Belt Loop, D-swivel	14035-4201-01	XL-HC4K

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* Approved for use with C1D1 radios.

DESCRIPTION	PART NUMBER	OPTION NUMBER
Case, Leather, Premium, Shoulder Strap	14035-4201-02	XL-HC4L
Case, Leather, Premium, Shoulder Strap	14035-4202-01	
Holster, Leather W/Rings, Radio, Standard	14035-4202-02	
Holster, Nylon, Black, Radio, Standard	14035-4202-03	
Holster, Ring, Leather, Radio, Standard	14035-4202-04	
Belt Loop, Leather, Premium *	14002-0218-01*	XL-HC4A*
D-Swivel*	12082-3230-01*	
Strap, Shoulder	CC103333V1	
Metal Belt Clip*	12082-1290-01*	XL-HC3L*
Case, Leather, Premium, Shoulder Strap	14035-4201-02	XL-HC4L
Belt Loop, Leather	KRY1011609/1	
Holster, Leather, Premium	14036-4000-01	
Holster, Leather W/Rings, Premium	14036-4000-02	
Side Connector Cover*	12082-1398-01*	XL-ZN7V*

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* Approved for use with C1D1 radios.

4.7 RELATED PUBLICATIONS

The following publications contain additional information about the radio and related products:

MANUAL NUMBER	DESCRIPTION
14221-1800-2010	Portable Radio Product Safety Manual
14221-1800-1000	XL-200P/XL-185P Portable Radio Quick Guide
14221-1800-2000	XL-200P/XL-185P Portable Radio Operator's Manual
14221-1800-8000	XL-200P/XL-185P Portable Radio Software Release Notes
MM1000019423	Key Manager and Key Admin Overview and Operation Manual
MM1000019424	Key Manager and Key Loader Overview and Operation Manual
14221-1600-2090	Single-Bay Desktop Charger Operator Manual
14221-1600-2110	VC4000 Vehicular Charger Operator Manual
14221-7200-6110	Voice Annunciation Feature Manual
14221-2100-3000	Advanced Access Control/Radio Personality Manager Overview Manual
14221-1100-8170	Radio Personality Manager 2 (RPM2) Software Release Notes
14221-7200-6130	BeOn Configuration and Use Feature Manual

The product safety manual and the quick guide are included with the radio equipment package when the radio ships from the factory. All publications listed above are available at www.pspc.harris.com via an Information Center login and Tech Link.

5. BASIC OPERATION

5.1 RADIO CONTROLS

Group/Channel Knob

Power/Volume Knob

Antenna Connector

Top Display

A/B Switch

Emergency Button

Indicator LED

Microphone (Primary)

A/B/C/D Switch

User-Programmable Button

Speaker

PTT Button

Front Display

User-Programmable Soft Keys

User-Programmable Buttons

Navigation Buttons

Menu/Select Button

Battery

Keypad (Full Keypad Models)

Microphone (Secondary)

Figure 5-1: Radio Controls

ℹ️ **NOTE**	Table 5-1 describes the default functions of buttons, knobs, and controls. Most can be programmed for different functions; see Section 7.4 for more information.

Table 5-1: Radio Controls, Indicators, and Connectors

CONTROL/INDICATOR	FUNCTION
Group/Channel Knob	Selects groups/channels.
Power/Volume Knob	Turn clockwise to power on radio and increase volume of audio heard from speaker. Minimum volume levels may be programmed into the radio to prevent missed calls due to a low volume setting.
A/B (Ø/O) Switch	User-programmable switch (see Section 7.4.2).

CONTROL/INDICATOR	FUNCTION
Microphone (Secondary)	When noise cancellation is enabled, the secondary and primary microphones are used together to form a dual microphone system. Noise cancellation improves the quality of transmitted voice. When noise cancellation is disabled, only the primary microphone is used. See Section 5.17 for detailed information on using noise cancellation.
A/B/C/D Switch	User-programmable switch (see Section 7.4.3). By default, selects one of four channel banks (see Section 5.12).
User-Programmable Buttons	Used to select a commonly used function as an alternative to navigating menus. This is configured via programming using Radio Personality Manager 2 (RPM2). See Section 7.4.1 for the options that can be programmed to these buttons.
Push-To-Talk (PTT) Button	Press to transmit. Make sure Push-To-Talk (PTT) is enabled (Section 6.5).
Battery	Battery - Refer to Section 4.3 for battery connection and removal.
Antenna Connector	Antenna connector.
Emergency Button	Used to place radio in emergency mode (see Section 5.32). This button can be disabled via programming using RPM2. In addition, this button can be used in conjunction with a User-Programmable Button to clear emergencies if configured to do so.
Indicator Light Emitting Diode (LED)	Indicates radio status: • Red = actively transmitting. • Green = actively receiving. • Orange = actively transmitting encrypted.
Top Display	Shows summary of radio operation, including channel/talkgroup (which can be color coded), as well as a variety of programmable icons. Display orientation can be configured for viewing from the front or rear of the radio. (Section 6.6).
Speaker	Radio speaker which can be muted (Section 6.5). Adjust volume using the Power/Volume knob.
Microphone (Primary)	When noise cancellation is enabled, the primary and secondary microphones are used together to form a dual microphone system. Noise cancellation improves the quality of transmitted voice. When noise cancellation is disabled, only the primary microphone is used. See Section 5.8 for detailed information on using noise cancellation.
Front Display	Front display shows complete status and radio menus.
User-Programmable Soft Keys	User-programmable dynamic keys that have their current function labeled on the radio display directly above each button. See Section 7.4.1 for the options that can be programmed to these buttons.
Menu/Select Button	From the Main Display, press this button to access the menu. Also, selects highlighted menu items.

CONTROL/INDICATOR	FUNCTION
Navigation Buttons	Navigates menu items. In addition: Press the left navigation button (◀) while on the idle display to access Channel Information (see Section 6.4). Press the down navigation button (▼) while on the idle display to display the functions assigned to programmable buttons (see Section 7.4). Press the up navigation button (▲) to display Missed Call info. Press the right navigation button (▶) to end or reject an I-Call.
Keypad	By default, used to enter text or numbers. Can be programmed for various functions (see Section 7.4).

5.2   SOFT DTMF KEYPAD

The partial keypad model of the radio supports a "soft" DTMF keypad. This allows the radio user to utilize a graphical DTMF keypad in place of a physical DTMF keypad.

On screens that require keypad entry, press the **KEYPAD** softkey to display the keypad. Use the navigation buttons to highlight the desired number, press the Menu/Select button to select highlighted digit, and then press the **ENTER** softkey.

For example, when placing an Individual Call to a numeric address, the soft DTMF keypad can be used to enter the address as shown:

Figure 5-2: Using the Soft DTMF Keypad

5.3   BEFORE FIRST USE

Make sure the radio has:

- Fully charged battery

- Antenna attached

- Personality and radio programmed using RPM2

- Encryption keys loaded if using encrypted channels

- Personality activated

5.4 POWER ON AND SET VOLUME

The power switch and volume control are the same knob on top of the radio (see Figure 5-1). Turn the Power/Volume Knob clockwise to power on radio and increase the volume.

NOTE	A minimum volume level can be programmed into the radio to prevent missed calls due to a low volume setting.

NOTE	The radio can be programmed to require the entry of a PIN to operate the radio. Check with your System Administrator if you forget your PIN. As the PIN is entered, an asterisk is displayed for each digit; the actual value is not displayed.

5.5 RADIO DISPLAYS

5.5.1 Top Display

The top display (Figure 5-3) shows a summary of status, such as channel number/bank, channel short name, battery, scanning, and emergency mode. The display can be configured for viewing from the front or rear of the radio (see Section 6.6). The channel short name is programmed using RPM2.
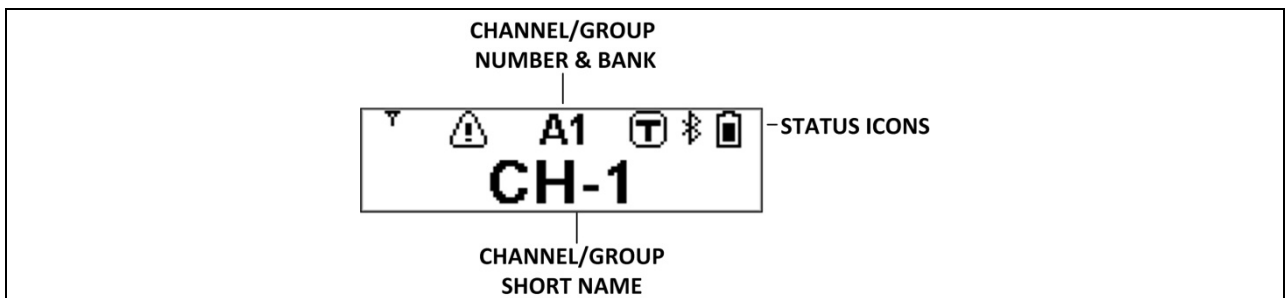

Figure 5-3: Top Display

5.5.2   Front Display

Figure 5-4 shows a sample front display while on the idle screen. The idle screen appears after power up or after exiting from the menus.
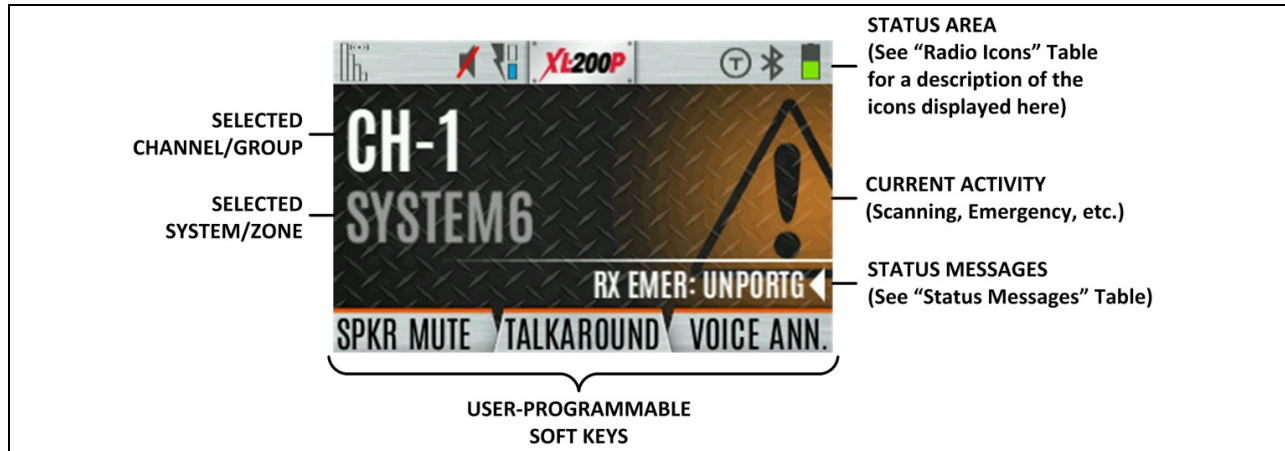

Figure 5-4: Sample Idle Front Display

ℹ️ **NOTE**	The radio can be programmed to display the User ID on the System line of the display.

Table 5-2 describes some of the icons that may be displayed by the radio. The radio menu also contains an icon glossary in the Utility Menu (see Section 5.8). Icons and their location can be customized using RPM2.

Table 5-2: Radio Icons

ICON	DESCRIPTION	ICON	DESCRIPTION	ICON	DESCRIPTION
	(Blue) Trunked Signal Strength		Bluetooth Enabled		Monitor On
	(Red) TX Power		(Blue) Bluetooth Connected		VDOC
	(Green) Receive Signal Strength		Encryption Enabled		Receiving Data
	(No Color) Channel Idle		Global Encryption		Transmitting Data
	(Orange) Transmitting Encrypted		OTAR Disabled		Alert(s) Present
	Battery Fully Charged		OTAR Registered		Vote Scanning
	Battery Level 100% Capacity		OTAR Registering		Scanning Enabled
	Battery Level 75% Capacity		OTAR Rekeying		Emergency

ICON	DESCRIPTION	ICON	DESCRIPTION	ICON	DESCRIPTION
	Battery Level 50% Capacity		Transmit Power Level High		RX Mail
	Battery Level 25% Capacity		Transmit Power Level Low		Noise Cancellation Enabled
	Battery Level 5% Capacity (Low Battery Audio Indicator)		RX Only		Fire Speaker Mic Attached
	Battery Level Battery Exhausted (RX-Only State)		Speaker Muted		Nuisance Channel
	Battery Charging		TX Disabled		Conventional Site Unregistered
	Talkaround Enabled		Tones Disabled		Conventional Site Registered
	Failsoft		PTT Disabled		Type 99 Enabled
	LTE – Registered Foreign Network		LTE – Denied or Unknown Registration Status		GPS Tracking
	LTE – Registered Home		LTE – No Signal		Wi-Fi Clients Connected

5.6 MANDOWN

If enabled via radio programming, the following conditions can be configured to trigger a Mandown condition:

- MOTION - Mandown is declared with lack of motion.

- TILT - Mandown is declared when the radio is tilted.

- BOTH - Mandown is declared by radio tilting and lack of motion.

This can be useful if, for example, a radio user is in danger and has not moved for a certain amount of time. If the user's movement falls below the configured level, then a tone begins playing. An Emergency is declared on the channel/group based on the radio's Emergency configuration.

5.7 STATUS MESSSAGES

The radio may display various radio Status Messages during operation. These messages are described in Table 5-3.

Table 5-3: Status Messages

MESSAGE	DESCRIPTION
PTT DENIED	P25 Trunked and EDACS - The radio or talkgroup is not authorized to operate on the selected system and/or talkgroup.
CALL QUEUED	P25 Trunked and EDACS - The system has placed the call in a request queue.
SYSTEM BUSY	P25 Trunked and EDACS - The system is busy, no channels are currently available, the queue is full, or an individual call is being attempted to a radio that is currently transmitting.
SCANNING	The radio is scanning.
TX EMERGENCY	An emergency call is being transmitted.
RX EMERGENCY	An emergency call is being received. The radio displays the unit name or unit ID.
WIDE AREA SCAN	P25 Trunked and EDACS - The radio has entered the Wide Area Scan mode to search for a new system.
INVALID TALKGROUP	P25 Trunked and EDACS - The current talkgroup is not valid for the current system. This could happen if the site denies registration due to an unrecognized talkgroup ID.
INVALID UNIT	P25 Trunked and EDACS - The current unit is not valid for the current system.
REGISTERING	P25 Trunked only - Displayed when the radio is performing a registration/affiliation on a P25 trunking site.
CTRL CHANNEL SCAN	P25 Trunked and EDACS - The control channel is lost and the radio has entered the Control Channel Scan mode to search for the control channel (usually out of range indication).
BAND SCANNING	P25 Trunked and EDACS - Only displayed if the system is configured for "EnhancedCC" mode of operation. When the radio cannot find a Control Channel in either the trunked frequency set or the list of discovered adjacencies, the radio can perform a full spectrum frequency scan to find a new Control Channel.
MISSED CALL	P25 Modes and EDACS - Another user has tried to call or page this radio. The user can view who the caller was by pressing the ▲ key.
OTAR REKEY COMPLETE	OTAR Rekey operation completed successfully.

5.8 PREDEFINED MENU LAYOUTS

Depending on radio programming, some menu options described in this manual may not be available. The radio supports three predefined menu layouts: Full, Custom, and Restricted. Table 5-4 details what is available in each layout:

NOTE	The Custom predefined menu layout allows the administrator to customize the list of menu items that are available to the radio user. Table 5-4 lists the default settings.

Table 5-4: Predefined Menu Layouts

MENU	FULL	CUSTOM (Default Settings)	RESTRICTED
Call Menu	Yes	Yes	Yes
Exit Emergency	Yes	Yes	Yes
Talkaround	Yes	Yes	Yes
Individual Call	Yes	Yes	Yes
Change Talkgroup	Yes	Yes	Yes
Call Alert/Page	Yes	Yes	Yes
Channel Guard	Yes	Yes	Yes
Audio Playback	Yes	Yes	No
Tone Encode	Yes	Yes	Yes
T99	Yes	Yes	Yes
Audio Settings	Yes	No	No
Display Settings	Yes	Yes	Yes
GPS Settings	Yes	No	No
Clock Settings	Yes	Yes	No
Bluetooth Settings	Yes	Yes	No
Scan Menu	Yes	Yes	Yes
Enable/Disable Scan	Yes	Yes	Yes
View Scan List	Yes	Yes	No
Edit Zone Scan List	Yes	No	No
View Custom Channels	Yes	Yes	No
Edit Custom Scan List	Yes	No	No
Custom Scan	Yes	Yes	No
Site Roam	Yes	Yes	No
Security Menu	Yes	Yes	Yes
Encryption Enable	Yes	Yes	Yes
Zeroize	Yes	No	No
Global CKR Enable	Yes	No	No
GCKR Key Select	Yes	No	No
Active Key Set	Yes	Yes	Yes
Key List	Yes	Yes	No
OTAR Enable	Yes	Yes	No
OTAR Rekey	Yes	Yes	Yes

MENU	FULL	CUSTOM (Default Settings)	RESTRICTED
Message Menu	Yes	Yes	Yes
Radio Status	Yes	Yes	No
Radio Message	Yes	Yes	No
Textlink Messages	Yes	Yes	No
Textlink Forms	Yes	Yes	No
Textlink Mailbox	Yes	Yes	No
Faults	Yes	Yes	Yes
Program Menu	Yes	Yes	No
Activate Plan	Yes	Yes	No
Activate Profile	Yes	Yes	No
Maintenance Menu	Yes	Yes	Yes
Radio Info	Yes	Yes	No
Battery	Yes	Yes	No
TCXO Tuning	Yes	No	No
P25 Tests	Yes	No	No
RSSI Display	Yes	Yes	Yes
Phase II Display	Yes	Yes	No
Feature Info	Yes	Yes	No
WiFi Access Point	Yes	Yes	Yes
Change Language	Yes	No	No
Change PIN	Yes	Yes	Yes
Icon Glossary	Yes	Yes	Yes
Install GPP Software *x*	Yes	Yes	Yes
Zone	Yes	Yes	No

5.9 MENU

Press the Menu/Select button while on the idle display to access the menu. Press the left or right navigation buttons to scroll through the top-level menus, and press the up or down navigation buttons to scroll through the sub-menus. Refer to Figure 5-1 for button location. While in a menu, press the Menu/Select button to choose, activate, or toggle the selected item; similar to an enter key. Table 5-5 provides a high-level overview of the menu layout. Menu options on your radio may vary depending on available features and radio programming.

Table 5-5: Menu Navigation

MENUS	DESCRIPTION
CALL MENU:	
EXIT EMERGENCY MODE	Exits emergency. See Section 5.32 for more information.
TALKAROUND MODE	Enable/disable talk-around. See Section 5.23 for more information.
T99 TOGGLE	Enable/disable T99. See Section 5.24 for more information.
TONE ENCODE	Analog conventional only - Transmits a programmed tone sequence on the current radio system and channel. See Section 6.19 for more information.
INDIVIDUAL CALL	Allows you to select an individual for an individual call. See Section 5.15 for more information.
CHANGE TLKGRP	Change the selected talkgroup. See Section 5.14.
CALL ALERT	Select a group for Call Alert transmission. See Section 5.25.
CHANNEL GUARD	Select the Transmit and/or Receive Channel Guard tone. See Section 5.22.

MENUS	DESCRIPTION
AUDIO PLAYBACK	Replays the last recorded call. See Section 5.27 for more information.
SCAN MENU:	
START SCAN/STOP SCAN	Start or stop scan operation. See Sections 5.28 and 5.29.
SCAN LISTS	View/Edit available scan lists. See Section 6.14.
ASSIGNED CUSTOM LIST	Create, View, and Edit Custom Scan Lists. See Section 6.14.6.
SITE ROAMING	Enable/Disable Wide Area System Scan. See Section 6.14.7.
SITE ALIAS	Select an available site from this list to lock the radio to; i.e., prevent the radio from roaming. This is also known as Site Lock. See Section 6.14.8 for more information.
SECURITY MENU:	
ZEROIZE KEYS	Removes all encryption keys from the radio. See Section 6.20.2.
ENCRYPTION	Enable/Disable encryption. See Section 5.20.
GLOBAL ENCRYPTION	Enable/Disable Global Encryption. See Section 6.20.4.
GLOBAL KEY	Select the Global Key. Only available if Global Encryption is Enabled. See Section 6.20.4.
ACTIVE KEYSET	Select the Active Keyset. See Section 6.20.5.
KEY LIST	View available key lists. See Section 6.20.6.
OTAR	Enable/disable Over-the-Air Rekeying (OTAR). See Section 6.20.7.
OTAR REKEY	Request that the KMF updates the keys in the radio. See Section 6.20.7.
MESSAGES MENU:	
RADIO STATUS	Used to send a status condition to the site without making a voice call. See Section 6.14.8.
RADIO MESSAGE	Used to send a message to the site without making a voice call. See Section 6.16.
TEXTLINK MESSAGES	Allows the user to send a Radio TextLink message. See Section 6.17.
TEXTLINK FORMS	Allows the user to send a Radio TextLink form. See Section 6.17.
TEXTLINK MAILBOX	Contains received Radio TextLink messages. See Section 6.17.
FAULTS/ALERTS	Displays radio faults and alerts. See Section 6.18.
UTILITY MENU:	
AUDIO SETTINGS:	
• SPEAKER (MUTE/UNMUTE)	Mute or unmute the speaker audio.
• NOISE CANCELLATION	Enable or disable Noise Cancellation. See Section 5.17.
• PTT	Enable or disable Push-To-Talk (PTT). Disable PTT to prevent accidental keying, such as when radio is in the holster or you are getting into a car.
• TONES	Enable or disable radio side tones.
• KEYPAD TONES	Enable or disable tones that sound when the radio's keypad buttons are pressed.
DISPLAY SETTINGS:	
• COLOR SCHEME	Press the Menu/Select button to toggle the front and top display's COLOR SCHEME for optimum visibility in day or night conditions (NORMAL or INVERTED).
• FRONT BACKLIGHT	Press the Menu/Select button to toggle the front display backlighting between ON/OFF/MOMENTARY/MOMENTARY (OFF).
• FRONT BRIGHTNESS	Press the left or right navigation buttons to dim or brighten the display.
• FRONT TIMEOUT	When the FRONT BACKLIGHT setting is MOMENTARY, this value specifies how long the radio needs to be inactive before the front display's backlight turns off. Press the left or right navigation buttons to change the time in 0.5 second increments.
• FRONT DISPLAY OFF	Turns the front display off completely. Press the Menu/Select button to turn the front display back on.
• TOP BACKLIGHT	Press the Menu/Select button to toggle the top display backlighting ON/OFF/MOMENTARY.
• TOP BRIGHTNESS	Press the left or right navigation buttons to dim or brighten the display.
• TOP TIMEOUT	When the TOP BACKLIGHT setting is MOMENTARY, this value specifies how long the radio needs to be inactive before the top display's backlight turns off. Press the left or right navigation buttons to change the time in 0.5 second increments.
• TOP ORIENTATION	Set orientation of top display to be viewed from radio: FRONT, BACK, or AUTO. When AUTO is selected, the radio changes the top display to be viewed from the back if an external microphone or speaker is attached. Otherwise, the display can be viewed from the front.
• INDICATOR LED	Press the Menu/Select button to toggle the indicator LED ON or OFF.

MENUS	DESCRIPTION
BLUETOOTH: • ENABLED (YES/NO) • PAIRING MGMT	 Enable/disable Bluetooth. See Section 6.10 for more information. Pair Bluetooth devices with the radio. See Section 6.10 for more information.
CLOCK SETTINGS: • TIME FORMAT • TIME ZONE	 Select 12 or 24-hour time display format. Set time zone relative to Universal Time Coordinated (UTC).
GPS SETTINGS: • GPS (ENABLED/DISABLED) • POSITION INFO • ANGULAR UNITS • LINEAR UNITS • POSITION FORMAT • SA OVER NETWORK	 Enable/disable GPS. Displays GPS, Latitude, Longitude, and Altitude information. From this menu, click **NEXT** to access SA INFO (see Section 6.2). Set unit of measurement of displayed angular units: CARDINAL, DEGREES, or MILS. Set unit of measurement of displayed linear units: STATUTE, METRIC, or NAUTICAL. Set format of displayed position information: Latitude/Longitude Decimal Degrees (LAT LONG DD), Latitude/Longitude Degrees Minutes Seconds (LAT/LONG DMS), LAT/LONG DM, Military Grid Reference System (MGRS), or Universal Transverse Mercator (UTM). When Enabled, the radio sends GPS data to a Harris-supplied PC client using RNDIS networking.
PROGRAM: • ACTIVATE PLAN • PROFILES	 View/Activate a personality. See Section 6.1. Change current profile. See Section 5.16.
MAINTENANCE: • BATTERY INFO • RADIO INFO • TESTS • PH2 LC DISPLAY • DISPLAY RSSI • TCXO TUNING • FEATURE INFO	 When a smart battery is attached, displays detailed battery status information. When a regular battery is attached, displays battery voltage. Displays radio information, i.e., ESN, software revisions, and firmware revisions. Allows service personnel to run radio tests. For field service use only. When enabled, RSSI is displayed on the RSSI screen and in the bottom of the idle display. -130 dBm is displayed when there is no received signal. For field service personnel only. Improper adjustment will result in loss of communications. Displays what features are enabled on your radio.
WIFI CLIENT: • POWER • ADD NETWORK	Displays the status of Wi-Fi Connection (CONNECTED or DISCONNECTED). Turn Wi-Fi on/off. Displays the list of Trusted Wi-Fi Networks and is populated when Wi-Fi is powered on. You can view, add, modify, and remove a Wi-Fi Network.
WIFI ACCESS POINT: • POWER • CLIENT COUNT	 Power Wi-Fi On/Off. When the radio is configured as a Wi-Fi access point, displays the number of connected clients.
LTE: • PLMN (MCC/MNC): • Signal Strength: • Registration Status: • NGLM: • IMEI: • IMSI:	 Displays the Public Land Mobile Network (Mobile Country Code/Mobile Network Code). Displays the LTE signal strength. Indicates if you are registered (connected) to the LTE network. Displays the Next Generation LTE Module's software revision. Displays the International Mobile Equipment Identity. The IMEI is used to identify devices on a network. Displays the International Mobile Subscriber Identity. The IMSI is used to identify the user of a cellular network and is a unique identification associated with all cellular networks.
ICON GLOSSARY	Defines icons displayed by the radio.
INSTALL GPP SOFTWARE:	Select a GPP package to install.
CHANGE LANGUAGE	Press the up or down navigation buttons until the desired language is highlighted and then press Menu/Select button.
CHANGE PIN	Allows you to change your PIN.
ZONE MENU:	View or change zones/systems (see Sections 5.11 and 6.3.1).

5.10 ALERT TONES

The radio provides audible Alert Tones or "beeps" to indicate various operating conditions. Some of the most common tones are described in Table 5-6.

Table 5-6: Alert Tones

TONE	DESCRIPTION	SOUND/DURATION
Ready to Talk Tone Unencrypted (Analog FM or P25 digital)	After a PTT is pressed, this is an audible indication (tone) for you to begin speaking into the microphone.	1000 Hz tone for 25 ms
Ready to Talk Tone Encrypted P25 digital	After a PTT is pressed, this is an audible indication (tone) for you to begin speaking into the microphone.	1200 Hz tone for 25 ms
PTT Denied	PTT not possible. Momentary tone is present: • Receive only • Key not found • PTT button disabled • Emergency button disabled • Emergency not supported for current channel • Clear transmit denied • Trunking Channel unavailable	544 Hz tone for 75 ms
Maximum transmit duration expires	Maximum transmit duration is exceeded.	5 beeps of 2400 Hz tone and then a 544 Hz tone for as long as PTT is pressed
Low Battery Alarm	Alarm sounds upon initial detection of low battery and every 30 seconds thereafter. Tone stops upon detection of a battery charging state.	Sequence of tones: • 937 Hz tone for 50 ms • Silence for 60 ms • 1300 Hz tone for 50 ms
Emergency Call Received	Radio is receiving an emergency call or priority call.	600 Hz tone for 250 ms and 1800 Hz tone for 250 ms
Out of Range	Radio fails to find a local control channel.	Programmable via RPM2: • Disabled (no tone) • Slow (tone every 15s) • Medium (tone every 10s) • Fast (tone every 5s) • Tones is 544 Hz tone for 75 ms

5.11 SELECT ZONE/SYSTEM

A System is a group of channels or talkgroups that share a common set of parameters as programmed using RPM2. For example, a Trunking system defines the parameters needed to communicate on an infrastructure by agency or geographical region, such as WACN, System ID, Talkgroups, etc. A conventional system defines the channel set used and any specific signaling attributes (See RPM2 for more information on System attributes). Systems are designated by the XX icon in the Zone/System menu.

A Zone is an OPTIONAL *container* that can hold channels or talkgroups from a variety of systems (see Section 6.3.2). In other words, each member of a Zone belongs to an underlying system. (See RPM2 for more information on Zone attributes). Zones are always listed first in the Zone/System menu and are designated by the icon. A button on the radio can be programmed to scroll through available zones/systems (see Section 7.4).

Or

To select a zone/system via the menu:

1. Press the Menu/Select button to access the menus.

2. Use the left or right navigation buttons to display the **ZONE** menu. The currently selected zone/system will be highlighted. A personality can have up to 512 systems and up to 50 Zones, independent of banks or channels.

3. Use the up or down navigation buttons to highlight the desired zone/system. The ▲ and ▼ buttons may be held to scroll repetitively, and the menu will wrap to allow quick access to a zone/system,

4. Press the **VIEW ZONE** soft key to view channels in the zone/system, or select the desired zone/system using the Menu/Select button.
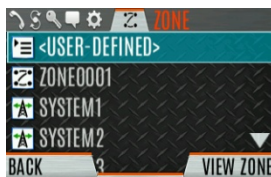
5.12 SELECT GROUP/CHANNEL AND BANK

The radio can be programmed with 1,250 talkgroups or 1000 channels per personality. Use the Group/Channel knob to select groups/channels 1 - 16. Use the A/B/C/D switch to set the bank. The selected bank is indicated on the display.

- Bank A: Channel A1 - A16 (1-16)

- Bank B: Channel B1 - B16 (17-32)

- Bank C: Channel C1 - C16 (33-48)

- Bank D: Channel D1 - D16 (49-64)

If your system has more than 64 groups/channels, a button on the radio can be programmed for the SEL CHAN/GRP option. This allows you to select a "super bank," providing access to groups/channels beyond the first 64.

Note that ZONES have a limit of 64 entries per zone and cannot be "superbanked."

Direct Channel Entry

A button on the radio can be programmed for Direct Channel Entry, which allows the user to enter the talkgroup/channel number directly from the keypad.

The radio can be programmed for one of the following Direct Channel Entry options:

- When a Zone is selected on the radio, Direct Channel Entry performs a lookup using the currently selected system's group list

  Or

- When a Zone is selected on the radio, Direct Channel Entry performs a lookup using the currently selected Zone's system/group list.

5.13 LOCK/UNLOCK KEYPAD

There are two levels of keypad lock available. Keypad lock and Radio lock. Keypad lock only locks the navigation keys (except for use in unlock), programmable softkeys, and DTMF keypad. Radio lock disables all physical keys and knobs except:

- The 4-position switch

- PTT

- Emergency Button

- Any User Programmable Button (UPB) programmed for Monitor/Clear. (This is required to allow Monitor/Clear to function for 2-button emergency clear.)

The A/B switch, ABCD switch, or a button on the radio can be programmed to lock the keypad/radio. If the keypad was locked via a switch, moving the switch to another position will unlock the keypad. If locked via a button, the navigation keys must be used to enter the unlock sequence of Left, Right, Up Down.

NOTE	See Section 7.4 for the various options that can be programmed to the radio buttons and switches.

5.14 GROUP CALLS

5.14.1 Transmit a Group Call

A talkgroup is a group of radios that you want to have private conversations with. These groups can be divided into areas such as state, region, county, or large special events. A group call can only be made on digital channels.

Turn the Channel/Group knob to select the desired group (see Figure 5-1). Press PTT to transmit.

Or

A button on the radio can be programmed for DIRECT CHANNEL ENTRY to allow the user to enter the talkgroup/channel number. Press PTT to transmit.

Or

To transmit a group call:

1. In P25 Conventional, the talkgroup for the selected channel may be overridden as follows: Press the Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **CALL** menu.

3. Press the up or down navigation buttons to highlight **CHANGE TLKGRP** and press the Menu/Select button.
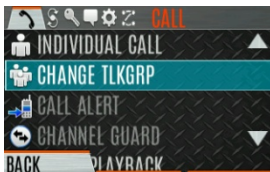
4. Press the up or down navigation buttons to highlight and the desired talkgroup and press the Menu/Select button. After selecting the new talkgroup, the radio returns to the main screen.
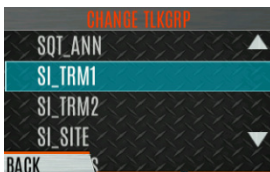
5. Press the PTT button to transmit.

5.14.2 Receive a Group Call

When receiving a group call, the status area of the idle display toggles between the Unit Name and the Group Name of the transmitting radio. Note that if either of those names is not programmed the corresponding ID number is displayed.
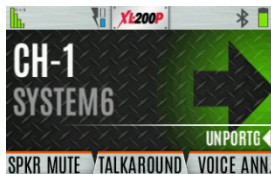
5.15 INDIVIDUAL CALLS

An individual call is used to make a call to one radio as opposed to a group of radios. An individual call can only be made on a digital channel.

5.15.1   Transmit an Individual Call

1. Press Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **CALL** menu.

3. Press the up or down navigation buttons to highlight **INDIVIDUAL CALL** and press the Menu/Select button.
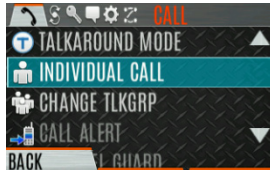
4. Use the up or down navigation buttons to highlight the unit to call and press the Menu/Select button, or select **KEYPAD** to enter the Unit ID.
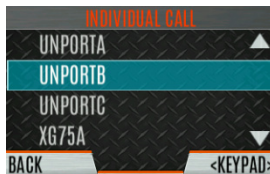
5. Press PTT to make the call. When transmitting an Individual Call, the radio displays the called radio's name or Unit ID. If the radio is programmed for Acknowledged Individual Call, the radio displays "CALL QUEUED" until the callee answers or rejects the call.
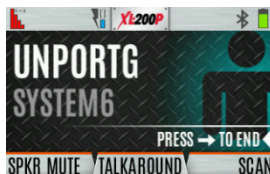
6. After the callee answers, press PTT to respond.

7. Press ▶ to end the call.

How long the radio remains in Individual Call mode with no activity is programmable.

5.15.2   Receiving an Individual Call

1. When receiving an Individual Call, the radio displays the calling radio's name or Unit ID. The radio will also display "Press → to END."

2. Press PTT to respond or ▶ to END/REJECT the call. How long the radio remains in the Individual Call mode with no activity is programmable.

3. The radio rings and indicates a missed call if you do not respond. The ring sounds until you press PTT, view the missed call menu (▲), change channel/group/system, or power cycle the radio.

4. On the missed call screen, press the **DISMISS** soft key to clear the entry.
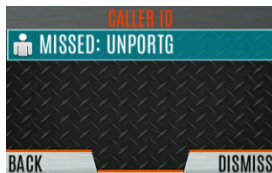

5.16 USER PROFILES

XL-series radios support User Profiles (also referred to as "My Profile"). A User Profile is a grouping of preset configurations that allow the user to change radio operation based on current activity/scenario. For example, the radio can be programmed with profiles named Noisy, Fire, etc., and the radio user can switch profiles on the radio depending on the environment they are entering. User Profile selection persists across system/group changes and power cycles. Up to 10 profiles can be programmed to the radio. When you activate a new personality, the selected Profile changes to None.

A "Covert" Profile is installed on the radio by default. This profile cannot be modified or deleted. The following attributes apply when the Covert profile is active:

- The speaker is enabled.

- All tones are disabled.

- Keypad tones are disabled.

- Voice Annunciation is disabled.

- The front display backlight is disabled

- The top backlight is turned off.

- The indicator LED is disabled.

- All other attributes remain at their current value.

To change the currently selected Profile:

1. Press the Menu/Select button to access the menu.

2. Press the left or right navigation buttons until the **UTILITY** menu is displayed**.**

3. Press the up or down navigation buttons to highlight **PROGRAM** and press the Menu/Select button.
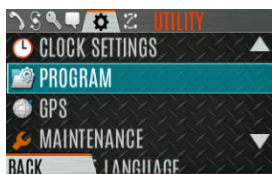
4. Press the left or right navigation buttons until the **PROFILES** menu is displayed.
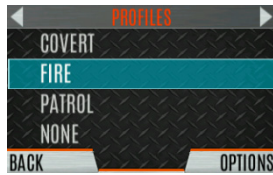
5. Press the up or down navigation buttons to select the desired Profile and press the Menu/Select button.

A profile change persists across system/channel changes and power cycles.

NOTE	A button on the radio keypad can be used to toggle profiles. See Section 7.4.1.

5.17 NOISE CANCELLATION

The XL-Portable features Harris' proprietary noise suppression capability to provide clear and crisp voice quality in high-noise environments. This can be used in any mode, including analog and digital communications.

The radio has three microphones; two located at the top of the radio (primary) and one on the bottom (secondary). When noise cancellation is enabled, voice is picked up by the upper left microphone, and noise is picked up from the bottom microphone.

In the case where noise cancellation is enabled and a speaker microphone is attached to the radio, talk into the speaker microphone. In this mode, the radio's top left microphone is used to pick up the surrounding noise, and the other microphones are unused. See Section 5.17.4 for more information. If the bottom (secondary) microphone is blocked, the radio operates as though noise cancellation is turned off.

5.17.1   Enable Noise Cancellation

To enable Noise Cancellation:

1. Press the Menu/Select button to access the menu.

2. Press the left or right navigation buttons until the **UTILITY** menu is displayed.

3. Press the up or down navigation buttons to highlight **AUDIO SETTINGS** and press the Menu/Select button.
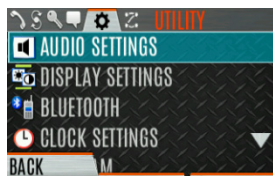
4. Press the up or down navigation buttons to highlight **NOISE CANCELLATION**. Toggle Noise Cancellation **ENABLED/DISABLED** using the Menu/Select button.
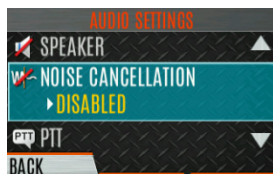
Refer to Section 6.5 for more information on the Audio Settings menu.

5.17.2   Using Noise Cancellation

When using the noise cancellation feature, observe the following:

- Verify **NOISE CANCELLATION** is enabled (see Section 5.17.1).

- Talk within two (2) inches of the primary microphone (see Figure 5-5).

- Ensure the primary and secondary microphones are not covered. See Section 5.17.4 for more information on the primary and secondary microphones.

- Speak clearly, loudly, and with authority.

- In very noisy environments, it is o.k. to yell into the radio. The radio can handle loud input levels.
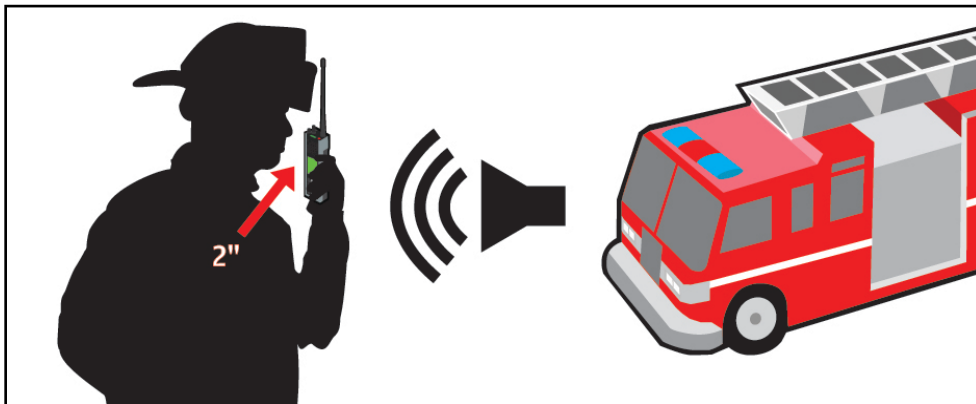
Figure 5-5: Using Noise Cancellation

5.17.3   The Effect of Distance from the Microphone

Unlike a normal microphone system, noise cancellation makes the level of your voice diminish quickly as you move away from the radio. The radio starts to see your voice as surrounding noise. Whereas, you may be comfortable speaking up to a foot away under normal operation, noise cancellation requires that you hold the radio close.

5.17.4   Primary versus Secondary Microphone

5.17.4.1   Without a Speaker Microphone Attached

The primary microphone is located on top of the radio and the secondary is on the bottom of the radio (refer to Figure 5-1 for microphone locations).

5.17.4.2   With a Speaker Microphone Attached

When a speaker microphone is attached, the radio electronically switches over to use the radio's top left microphone as secondary. The microphone on the attached speaker microphone becomes primary.

5.17.5   When using an SCBA Mask

When using an SCBA mask, the primary microphone can be held directly against the voice port. If the SCBA has a voice amplifier, the same rule applies. Ensure that the secondary microphone is uncovered. If possible, point the secondary microphone toward the noise source.

5.18 PTT OPTIONS

The radio can be programmed via RPM2 with one of the following PTT options:

- Radio and Accessory - In this mode, when the radio is PTT'd the audio source will correspond with the PTT source.

  ➢ If the source of PTT is radio, the audio is routed via the radio microphone.

  ➢ If the source of PTT is an external microphone accessory, the audio is routed via the external microphone accessory.

- Accessory Only - Any PTT input will have the audio routed through the external microphone accessory.

> **NOTE**
>
> The Bluetooth Speaker Mic is unaffected by this setting. PTTing the Bluetooth Speaker Mic always results in audio being routed via the Bluetooth Speaker Mic.

5.19 VOICE ANNUNCIATION

When enabled via programming, Voice Annunciation provides audible feedback for various radio operations. The radio can be programmed to play an audio message for any or all the following. This message can be a pre-recorded (canned) message or a user-recorded message.

- Zone changes

- Channel changes

- System changes

- Encryption On/Off

- Noise Cancellation On/Off

- Scan On/Off

- Talkaround On/Off

- Monitor Mode On/Off

- 2 or 4 Position switch change

For more information on configuring the radio for Voice Annunciation, refer to the Voice Annunciation Feature manual 14221-7200-6110.

5.20 ENABLE/DISABLE ENCRYPTION

A switch or a button on the radio can be programmed to enable/disable encryption.

i NOTE	See Section 7.4 for the various options that can be programmed to the radio buttons and switches.

Or

Turn encryption on or off via the Security Menu:

1. Press the Menu/Select button to access the menus.

2. Use the left or right navigation buttons button to highlight and select the **SECURITY** menu.

3. Use the up or down navigation buttons button to highlight **ENCRYPTION**. Toggle encryption enabled/disabled using the Menu/Select button. This option is grayed out if any switch is programmed for encryption, or if Encryption Mode in the radio's personality is programmed "Forced On."

- If a channel is programmed to be encrypted, an optional key icon appears on the main display when encryption is enabled. The system must also be programmed for encryption.

- When encryption is enabled and you use any channel not configured for encryption, the radio allows PTT. The signal is transmitted unencrypted.

- Systems configured for Global Encryption (enabled in the Security menu) can display an optional Global Encryption icon in addition to or instead of a key icon (Section 6.20.3).

5.21 TRANSMIT ENABLE/DISABLE

When transmit is disabled, all forms of transmission from the radio are disabled, including Bluetooth. This is designed for use in explosive atmospheres.

If enabled via programming, use the A/B switch to enable or disable transmit.

i NOTE	See Section 7.4 for the various options that can be programmed to the radio buttons and switches.

5.22 CHANNEL GUARD (ANALOG CONVENTIONAL ONLY)

Channel Guard is Harris's trademark for CTCSS (tone squelch) and CDCSS (digital tone squelch).
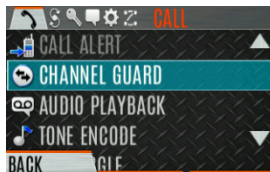
|	
NOTE	The Channel Guard menu is only accessible if the System is setup for CG SEL in the radio's personality.

To select the Channel Guard tone:

1. Press Menu/Select button to access the main menu.

2. Use the left or right navigation buttons to display the **CALL** menu**.**

3. Use the up or down navigation buttons to highlight **CHANNEL GUARD** and press the Menu/Select button.

4. Use the up or down navigation buttons to highlight **RECEIVE GUARD** or **TRANSMIT GUARD** and press the Menu/Select button.
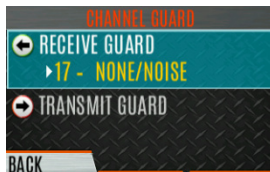
5. Use the up or down navigation buttons to highlight the desired option from the list and select using the Menu/Select button.
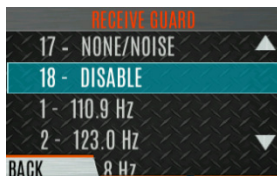
6. The Channel Guard frequency is displayed on the main display.

The Channel Info screen and Channel Edit screen will change depending on this selection. See Sections 6.4 and 7.2 for more information.

NOTE	A button on the radio can be programmed for Channel Guard Override (see Section 7.4).

5.23 USE TALKAROUND TO BYPASS REPEATER (ANALOG AND P25 CONVENTIONAL ONLY)

You can bypass the repeater system to communicate directly with other radios on your current channel's receive frequency. This is useful if you are out of range of a repeater or if a repeater is busy. You will need to be in range of the other radio.

ℹ️ **NOTE**	In XLP R4A and later, talkaround can be enabled/disabled on a per-channel basis. When T/A is disabled, the ⊘ icon is shown on the front and top display. If Talkaround is disabled for a channel (via the RPM2 personality), and the user tries to enable Talkaround via the menus or knobs while on that channel, the radio emits a "boop" deny tone. Additionally, if T/A is disabled on a channel, the Talkaround programmable button becomes inoperable and the radio boops.

To enable talkaround:

1. Press Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **CALL** menu**.**

3. Press the up or down navigation buttons to highlight **TALKAROUND MODE**.
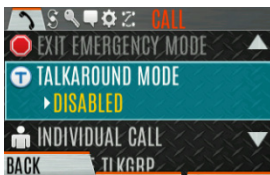
4. Press the Menu/Select button to toggle **TALKAROUND MODE** to **ENABLED**.
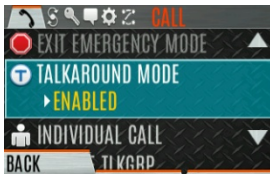
5. The optional Talkaround icon appears. Calls are now made on the receive frequency until you disable talkaround mode via the **CALL** menu. Power cycling the radio does not disable talkaround.

Or
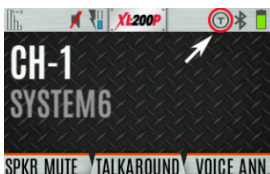
A button or switch can be programmed to toggle talkaround enable/disabled. See Section 7.4 for the various options that can be programmed to the radio buttons and switches.

If the Talk-Around Indication feature is enabled using RPM2, the radio will play a unique grant tone when a call is placed on a simplex channel or when Talk-Around has been enabled on a duplex channel. This feature applies to both Analog and P25 Conventional systems. It optionally allows the radio to also play the same tone when it receives a call while operating in simplex or Talk-Around. ***If configured, the radio plays the tone at the selected volume level.***

ℹ️ **NOTE**	The tone will not play on systems configured with MDC.

Talk-Around Indication can be specified for each individual Analog and P25 Conventional system configured in personality. The following options can be selected, and apply only when the radio is on a simplex channel or when Talk-Around has been enabled by the user:

- Disabled: (This is the default option.) When this option is selected, the radio plays the standard grant tone when a call is placed. The radio does not play a tone when a call is received.

- Transmit Only: When this option is selected, the radio plays a different "Talk-Around" grant tone when a call is placed. The radio does not play a tone when a call is received.

- Transmit & Receive: When this option is selected, the radio plays a different "Talk-Around" grant tone when a call is placed, and at the beginning of a received call.

|	
ℹ️ **NOTE**	In the radio personality, the "Alert Tone" parameter needs to be enabled for each channel on the Conventional Frequency Set. The "Ready to Talk Tone" parameter must also be enabled for the Talk Around Indication tone to be played when the radio is keyed.

5.24 TYPE 99 OPERATION

Type 99 is Harris' name for in-band, two-tone sequential signaling. It is a conventional signaling protocol used to control the muting and unmuting of a radio. This signaling is commonly used for selective calling of individual units or groups of units in a conventional system.

In Type 99 tone systems, calls are not heard until the radio detects the proper two-tone sequence. This, in conjunction with squelch, prevents the user from hearing noise or undesired conversations. When the radio detects the second tone, it sounds the appropriate Type 99 alert tone. After the second tone stops, the receiver audio path is opened for the user to receive messages.

5.24.1   Enable/Disable Type 99

To enable Type 99:

1. Press Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **CALL** menu.

3. Press the up or down navigation buttons to highlight **T99 TOGGLE**.
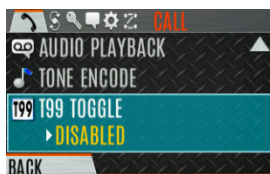
4. Press the Menu/Select button to change **T99 TOGGLE** between **ENABLED** and **DISABLED**. **T99** is displayed in the top of the radio display when Type 99 is enabled.

Or

A button or switch can be programmed to enable/disable Type 99 (see Section 7.4).

5.24.2 Disable After PTT

If this option is programmed using RPM2, Type 99 is disabled after the radio user activates the PTT. This allows the radio user to monitor traffic on the channel (after a PTT action) without pressing the monitor button.

Can be used in conjunction with the "Auto Reset" option (see Section 5.24.3) to disable Type 99 after a PTT and automatically reset, or enable, Type 99 after 30 seconds.

5.24.3 Auto Reset

If this option is programmed using RPM2, Type 99 is automatically reset, or turned back on, after 30 seconds. Can be used in conjunction with the "Disable After PTT" option (see Section 5.24.2) to disable Type 99 after a PTT and automatically reset, or enable, Type 99 after 30 seconds.

5.25 CALL ALERT (PAGE)

5.25.1 Send Alert

To send an alert:

1. Press the Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **CALL** menu.

3. Press the up or down navigation buttons to highlight **CALL ALERT** and press the Menu/Select button.
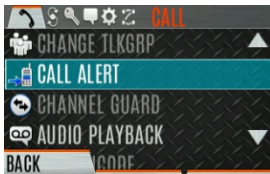
4. Press the up or down navigation buttons to highlight the desired unit from the list and press the Menu/Select button, or select **KEYPAD** to enter the Unit ID.
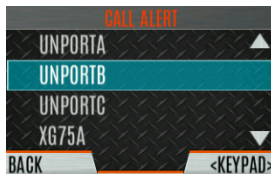
5. Press **PTT** to send the page.

5.25.2 Receive Alert

1. When receiving a Call Alert, the radio displays the calling radio's name or Unit ID.

2. The radio rings and indicates a missed call. The ring sounds continuously until you press PTT, press the CLR MISSED softkey, change group/system, or power cycle the radio.

5.26 DTMF

The XL-Portable supports the transmission of DTMF tones corresponding to the numbers/characters on the keypad. To overdial numbers/characters, press and hold the PTT button, and then press the

corresponding keys one at a time on the keypad. Valid keys for DTMF tones are: 1, 2, 3, 4, 5, 6, 7, 8, 9, *, 0, and #.

NOTE	For conventional or P25 Conventional systems, DTMF tones only play if the current system is programmed for DTMF (part of general System configuration). DTMF tones are always enabled for P25 Trunking systems.

5.27   AUDIO PLAYBACK

The Audio Playback feature allows the user to playback a previously received call. Recordings are stored in the radio's RAM and are not persistent across power cycles. The radio stores the last five (5) recorded calls up to 1 minute each.

A button on the radio can be programmed to replay the last recorded call. To playback the last received call from a button:

1.   Press the button programmed for audio playback. The last call received before the button was pressed is played each time the button is pressed.

2.   Additional incoming calls will be recorded in the background, but pressing the button continues to replay the captured call until reset.

3.   To reset the feature and allow a new call to be captured, press and hold the button until you hear a 2-tone chirp. At this point, the button can be used to capture a new incoming call.

You can also playback one of the last five calls received via the menu.

To playback a previously received call from the menu:

1.   Press the Menu/Select button.

2.   Press the left or right navigation buttons to display the **CALL** menu.

3.   Press the up or down navigation buttons to highlight **AUDIO PLAYBACK** and press the Menu/Select button.
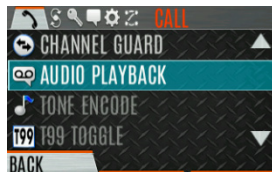
4.   Select the desired call from the list (the most recent call is at the top of the list) and press the select button. The selected call will be played.

•   If a button is also programmed for Audio Playback, pressing the button replays the call that selected in the menu. The feature must be reset as above to use the button to capture a new call.

•   If a button is not programmed for Audio Playback, then you must navigate back to the menu to play the call again.

> **i**
> **NOTE**
>
> Any incoming call that occurs during playback preempts the playback.

5.28 START SCAN

This procedure assumes that the scan list has been added and the radio is not in active scan. Refer to Section 6.13 for scan setup or Section 5.29 for stopping scan. Refer to Section 6.14.1.1, Section 6.14.1.2, and Section 6.14.1.3 for home and priority channel descriptions.

To start scan:

1. Press the Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **SCAN** menu.

3. Press the up or down navigation buttons to highlight **START SCAN** and press the Menu/Select button. **START SCAN** text changes to **STOP SCAN**.
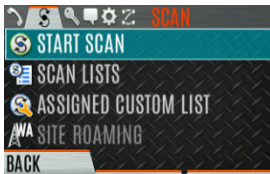
4. Press the **BACK** soft key to exit the scan menu.

5. The scan icon is displayed on the idle display when scanning is enabled.
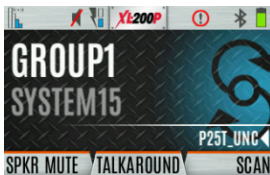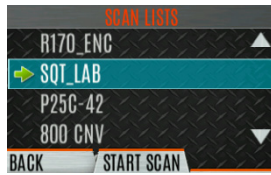

Or

To start scan:

1. Press the Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **SCAN** menu.

3. Press the up or down navigation buttons to highlight **SCAN LISTS** and press the Menu/Select button.
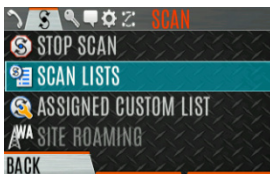
4. Press the up or down navigation buttons to highlight the desired **SCAN LIST** and press the **START SCAN** soft key.

Or

A switch or button on the radio can be programmed to start/stop scan.

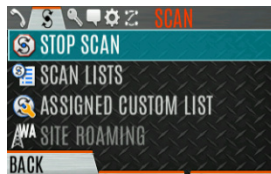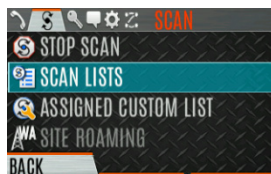|	
NOTE	If a switch is programmed for start/stop scan, the menu for starting and stopping scan is disabled.

NOTE	See Section 7.4 for the various options that can be programmed to the radio buttons and switches.

5.29 STOP SCAN

1. Press the Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **SCAN** menu.

3. Press the up or down navigation buttons to highlight **STOP SCAN** and press the Menu/Select button.
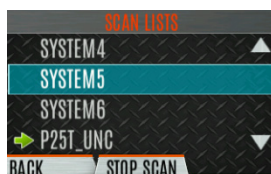

4. Press the **BACK** soft key to exit the scan menu.

Or

1. Press the Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **SCAN** menu.

3. Press the up or down navigation buttons to highlight **SCAN LISTS** and press the Menu/Select button.

4. Press the **STOP SCAN** soft key.

<u>*Or*</u>

A switch or button on the radio can be programmed to start/stop scan.

NOTE	If a switch or button is programmed for start/stop scan, the menu for starting and stopping scan are disabled.

NOTE	See Section 7.4 for the various options that can be programmed to the radio buttons and switches.

5.30 MONITOR AND SQUELCH TYPES (CONVENTIONAL ONLY)

The monitor function allows you to temporarily turn off selected squelch to monitor for traffic that may not normally break squelch. The type of squelch used depends on an analog or digital channel. A button or switch on the radio can be programmed to start or stop Monitor (see Section 7.4 for the various options that can be programmed to the radio buttons and switches.).

For analog channels, there is:

- Noise squelch - any received signal breaks squelch.

- Continuous Tone Coded Squelch (CTCSS) - squelch is selective based on tone code.

- Continuous Digital Coded Squelch (CDCSS) - squelch is selective based on digital code.

For digital channels, there is:

- Monitor squelch - any received digital signal breaks squelch.

- Normal squelch - Received Network Access Code (NAC) must be correct to break squelch.

- Selective squelch - Received NAC and talkgroup Identification (ID) or unit ID must be correct to break squelch.

NOTE	During encrypted operations, the radio only unmutes when receiving with the same key.

5.31 NUISANCE DELETE

A channel can temporarily be deleted from the scan list. The selected channel, priority 1, and priority 2 channels cannot be nuisance deleted.

A button or switch on the radio can be programmed for nuisance delete (see Section 7.4 for the various options that can be programmed to the radio buttons and switches).

> **NOTE** Nuisance delete can only be performed on the active scan list.

To perform nuisance delete from the menu:

1. Press the Menu/Select button to access the main menu.

2. Press the left or right navigation buttons to display the **SCAN** menu.

3. Press the up or down navigation buttons to highlight **SCAN LISTS** and press the Menu/Select button.
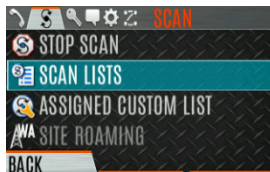

4. Press the up or down navigation buttons to highlight the scan list and press the Menu/Select button. When scanning is started, ➡ indicates the active scan list; when scanning is stopped, 🗓 indicates the active scan list.
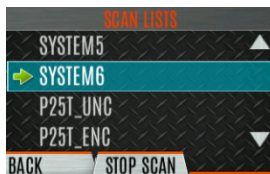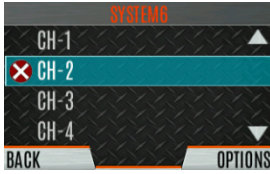

5. Press the up or down navigation buttons to highlight the desired channel.

6. Press the **OPTIONS** soft key.
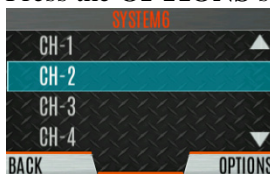
7. Press the up or down navigation buttons to highlight **NUISANCE** and press the Menu/Select button.
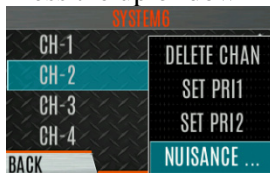
8. The ⊗ icon appears next to the channel and it will not be scanned.

9. Highlight the channel, press the **OPTIONS** soft key, and select **ADD BACK** to add channel back to scan list. If you do not add the channel back to the list, the channel will return to the scan list when you cycle radio power or activate a personality.
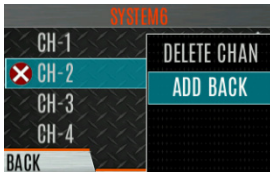
10. Press the **BACK** soft key to exit the channel list.

11. Press the **BACK** soft key to exit the scan list display.

5.32 CONVENTIONAL FAILSOFT (EDACS ONLY)

In the unlikely event of an EDACS system failure, communications can take place in Conventional Failsoft mode. The radio is automatically directed to a communications channel set up for this purpose. An increase in activity on the channel during Conventional Failsoft operation may be noticed, so be careful not to transmit until the channel is clear.

Operation during Conventional Failsoft is the same as operation on a conventional system, except that it is not possible to select a communications channel, or use emergency and special call. When trunking is restored, the radio automatically returns to normal operation.

Emergency and special calls are not operational during Conventional Failsoft.

5.33 EMERGENCY OPERATION

The radio can be programmed to enable emergency mode. Unit name displays on dispatcher console if an emergency signal is received from another radio on a digital channel.

5.33.1 Declaring an Emergency Call

To declare an emergency:

1. Press and hold the emergency button on the radio or the speaker microphone. The length of time you need to hold the button is configured using RPM2.

2. The emergency icon is displayed on the idle display.

- For digital channels, the radio transmits the talkgroup or radio ID to the dispatch console and receiving radio.

- The radio can be programmed to have a dedicated emergency channel, which can be activated from analog or digital channels.

- The radio can also be programmed to send an Emergency Alarm in addition to or in place of the emergency call (P25 modes).

- If enabled via programming, the declaring radio sounds a recurring tone until the battery drains or the radio is powered off. Alert tone continues to play even after clearing the emergency. This tone stops during PTT and resumes when PTT is released. This tone is played at max volume and cannot be controlled with the volume knob.

    The radio goes through transmit and receive cycles if so configured. Speak into the microphone while the radio is transmitting or press PTT to talk.

3. To exit emergency, power cycle the radio or select **EXIT EMERGENCY** from the CALL menu.

    If enabled via programming, you can clear an emergency by pressing the button programmed for the Monitor/Clear function and then the emergency button.
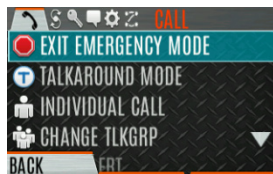
5.33.2 Receiving an Emergency Call

When receiving an Emergency Call, an alert beep sounds (if tones are enabled) and an emergency indication is displayed. The unit ID and/or unit name of the unit in emergency is displayed. While the emergency display is active, press PTT to respond to the emergency caller.

5.33.3   Stealth Emergency

The radio can be programmed with the following emergency behavior:

- No audio indications when declaring an emergency.

  Or

- No visual indications when declaring an emergency.

  Or

- No audio *and* no visual indications when declaring an emergency.

During stealth mode, the radio will not receive any type of call. Once the user presses the PTT button, the radio display and audio return to normal.

5.34   MDC-1200 (ANALOG CONVENTIONAL ONLY)

MDC-1200 is a legacy in-band signaling protocol that provides the radio with the ability to transmit and receive a unique PTT ID. This PTT ID can be decoded by receiving radios and displayed as a hexadecimal number or an alias string. In addition, MDC-1200 provides radios with the ability to transmit emergency status to a console. Refer to the MDC-1200 Feature Manual, 14221-7200-6000, for complete instructions on configuring and using this feature.

5.34.1   Normal PTT Operation

If MDC signaling on PTT press is enabled using RPM2, the radio transmits an MDC PTT ID message when PTT is pressed. If the Sidetone option is enabled using RPM2, the radio plays a Ready-to-Talk (RTT) tone after the MDC pre-signaling has been transmitted.

If MDC signaling on PTT release is enabled (using RPM2), the radio transmits post-call MDC signaling when PTT is released.

- IF STE is enabled (using RPM2), the MDC post-call signaling is transmitted after STE is sent on PTT release only.

- MDC post-call signaling is also sent when there is a radio unkey due to Carrier Control Timeout (CCT). Normal CCT alert tones occur prior to unkey.

5.34.2   MDC PTT ID Receive Handling

When the radio receives an MDC PTT ID, it searches the MDC ID Alias List for an alias associated with the ID. If one is found, it displays the alias. If none is found, the radio displays the ID in hexadecimal.

5.34.3   Emergency Declaration

Emergency declaration is accomplished by the radio generating an MDC Emergency PTT message. An Emergency is considered acknowledged when the radio receives an "Ack To Emergency" PTT message with an ID which matches its own ID. If Emergency Audio is enabled and the PTT Sidetone option is enabled, the radio plays the Ready-to-Talk tone after the MDC Emergency PTT signaling is transmitted.

- If an MDC Alert on ACK is enabled, the radio plays an ACK tone when the MDC emergency is acknowledged.

- If audio tones are enabled, the radio plays an ACK tone if the emergency is not acknowledged within the programmed number of retries.

5.35 BEON OPERATION

The BeOn solution is a Voice over IP (VoIP) based, Push-to-Talk (PTT) communications system operating over public or private wireless networks. The solution extends traditional Land Mobile Radio (LMR) services onto the broadband capable third generation (3G) and 4G/LTE cellular networks. This includes the ability to provide highly integrated interoperability services between BeOn users on the cellular network and users of traditional LMR networks. Harris' VIDA® IP core network switching technology is the foundation for the BeOn application infrastructure. Thus, the application and product suite provide many advanced features not found in competing technologies, and provide internetworking of those services between public and private communications networks.

> The XL-Portable supports BeOn operation on Wi-Fi or LTE.

It may be necessary to consult one or more of the following when configuring and using BeOn:

- BeOn Configuration and Use Feature Manual: 14221-7200-6130
- BeOn LAS/LAP Installation and Configuration Manual: 14221-710-3010
- Unified Administration System User's Manual: MM24374
- RPM2 online help