QUICK GUIDE

14221-1800-1010

Rev. A, June 2022

XL Extreme Series
Portable Radios

L3HARRIS™
FAST. FORWARD.

Radio Overview

Sample Idle Front Display

Copyright© 2021, 2022, L3Harris Technologies.

Controls, Indicators, and Connectors	
Group/Channel Knob	Selects groups/channels.
Power/Volume Knob	Turn clockwise to power on radio and increase volume of audio from speaker.
A/B (Ø/O) Switch	User-programmable switch.
Microphone (Secondary)	When noise cancellation is enabled, the secondary and primary microphones are used together to form a dual microphone system. When noise cancellation is disabled, only the primary microphone is used.
A/B/C/D Switch	User-programmable switch. By default, selects one of four channel banks.
User-Programmable Buttons	Used to select a commonly used function as an alternative to navigating menus [configured using Radio Personality Manager 2 (RPM 2)].
Push-To-Talk (PTT) Button	Press to transmit. Make sure Push-To-Talk (PTT) is enabled.
Antenna Connector	Antenna connector.
Emergency Button	Places radio in emergency mode. Can be disabled via programming. Can also 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.
Speaker	Radio speaker which can be muted. Adjust volume using the Power/Volume knob.

Charge the battery fully before first use. For more detail regarding this as well as comprehensive operating instructions, refer to *Operator's Manual* 14221-1800-2050 online at https://www.l3harris.com/capabilities/public-safety.

Controls, Indicators, and Connectors (Cont.)	
Microphone (Primary)	When noise cancellation is enabled, the primary and secondary microphones are used together to form a dual microphone system. When noise cancellation is disabled, only the primary microphone is used.
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.
Menu/Select Button	From the idle display, press this button to access the menu. Also selects highlighted menu items.
Navigation Buttons	Navigates menu items. Press ◂ on the idle display to access Channel Information. Press ▾ on the idle display to display the functions assigned to programmable buttons. Press ▴ to display Missed Call info. Press ▸ to end or reject an ICALL.
Keypad	By default, used to enter text or numbers. Can be programmed for various functions. The limited keypad model supports a "soft" DTMF keypad, allowing the radio user to utilize a graphical DTMF keypad.

Radio Icons			
	Trunked Signal Strength		Bluetooth Enabled
	TX Power		Bluetooth Connected
	Receive Signal Strength		Encryption Enabled
	Channel Idle		Global Encryption
	Transmitting Encrypted		GPS Tracking
	Nuisance Channel		Monitor On
	Emergency	T99	Type 99 Enabled
	Wi-Fi Clients Connected		Fire Speaker Mic Attached

Icons (Cont.)			
	Receiving Data		OTAR Disabled
	Transmitting Data		OTAR Registered
	Battery Fully Charged		OTAR Registering
	Battery Level - 100%		OTAR Rekeying
	Battery Level - 75%		Talkaround Enabled
	Battery Level - 50%		Transmit Power Level High
	Battery Level - 25%		Transmit Power Level Low
	Battery Level - 5% (Low Battery Tone)		RX Only
	Battery Exhausted RX Only		Noise Cancellation Enabled
	Battery Charging		Speaker Muted
	Failsoft		VDOC
	RX Mail		Vote Scanning
	PTT Disabled		Scanning Enabled
	TX Disabled		Alert(s) Present
	Tones Disabled		Conventional Site Unregistered
	Conventional Site Registered		Wi-Fi Signal Strength Indicator
	Wi-Fi Network Connecting		Wi-Fi Network Connected
	LTE – Registered Home		LTE – Denied or Unknown Registration Status
	LTE – Registered Foreign Network		LTE – No Signal

NOTICE!
The material contained herein is subject to U.S. export approval. No export or re-export is permitted without written approval from the U.S. Government. Rated: EAR99; in accordance with U.S. Dept. of Commerce regulations 15CFR774, Export Administration Regulations.

Primary versus Secondary Microphone (Cont.)

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.

Enable Noise Cancellation

To enable Noise Cancellation:

1. Press the Menu/Select button to access the menu. Press ◂ or ▸ until the **UTILITY** menu is displayed.
2. Press ▲ or ▼ to highlight **AUDIO SETTINGS** and press the Menu/Select button.
3. Press ▲ or ▼ to highlight **NOISE CANCELLATION**. Toggle Noise Cancellation **ENABLED/DISABLED** using the Menu/Select button.

How to Use the Noise Cancellation Feature

- Verify **NOISE CANCELLATION** is enabled (see above).
- Talk within 2 inches of primary microphone (see Figure 1).
- Speak clearly, loudly, and with authority.
- Ensure the primary and secondary microphones are not covered.
- In very noisy environments, it is o.k. to yell into the radio. The radio can handle loud input levels.

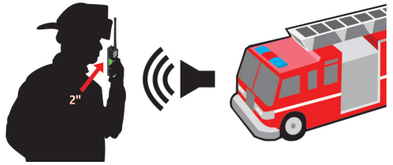

Figure 1: Using the Noise Cancellation Feature

About L3Harris Technologies

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

Select Group/Channel and Bank

XL portable radios 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: Group/Channel A1 - A16 (1-16)
- Bank B: Group/Channel B1 - B16 (17-32)
- Bank C: Group/Channel C1 - C16 (33-48)
- Bank D: Group/Channel D1 - D16 (49-64)

The user can also select a "super bank" to allow access to groups/channels beyond the first 64.

Group Calls

Turn the Channel/Group knob to select the desired group/channel.

Or

A button on the radio can be programmed for Numeric Channel Entry to allow the user to enter the talkgroup/channel number.

When receiving a group call, the radio display toggles between the Unit Name and the Group Name of the transmitting radio. If either of those names is not programmed, the corresponding ID is displayed.

Emergency Operation

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 programmable.
2. The emergency icon is displayed on the idle display.
3. The radio can be configured to go through transmit and receive cycles. Speak into the microphone while the radio is transmitting or press PTT to talk.

Exit emergency by power cycling the radio or selecting **EXIT EMERGENCY** from the **CALL** menu. If enabled via programming, clear an emergency by pressing the button programmed for Monitor/Clear and then the emergency button.

Primary versus Secondary Microphone

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 (see **Radio Overview** for microphone locations).

Scan Operation

Start/Stop Scan

A switch or button can be programmed to start/stop scan. If a switch or button is programmed for start/stop scan, other methods of starting and stopping scan are disabled.

Or

1. Press the Menu/Select button to access the main menu. Press ◂ or ▸ to display the **SCAN** menu.
2. Press ▲ or ▼ to highlight **START SCAN/STOP SCAN**.
3. Press the Menu/Select button to start or stop scan. Press the **BACK** soft key to exit the scan menu.

Scan Configuration

1. Press the Menu/Select button to access the main menu.
2. Press ◂ or ▸ to display the **SCAN** menu.
3. Press ▲ or ▼ to highlight **SCAN LISTS** and press the Menu/Select button.
4. Press ▲ or ▼ to highlight the desired scan list and press the Menu/Select button.
5. Highlight the desired group/channel and press the **OPTIONS** soft key.
6. Press ▲ or ▼ to select **ADD CHAN/DELETE CHAN**, **SET PRI1**, **SET PRI2**, **REMOVE PRI**, or **NUISANCE/ADD BACK**. When a channel is not grayed out in the list, **DELETE CHAN** appears. When a channel/group is grayed out (not in list), **ADD CHAN** appears. Available options are based on radio programming.
7. Press the Menu/Select button to toggle selection.

Change Active Personality

1. Press the Menu/Select button to access the main menu.
2. Press ◂ or ▸ to display the UTILITY menu.
3. Press ▲ or ▼ to highlight PROGRAM and press the Menu/Select button.
4. Press ▲ or ▼ to highlight the desired personality and press the Menu/Select button.
5. Press the YES soft key to confirm personality activation. If the personality has a power-up PIN, you are prompted to enter the PIN before activation continues.
6. The radio displays PLAN COMPLETE followed by the name of the personality. Press the OK soft key.

Menu Navigation

Press the Menu/Select button while on the idle display to access the menu. Press ◂ or ▸ to navigate the top-level menus, and press ▲ or ▼ to navigate sub-menus. Refer to **Radio Overview** 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.

Select Zone/System

A button on the radio can be programmed to scroll through available zones/systems.

Or

1. Press the Menu/Select button to access the menus.
2. Use ◂ or ▸ to display the **ZONE** menu. Use ▲ or ▼ to highlight the zone.
3. Press the **VIEW ZONE** soft key to view channels in the zone/system. Select the desired zone/system using the Menu/Select button.

Individual Calls

Transmit an Individual Call

1. 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.
2. After the callee answers, press PTT to respond. How long the radio remains in Individual Call mode with no activity is programmable.

Receive 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/REJECT CALL."
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. Press ▸ to end the call.

Status Messages	
PTT DENIED	P25T & EDACS - The radio or talkgroup is not authorized to operate on the selected system and/or talkgroup.
CALL QUEUED	P25T & EDACS - The system has placed the call in a request queue.
SYSTEM BUSY	P25T & 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	Indicates the radio is scanning.
TX EMERGENCY	An emergency call is being transmitted.
RX EMERGENCY	An emergency call is being received.
WIDE AREA SCAN	P25T & EDACS - Indicates the radio has entered the Wide Area Scan mode to search for a new system.
INVALID TALKGROUP	P25T & EDACS - The current talkgroup is not valid for the current system.
INVALID UNIT	P25T & EDACS - The current unit is not valid for the current system.
REGISTERING	P25T - The radio is performing a registration on a P25 trunking site.
CTRL CHANNEL SCAN	P25T & EDACS - The control channel is lost and the radio has entered Control Channel Scan to search for the control channel (usually out of range indication).
BAND SCANNING	P25T - Only displayed if the P25T system is configured for "EnhancedCC" mode of operation. When the radio cannot find a Control Channel in the trunked frequency set or the list of discovered adjacencies, the radio performs a full spectrum frequency scan to find a new Control Channel.
MISSED CALL	P25 Modes & 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.