

Release 11.2

Customer

Portal User Guide

WAVE PTX

APRIL 2024

© 2024 Motorola Solutions, Inc. All Rights Reserved.

MN008128A01-008

Intellectual Property and Regulatory Notices

Copyrights

The Motorola Solutions products described in this document may include copyrighted Motorola Solutions computer programs. Laws in the United States and other countries preserve for Motorola Solutions certain exclusive rights for copyrighted computer programs. Accordingly, any copyrighted Motorola Solutions computer programs contained in the Motorola Solutions products described in this document may not be copied or reproduced in any manner without the express written permission of Motorola Solutions.

No part of this document may be reproduced, transmitted, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, without the prior written permission of Motorola Solutions, Inc.

Trademarks

MOTOROLA, MOTO, MOTOROLA SOLUTIONS, and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners.

License Rights

The purchase of Motorola Solutions products shall not be deemed to grant either directly or by implication, estoppel or otherwise, any license under the copyrights, patents or patent applications of Motorola Solutions, except for the normal nonexclusive, royalty-free license to use that arises by operation of law in the sale of a product.

Open Source Content

This product may contain Open Source software used under license. Refer to the product installation media for full Open Source Legal Notices and Attribution content.

European Union (EU) and United Kingdom (UK) Waste of Electrical and Electronic Equipment (WEEE) Directive



The European Union's WEEE directive and the UK's WEEE regulation require that products sold into EU countries and the UK must have the crossed-out wheellie bin label on the product (or the package in some cases). As defined by the WEEE directive, this crossed-out wheellie bin label means that customers and end users in EU and UK countries should not dispose of electronic and electrical equipment or accessories in household waste.

Customers or end users in EU and UK countries should contact their local equipment supplier representative or service center for information about the waste collection system in their country.

Disclaimer

Please note that certain features, facilities, and capabilities described in this document may not be applicable to or licensed for use on a specific system, or may be dependent upon the characteristics of a specific mobile subscriber unit or configuration of certain parameters. Please refer to your Motorola Solutions contact for further information.

© 2024 Motorola Solutions, Inc. All Rights Reserved

Contact Us

The Centralized Managed Support Operations (CMSO) is the primary contact for technical support included in your organization's service agreement with Motorola Solutions. To enable faster response time to customer issues, Motorola Solutions provides support from multiple countries around the world.

Service agreement customers should be sure to call the CMSO in all situations listed under Customer Responsibilities in their agreement, such as:

- To confirm troubleshooting results and analysis before taking action

Your organization received support phone numbers and other contact information appropriate for your geographic region and service agreement. Use that contact information for the most efficient response. However, if needed, you can also find general support contact information on the Motorola Solutions website, by following these steps:

1. Enter motorolasolutions.com in your browser.
2. Ensure that your organization's country or region is displayed on the page. Clicking or tapping the name of the region provides a way to change it.
3. Select "Support" on the motorolasolutions.com page.

Comments

Send questions and comments regarding user documentation to documentation@motorolasolutions.com.

Provide the following information when reporting a documentation error:

- The document title and part number
- The page number or title of the section with the error
- A description of the error

Motorola Solutions offers various courses designed to assist in learning about the system. For information, go to <https://learning.motorolasolutions.com> to view the current course offerings and technology paths.

Document History

| Version | Description | Date |
|-----------------|--|---------------|
| MN008128A01-008 | <p>Updated talkgroup types descriptions in Get Started with WAVE PTX PTT Trial on page 17 and Manage Talkgroups on page 38.</p> <p>Updated the feature name to Fall Alert in Menu Visibility section in Editing a WAVE PTX Device on page 73</p> <p>Updated Bluetooth accessories management in Managing Bluetooth Accessories for an Individual Device on page 80</p> | April 2024 |
| MN008128A01-007 | <p>Added naming guidelines in the following sections:</p> <ul style="list-style-type: none">Adding a Mobile, Tablet, or WAVE PTX Dispatch User on page 29Adding a MOTOTRBO User on page 30Creating a Talkgroup on page 39Adding a WAVE PTX Device on page 54Importing WAVE PTX Devices from a Spreadsheet on page 57Registering EVOLVE Devices on page 60Editing an EVOLVE Device on page 63Adding ION Devices on page 69Editing a WAVE PTX Device on page 73Editing a WAVE PTX Device Users on page 80Registering a Connect Plus Radio System (Discontinued Product) on page 95Registering a Capacity Plus Radio System on page 96Registering a Capacity Max Radio System on page 98Registering an IPSite Radio System on page 100Adding Radio Subscribers on page 103Creating a WAVE PTX Gateway on page 114 <p>Updated Bluetooth accessories management in Editing a WAVE PTX Device on page 73 and Viewing Available Actions for WAVE PTX Devices on page 71. Added Managing Bluetooth Accessories in Bulk on page 72 and Managing Bluetooth Accessories for an Individual Device on page 80.</p> | March 2024 |
| MN008128A01-006 | <p>Added MFA feature for selected customers: Activating the MFA (Optional) on page 19, Signing In to WAVE PTX Portal on page 19</p> <p>Updated Registering an IPSite Radio System on page 100, Associating Radio System with Talkgroup on page 102, and Adding Radio Subscribers on page 103 with the Slot ID functionality.</p> | February 2024 |

| Version | Description | Date |
|-----------------|---|---------------|
| MN008128A01-005 | <p>Updated Subscription list in Upgrading to a Paid Subscription on page 21 and Increasing the Number of Users on the Subscription on page 22.</p> <p>Updated the Adding a Radio System on page 92 section.</p> <p>Added IPSite system type support: Registering an IPSite Radio System on page 100, Configuring the IPSite System for the Private Call Support on page 102, and Configuring Wide and Local Group Support on page 105.</p> <p>Updated region-related content.</p> <p>Updated Adding a WAVE PTX Device on page 54 and Editing a WAVE PTX Device on page 73 to include TLK 25 WiFi specific information.</p> <p>Added:</p> <ul style="list-style-type: none"> • Updating the Assigned Gateway on page 105 • Updating Gateways on page 114 | December 2023 |
| MN008128A01-004 | Added TLK 110 support. | January 2023 |
| MN008128A01-003 | Added EVOLVE Multizone Support | June 2022 |
| MN008128A01-002 | Added Contract Management | May 2022 |
| MN008128A01-001 | Initial Version | February 2022 |

Contents

| | |
|---|-----------|
| Intellectual Property and Regulatory Notices..... | 2 |
| Contact Us..... | 3 |
| Document History..... | 4 |
| List of Figures..... | 10 |
| List of Tables..... | 12 |
| List of Procedures..... | 13 |
| Chapter 1: Getting Started..... | 16 |
| 1.1 Signing Up for a Free Trial..... | 16 |
| 1.2 Resetting Password..... | 17 |
| 1.3 Get Started with WAVE PTX PTT Trial..... | 17 |
| 1.4 Get Started with WAVE PTX Broadband..... | 18 |
| 1.4.1 Installing WAVE PTX Clients..... | 18 |
| 1.4.2 Activating the MFA (Optional)..... | 19 |
| 1.4.3 Signing In to WAVE PTX Portal..... | 19 |
| 1.4.4 Testing Transmission..... | 20 |
| 1.5 Types of Subscriptions..... | 20 |
| 1.5.1 Purchasing WAVE PTX..... | 21 |
| 1.5.2 Upgrading to a Paid Subscription..... | 21 |
| 1.5.3 Increasing the Number of Users on the Subscription..... | 22 |
| 1.5.4 Canceling Subscriptions and Licenses..... | 23 |
| 1.5.5 Updating Billing Information..... | 24 |
| 1.5.6 Contract Management (US Region Only)..... | 24 |
| 1.5.6.1 Manage Contracts Page..... | 25 |
| 1.5.6.2 30-Month Contract Licenses..... | 26 |
| 1.5.6.3 New Contract Licenses Addition..... | 27 |
| 1.5.6.4 Expired Contract Licenses..... | 28 |
| Chapter 2: Manage Users and Talkgroups..... | 29 |
| 2.1 Adding a Mobile, Tablet, or WAVE PTX Dispatch User..... | 29 |
| 2.2 Adding a MOTOTRBO User..... | 30 |
| 2.3 Assigning Contacts..... | 31 |
| 2.4 Removing Contacts..... | 31 |
| 2.5 Features Authorization..... | 31 |
| 2.6 Authorizing Features to the Users..... | 33 |
| 2.7 Adding Contacts to a User..... | 34 |
| 2.8 Activation Code..... | 34 |

| | |
|--|-----------|
| 2.9 Activating Tablet Users..... | 35 |
| 2.10 Deleting Users..... | 35 |
| 2.11 Changing Package or Tier for the Users..... | 36 |
| 2.12 Resetting a User Password..... | 37 |
| 2.13 Uploading a User CSV file..... | 37 |
| 2.14 Uploading Users with a CSV file..... | 37 |
| 2.15 Modifying a Spreadsheet..... | 38 |
| 2.16 Manage Talkgroups..... | 38 |
| 2.16.1 Creating a Talkgroup..... | 39 |
| 2.16.2 Importing Talkgroups..... | 40 |
| 2.16.3 Exporting Talkgroups..... | 40 |
| 2.16.4 Removing a Single User from a Talkgroup..... | 41 |
| 2.16.5 Removing Multiple Users from a Talkgroup..... | 42 |
| 2.16.6 Deleting a Talkgroup..... | 42 |
| 2.17 Associating Users to Talkgroups..... | 43 |
| 2.18 Manage Contacts & Features..... | 44 |
| Chapter 3: Manage WAVE PTX Devices..... | 45 |
| 3.1 WAVE PTX Devices Customer Instructions..... | 45 |
| 3.2 Using a WAVE PTX Device..... | 46 |
| 3.2.1 Turning the Radio On..... | 47 |
| 3.2.2 Configuring the Wi-Fi..... | 47 |
| 3.2.3 Configure Enterprise Wi-Fi..... | 48 |
| 3.2.4 Making a Group Call..... | 51 |
| 3.2.4.1 Changing Talkgroups..... | 51 |
| 3.2.5 Making a Private Call..... | 51 |
| 3.2.6 Receiving Private Calls..... | 52 |
| 3.2.7 Understanding Status Indicators..... | 53 |
| 3.2.8 Understanding Battery Indicators..... | 54 |
| 3.3 Adding a WAVE PTX Device..... | 54 |
| 3.3.1 Importing WAVE PTX Devices from a Spreadsheet..... | 57 |
| 3.3.2 Cloning a WAVE PTX Device..... | 58 |
| 3.4 EVOLVE Devices..... | 60 |
| 3.4.1 Activating Nitro Data Service..... | 60 |
| 3.4.2 Registering EVOLVE Devices..... | 60 |
| 3.4.3 Changing Nitro Data Plan..... | 61 |
| 3.4.4 Replacing an EVOLVE Device..... | 62 |
| 3.4.5 Editing an EVOLVE Device..... | 63 |
| 3.4.6 EVOLVE Multizone Support..... | 65 |
| 3.4.6.1 Converting Devices to Multi-Zone Support..... | 65 |

| | |
|---|------------|
| 3.4.6.2 Clone Device Functionality..... | 67 |
| 3.4.6.3 New EVOLVE Device Registration with Default Multizone Support | 68 |
| 3.5 ION Devices (only for Non-rental Customer – US and Canada region)..... | 68 |
| 3.5.1 Adding ION Devices..... | 69 |
| 3.5.2 Clone an ION Device..... | 70 |
| 3.5.2.1 Cloning an ION Device..... | 71 |
| 3.6 Auto Channel Assignment..... | 71 |
| 3.7 Viewing Available Actions for WAVE PTX Devices..... | 71 |
| 3.7.1 Managing Bluetooth Accessories in Bulk..... | 72 |
| 3.8 Editing a WAVE PTX Device..... | 73 |
| 3.8.1 Managing Bluetooth Accessories for an Individual Device..... | 80 |
| 3.9 Editing a WAVE PTX Device Users..... | 80 |
| 3.10 Managing Talkgroups..... | 81 |
| 3.11 Cloning Devices – Post Device Registration..... | 82 |
| Chapter 4: Manage Talkgroups Associations..... | 85 |
| 4.1 Changing In Call Permissions..... | 85 |
| 4.2 Changing Call Receiving Permissions..... | 85 |
| 4.3 Changing In Call Permissions..... | 85 |
| 4.4 Managing Location Watcher..... | 86 |
| 4.5 Managing Supervisor in a Talkgroup..... | 86 |
| 4.6 Manage Talkgroup Position..... | 86 |
| 4.7 Associate Dispatchers and Users to Talkgroups..... | 86 |
| Chapter 5: View Users and WAVE PTX Devices..... | 88 |
| Chapter 6: Downloading the WAVE PTX Application..... | 90 |
| Chapter 7: Adding a Radio System..... | 92 |
| 7.1 Connecting Capacity Max Hardware..... | 92 |
| 7.2 Required Radio Information..... | 94 |
| 7.3 Registering a Connect Plus Radio System (Discontinued Product)..... | 95 |
| 7.4 Registering a Capacity Plus Radio System..... | 96 |
| 7.5 Registering a Capacity Max Radio System..... | 98 |
| 7.6 Registering an IPSite Radio System..... | 100 |
| 7.6.1 Configuring the IPSite System for the Private Call Support..... | 102 |
| 7.7 Associating Radio System with Talkgroup..... | 102 |
| 7.8 Adding Radio Subscribers..... | 103 |
| 7.8.1 Configuring Wide and Local Group Support..... | 105 |
| 7.9 Updating the Assigned Gateway..... | 105 |
| 7.10 Testing Radio Transmission..... | 106 |
| Chapter 8: Creating and Assigning Privacy Keys..... | 107 |

| | |
|--|------------|
| 8.1 Adding a Privacy Key for Enhanced Privacy..... | 107 |
| 8.2 Assigning a Privacy Key to a Talkgroup..... | 107 |
| Chapter 9: Syncing to Universal Gateway (UGW) Portal..... | 109 |
| Chapter 10: WAVE PTX Gateway..... | 110 |
| 10.1 Set Up Network for LMR Integration..... | 110 |
| 10.2 WAVE PTX Gateway Setup..... | 111 |
| 10.2.1 Upgrade Radio Repeaters (Optional)..... | 111 |
| 10.2.2 Connecting to the WAVE PTX Gateway..... | 112 |
| 10.3 WAVE PTX Gateway Specifications..... | 113 |
| 10.4 Creating a WAVE PTX Gateway..... | 114 |
| 10.5 Updating Gateways..... | 114 |
| Appendix A: Accessing the XRT 9000/9100 Gateway..... | 116 |
| A.1 Connect Plus (Single-Site and Multi-Site) Radio Systems..... | 116 |

List of Figures

| | |
|---|----|
| Figure 1: Talkgroup Tab- Test Transmission..... | 20 |
| Figure 2: Manage Contracts..... | 24 |
| Figure 3: Manage Contracts from Subscription..... | 25 |
| Figure 4: Manage Contracts Page..... | 26 |
| Figure 5: 30-Month Contract Licenses..... | 26 |
| Figure 6: Subscription with 30-Month Contract Licenses..... | 27 |
| Figure 7: Add New Licenses..... | 27 |
| Figure 8: Contract Licenses Summary..... | 28 |
| Figure 9: Available Licenses for Adding Users..... | 30 |
| Figure 10: Adding Contacts to User..... | 34 |
| Figure 11: Generate Activation Code..... | 35 |
| Figure 12: Deleting Users..... | 36 |
| Figure 13: Importing Talkgroups..... | 40 |
| Figure 14: Export Talkgroups..... | 41 |
| Figure 15: Remove Single User from the Talkgroup..... | 41 |
| Figure 16: Remove Multiple Users from a Talkgroup..... | 42 |
| Figure 17: Select Users to Remove..... | 42 |
| Figure 18: Deleting a Talkgroup..... | 43 |
| Figure 19: TLK Device..... | 46 |
| Figure 20: TLK100..... | 47 |
| Figure 21: Configure Wi-Fi..... | 48 |
| Figure 22: Verify Configured Wi-Fi..... | 48 |
| Figure 23: WPA-Enterprise Network Authentication..... | 49 |
| Figure 24: Actions Drop-down..... | 50 |
| Figure 25: Configuration for Wi-Fi Network..... | 50 |
| Figure 26: Understanding Status Indicator..... | 53 |
| Figure 27: Understanding Battery Indicator..... | 54 |
| Figure 28: WAVE PTX Device IMEI..... | 55 |
| Figure 29: Adding WAVE PTX Device..... | 58 |
| Figure 30: Configure Talkgroups and Contacts..... | 59 |
| Figure 31: Configure Talkgroups and Contacts..... | 59 |
| Figure 32: Changing Nitro Data Plan..... | 62 |
| Figure 33: Replacing an EVOLVE Device..... | 63 |
| Figure 34: Adding ION Device..... | 69 |
| Figure 35: Added ION Device..... | 69 |
| Figure 36: Configure Talkgroups and Contacts..... | 70 |

| | |
|--|-----|
| Figure 37: Manage Talkgroups Configurations..... | 82 |
| Figure 38: Manage Talkgroups Configurations..... | 82 |
| Figure 39: Clone Devices Home Page..... | 83 |
| Figure 40: Clone Contacts..... | 83 |
| Figure 41: Associate Users to Talkgroup..... | 87 |
| Figure 42: Filters and Customization - Users Page..... | 88 |
| Figure 43: Customization - WAVE PTX Page..... | 88 |
| Figure 44: Capacity Max Hardware..... | 93 |
| Figure 45: Optical Jack..... | 93 |
| Figure 46: Alternate Switch-Capacity Max..... | 94 |
| Figure 47: Radio Transmission test..... | 103 |
| Figure 48: Linking talkgroup ID to talkgroup..... | 104 |
| Figure 49: Edit Radio System..... | 104 |
| Figure 50: Add Radio Subscriber..... | 104 |
| Figure 51: Basic Privacy Key Index..... | 107 |
| Figure 52: Assigning Privacy Key to Talkgroup..... | 108 |
| Figure 53: Placing a Switch Between the Gateway and the Radio System..... | 111 |
| Figure 54: Connection of WAVE PTX Gateway to Capacity Max Radio System Hardware..... | 111 |
| Figure 55: Device Code..... | 112 |
| Figure 56: Change IP Address- Network Card Configuration..... | 113 |
| Figure 57: Change IP Address-Static IP..... | 113 |

List of Tables

Table 1: Repeater Parameters in the CPS Tool..... 94

List of Procedures

| | |
|--|----|
| Signing Up for a Free Trial | 16 |
| Resetting Password | 17 |
| Installing WAVE PTX Clients | 18 |
| Activating the MFA (Optional) | 19 |
| Signing In to WAVE PTX Portal | 19 |
| Testing Transmission | 20 |
| Purchasing WAVE PTX | 21 |
| Upgrading to a Paid Subscription | 21 |
| Increasing the Number of Users on the Subscription | 22 |
| Canceling Subscriptions and Licenses | 23 |
| Updating Billing Information | 24 |
| Adding a Mobile, Tablet, or WAVE PTX Dispatch User | 29 |
| Adding a MOTOTRBO User | 30 |
| Assigning Contacts | 31 |
| Removing Contacts | 31 |
| Authorizing Features to the Users | 33 |
| Adding Contacts to a User | 34 |
| Activating Tablet Users | 35 |
| Deleting Users | 35 |
| Changing Package or Tier for the Users | 36 |
| Resetting a User Password | 37 |
| Uploading a User CSV file | 37 |
| Uploading Users with a CSV file | 37 |
| Modifying a Spreadsheet | 38 |
| Creating a Talkgroup | 39 |
| Importing Talkgroups | 40 |
| Exporting Talkgroups | 40 |
| Removing a Single User from a Talkgroup | 41 |
| Removing Multiple Users from a Talkgroup | 42 |
| Deleting a Talkgroup | 42 |
| Associating Users to Talkgroups | 43 |
| Configuring the Wi-Fi | 47 |
| Making a Group Call | 51 |
| Making a Private Call | 51 |
| Receiving Private Calls | 52 |
| Adding a WAVE PTX Device | 54 |

| | |
|--|-----|
| Importing WAVE PTX Devices from a Spreadsheet | 57 |
| Cloning a WAVE PTX Device | 58 |
| Activating Nitro Data Service | 60 |
| Registering EVOLVE Devices | 60 |
| Changing Nitro Data Plan | 61 |
| Replacing an EVOLVE Device | 62 |
| Editing an EVOLVE Device | 63 |
| Converting Devices to Multi-Zone Support | 65 |
| Adding ION Devices | 69 |
| Cloning an ION Device | 71 |
| Viewing Available Actions for WAVE PTX Devices | 71 |
| Managing Bluetooth Accessories in Bulk | 72 |
| Editing a WAVE PTX Device | 73 |
| Managing Bluetooth Accessories for an Individual Device | 80 |
| Editing a WAVE PTX Device Users | 80 |
| Managing Talkgroups | 81 |
| Cloning Devices – Post Device Registration | 82 |
| Changing In Call Permissions | 85 |
| Changing Call Receiving Permissions | 85 |
| Changing In Call Permissions | 85 |
| Managing Location Watcher | 86 |
| Managing Supervisor in a Talkgroup | 86 |
| Associate Dispatchers and Users to Talkgroups | 86 |
| Downloading the WAVE PTX Application | 90 |
| Registering a Connect Plus Radio System (Discontinued Product) | 95 |
| Registering a Capacity Plus Radio System | 96 |
| Registering a Capacity Max Radio System | 98 |
| Registering an IPSite Radio System | 100 |
| Configuring the IPSite System for the Private Call Support | 102 |
| Associating Radio System with Talkgroup | 102 |
| Adding Radio Subscribers | 103 |
| Configuring Wide and Local Group Support | 105 |
| Updating the Assigned Gateway | 105 |
| Testing Radio Transmission | 106 |
| Adding a Privacy Key for Enhanced Privacy | 107 |
| Assigning a Privacy Key to a Talkgroup | 107 |
| Syncing to Universal Gateway (UGW) Portal | 109 |
| Connecting to the WAVE PTX Gateway | 112 |
| Creating a WAVE PTX Gateway | 114 |

Updating Gateways 114
Accessing the XRT 9000/9100 Gateway 116

Chapter 1

Getting Started

The WAVE PTX portal allows a user to register and on-board devices, manage the MSI service subscriptions, contracts, billing, or shipping information. From the portal, you can configure the PTT devices, upgrade or downgrade the service, control device functionalities, and disable the application or device. The WAVE PTX portal allows you to ensure that all the devices and PTT applications connect and works with the PTT servers.

Browser Requirements

Google Chrome is supported for the WAVE PTX Portal. Ensure to update your browser with the latest stable version.

1.1

Signing Up for a Free Trial

Customers can sign up for a free WAVE PTX portal trial account from the main page. Trial accounts last for 30 days and allow you to experience WAVE PTX broadband communication via the WAVE PTX Web Communicator and WAVE PTX Mobile Communicator clients. Trial accounts include 10 user licenses that allow up to 10 users to communicate simultaneously. You can upgrade your free account at any time to include any number of users and integration with supported Motorola Radio Systems.

When and where to use: To sign up for the WAVE PTX portal, follow these steps:

Procedure:

1. In a browser, navigate to www.waveptx.com and select your region from the drop-down.
2. On the main page, click **VIEW PLANS & PRICING**. A WAVE PTX PTT main page displays.
3. Scroll down to FREE WAVE PTX PTT TRIAL section and click **SIGN UP**.
4. Enter the following details in the Free Trial Registration form:
 - a. In the **First Name**, enter your first name.
 - b. In the **Last Name** field, enter your last name.
 - c. In the **Company Name**, enter the name of your company. This company name is your Customer account in WAVE PTX.
 - d. In the **Company Alias**, type a short code that represents your company to WAVE PTX Broadband Users.
 - e. In the **Email**, provide your company email address.
 - f. In the **Phone Number**, type the phone number to contact you.
 - g. In the **Password**, enter the password you use with your email address to sign in to the WAVE PTX portal for your account.
 - h. For **Confirm Password**, enter the password you just entered to verify whether the password is correct.
 - i. Click **Continue**. The Sign up Complete page opens.
5. Click **GO TO HOME DASHBOARD** to open the homepage for your new WAVE PTX account.
6. You can log in to your trial account here - <https://waveptx.com/Account/Login>

7. Being a trial customer, you receive an email from our system with all necessary details to start your WAVE PTX PTT free trial.

1.2

Resetting Password

If you have forgotten your password, then you can reset the password by clicking on the “Forgot Password” link on the sign in page of the WAVE PTX portal.

When and where to use: Do the following to reset password:

Procedure:

1. On the sign in page, click the **Forgot Password** link. A Forgot Password main page displays.
2. Enter you email, user ID, or phone number in the field given and click **SEND**.
3. A reset link is sent to the email or phone number.
4. Click the received link.
5. Enter the New Password and verify the same by re-entering the same password.
6. Click **NEXT**.

1.3

Get Started with WAVE PTX PTT Trial

To get the most out of your WAVE PTX Trial, add users, and optionally Talkgroups. The WAVE PTX portal supports to add three types of Users and talkgroups as mentioned here.

Types of Users

- **Mobile or Tablet**
Standard users on Mobile devices (with a Cellular connection and phone number) or on Tablet devices (Wi-Fi Only). Mobile or Tablet Users may be assigned to any Talkgroup.
- **ION**
ION type of users.
- **MOTOTRBO Client**
MOTOTRBO type of users.
- **WAVE Dispatch**
For users of the WAVE PTX Dispatch client that is installed as a browser plug-in. Dispatchers can only be assigned to Talkgroups of type Dispatch or Broadcast.

Types of Talkgroups

Standard Talkgroup

A Standard talkgroup can be used by any type of talkgroups and can have one or more supervisors assigned. It requires at least two members.

User can also create a large (only standard) talkgroup with up to 3000 members. You can only create a limited number of large talkgroups based on your region. To create the large talkgroups, the customers should have should have purchased the SafeGuard package and the large talkgroup functionality must be enabled at their account level. Please contact wavesupport@motorolasolutions.com for more details.

Dispatch Talkgroup

A Dispatch talkgroup is a standard talkgroup with the additional capability to assign a dispatcher to it. The members of the talkgroup are called fleet members. It requires at least two members, including a dispatch user. You must assign a dispatcher to use the talkgroup.

Broadcast Group

A Broadcast group is a special type of talkgroup where the communication is one way from the broadcasters of the talkgroup to the members. It requires at least two members, including a broadcaster. A broadcast group can have up to 500 members including the broadcaster. These types of talkgroups allow a broadcaster to make high-priority calls typically used for making important announcements.

1.4

Get Started with WAVE PTX Broadband

If you have recently started a WAVE PTX account, either trial or paid, and you are a Customer, then this topic provides initial instructions for configuring your Customer account for Broadband operation. When you have completed the steps in this section you can have multiple devices (smart phones) ready for communication using the WAVE PTX application for Android or iOS. Complete the following steps to initiate the Broadband services.

1. Add Users. Refer to [Adding a Mobile, Tablet, or WAVE PTX Dispatch User on page 29](#) and [Adding a MOTOTRBO User on page 30](#).
2. Create Talkgroups. Refer to [Creating a Talkgroup on page 39](#).
3. Associate Users and Talkgroups. Refer to [Associating Users to Talkgroups on page 43](#).
4. Install the WAVE PTX Mobile Communicator Clients. Refer to [Installing WAVE PTX Clients on page 18](#).
5. Sign In to WAVE PTX. Refer to [Signing In to WAVE PTX Portal on page 19](#).
6. Test Transmission. Refer to [Testing Transmission on page 20](#).

1.4.1

Installing WAVE PTX Clients

Procedure:

1. Follow the instructions provided in the email or search for WAVE PTX Push-to-talk in the app store. The Wave PTT App is available for both iOS as well as Android and you can download them from the respective store.
2. Download and launch the application.
3. When prompted, you must ALLOW the application to record audio, access the location of the device, access contacts, make, and manage phone calls, and access photos, media, files, send, and view SMS messages on your device. WAVE PTX requires access to your Contacts to provide the capability to call them from the client. WAVE PTX requires access to your Phone to make phone calls to your Contacts and handle minimization when incoming cellular calls occur. WAVE PTX requires access to media files to transmit them via the application.
4. When prompted, do not optimize battery usage. This action interferes with background operation.
5. The End User License Agreement (EULA) page is displays. To activate the PTT service on your phone, read and accept the EULA.
6. Click **Yes** to confirm activation.

If prompted, enter the activation code given to you by your Administrator or Operator to activate the PTT application. You can get the activation code via email or SMS. If you do not receive an Activation Pass-Code then contact the administrator owning this account and ask them to generate an Activation Pass-Code for you.
7. The WAVE PTX PTT application contacts the server to retrieve contacts and talkgroups (if any) before logging in. If you receive an information notice, then see step 8. If you do not receive an information notice then skip to Step 9.

If your phone number does not exist in system, then you are prompted to create a trial account.

8. If you want to start a free trial account with yourself as the Customer, then click **Free Trial** and follow the prompts. You are granted a free trial license for 30 days and you can create your own Talkgroups and invite your own Users.
9. Click **Free Trial**.
10. Enter the required information and then click the **SIGN UP** button.
11. If you are a Customer Account Admin you can invite up to 10 users. To invite users, enter the phone numbers of users and then click the **INVITE** button. They will receive SMS instructions to sign up to your account as users.
12. To open the WAVE PTX Customer Portal for your account, click the **GO TO HOME DASHBOARD**.
13. Once the WAVE PTX application launches, you are offered the chance to view the Tutorial.
If you click **Skip Tutorial** then you are taken to the application main page. You can launch the tutorial any time you wish from the menu.
14. Once the application launches, it shows 'Available' at the top. You are now ready to begin using the WAVE PTX Communicator.

1.4.2

Activating the MFA (Optional)

The application provides optional multifactor authentication (MFA), you can enable the MFA from the Customer or Partner hub.

Procedure:

1. In the **Sign In** window, provide the user ID.
2. Click **Continue**
The **Verify with your password** window displays.
3. Scroll past the **Password** drop-down and click **Manage 2-step Verification**.
4. Perform the signing in procedure. Provide the user ID and the password.
You are navigated to the **Account** page.
5. Click **Edit Profile**.
6. Next to the **Personal Information** click **Edit**.
7. From the **2-Step Verification** drop-down select one of the following:
 - **Enabled (Email is your 2nd verification step)**
 - **Disabled**

1.4.3

Signing In to WAVE PTX Portal

Depending on your region, you are presented with the log-in ID and password to access the WAVE PTX portal. The application provides optional multifactor authentication (MFA), see [Activating the MFA \(Optional\) on page 19](#)

Procedure:

1. Click the WAVE PTX portal link. A region selection page is displayed.

2. Select your region from the drop-down and click **Continue**. A **Welcome to WAVE** page displays with SIGN IN.
3. Click **SIGN IN**. An account login page is displayed.
4. Enter your sign in credentials and click **SIGN IN**.

If you have enabled the MFA, you will get the verification code in the email each time you try to log in. Provide it to sign in.

1.4.4

Testing Transmission

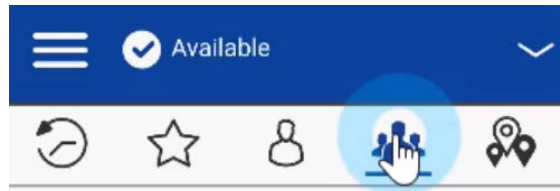
Testing transmission allows you to verify whether the device receives and transmits voice from and to other device effectively. Testing ensure the proper operation of the device and quality of the voice.

When and where to use: To test the transmission, follow these steps:

Procedure:

1. Using another device, sign in to WAVE PTX via the WAVE PTX Mobile Communicator.
2. In the **Talkgroups** tab, tap the name of a Talkgroup.

Figure 1: Talkgroup Tab- Test Transmission



3. Repeat the step 2 with the other device so that you are on the same Talkgroup.
4. On one device, press and hold the **PTT** button.
5. After a short chirp, speak into your microphone.

The audio should sound clear on the other device and a record of the transmission appears on the **FEED** screen.

1.5

Types of Subscriptions

There are two types of subscriptions that a Partner can choose for the Customers to use the WAVE PTX communication service. Customers can either select Collaboration Package or SafeGuard Package. Please note that once the customers begin the paid subscription, they can mix and match the licenses from both collaboration and safeguard packages (For example - Subscribing for 5 Collaboration and 5 SafeGuard Licenses).

Collaboration Package (Annual and Monthly Billing)

It is possible for a Customer to have broadband annual and monthly billing at the same time. In this case, the Customer receives two bill or statements for each subscription with broadband features only.

SafeGuard Package (Annual and Monthly Billing)

Partner can choose the SafeGuard subscription for the Customer as monthly and yearly billing cycle. In addition to the broadband features, the SafeGuard features include emergency calling and alerting, remote user check, ambient listening, discreet listening, enable or disable user from services, and area based communication.

1.5.1

Purchasing WAVE PTX

You can purchase a WAVE PTX account to choose a plan and start the PTT communication from the main page.

When and where to use: To purchase a WAVE PTX plan, follow these steps:

Procedure:

1. In a browser, navigate to www.waveptx.com.
2. Select the your country from the **Region** drop down and click **Continue**.
3. In the main page, click the **View Pricing and Plans** button.
4. Scroll down on the page and determine which bundle best suits the communication requirements for your organization.
5. Once you have determined which bundle you want, click the **VIEW PLANS** button under the bundle.
6. Once you have determined the plan you want, click the **Plus** button to add the number of users for your plan.
7. Click the **ADD TO CART** button.
8. View the items you have added to your cart and click the **CONFIRM** button.
9. After confirming the item purchase, click the **Shopping Cart** icon on the top right of the page.
10. Verify that the details of the plan in your shopping cart and then click the **REVIEW & CHECK OUT** button.
11. If you have not signed in the WAVE PTX, then click **Log In to Checkout**.
12. To provide your ID and payment method, follow the instructions.

1.5.2

Upgrading to a Paid Subscription

When and where to use: To upgrade subscription and license, follow these steps:

Procedure:

1. Go to <https://waveptx.com/Account/Login>
2. Log in with your email address and password.
3. Click the **Settings** icon.
4. Select **Account**.
5. On the **Account** page, select **Manage Subscription** and click **UPGRADE PLAN** button on the Subscription details page.
6. The available product plans and pricing appear. Depending on your region the plans display. Select the appropriate plan.

Configure Plan- Upgrading to paid Subscription (except North America)

The following paid subscriptions are available:

- WAVE PTX Mobile App
- WAVE PTX Mobile App and SafeGuard
- WAVE PTX Dispatch
- WAVE PTX Dispatch and SafeGuard
- WAVE PTX MOTOTRBO

WAVE PTX TLK 100/TLK 150 (Standard Package)
WAVE PTX TLK 100/TLK 150 (SafeGuard Package)
WAVE PTX TLK 25 WiFi
WAVE PTX TLK 25 WiFi and SafeGuard
ION WAVE PTX
ION WAVE PTX and SafeGuard
WAVE PTX TLK 110 Wave PTX SIM FREE
WAVE PTX TLK 110 Wave PTX SIM FREE and Safeguard
WAVE PTX Streaming Video
WAVE PTX Dispatch Streaming Video
WAVE PTX LMR Interop Add On

Configure Plan- Upgrading to paid Subscription (US and Canada)

The following paid subscriptions are available:

ION WAVE
ION WAVE and Safeguard
WAVE Dispatch
WAVE Dispatch and Safeguard
WAVE Mobile App
WAVE Mobile App and Safeguard
WAVE MOTOTRBO
WAVE Two-Way Radio
WAVE Two-Way Radio and Safeguard
WAVE Streaming Video
WAVE Dispatch Streaming Video
WAVE LMR Interop Add On

7. With the plan selected, provide the credit card and billing details.
8. Make sure that you enter number of users and accept the terms and conditions.
9. A payment complete page displays.

1.5.3

Increasing the Number of Users on the Subscription

Trial accounts come free with ten licenses. Paid accounts can support any number of users. The amount you are billed depends on the number of licenses you purchase. Radio integration is included in plans with MOTOTRBO and increases the License fee by a small amount to account for the additional hardware. If you have a paid account, you can update the number of licenses any time. You can also update the number of licenses that are capable of video streaming.

Each Broadband User in WAVE PTX represents a license in your Subscription.



NOTE: The video streaming license field only shows if the subscriber has purchased the SafeGuard package.

Procedure:

1. Sign in to WAVE PTX using your Partner or Customer account.
2. Click the **Settings** icon and select **Account**.
3. In the **Subscription** section, click **Manage Subscription**.
4. On the **Subscription** section click **Add Licenses**.
Add Licences page displays. Depending on your region the plans display.

Configure Plan- Upgrading to paid Subscription (except North America)

The following paid subscriptions are available:

- WAVE PTX Mobile App
- WAVE PTX Mobile App and SafeGuard
- WAVE PTX Dispatch
- WAVE PTX Dispatch and SafeGuard
- WAVE PTX MOTOTRBO
- WAVE PTX TLK 100/TLK 150 (Standard Package)
- WAVE PTX TLK 100/TLK 150 (SafeGuard Package)
- WAVE PTX TLK 25 WiFi
- WAVE PTX TLK 25 WiFi and SafeGuard
- ION WAVE PTX
- ION WAVE PTX and SafeGuard
- WAVE PTX TLK 110 Wave PTX SIM FREE
- WAVE PTX TLK 110 Wave PTX SIM FREE and Safeguard
- WAVE PTX Streaming Video
- WAVE PTX Dispatch Streaming Video
- WAVE PTX LMR Interop Add On

Configure Plan- Upgrading to paid Subscription (US and Canada)

The following paid subscriptions are available:

- ION WAVE
- ION WAVE and Safeguard
- WAVE Dispatch
- WAVE Dispatch and Safeguard
- WAVE Mobile App
- WAVE Mobile App and Safeguard
- WAVE MOTOTRBO
- WAVE Two-Way Radio
- WAVE Two-Way Radio and Safeguard
- WAVE Streaming Video
- WAVE Dispatch Streaming Video
- WAVE LMR Interop Add On

5. In the **How many <n> licences would you like to add?** field enter the number.
<n> is the desired number of licences.
6. Once you enter the numbers click **Update**.
The new plan and extra licenses are activated immediately.

1.5.4

Canceling Subscriptions and Licenses

Procedure:

1. Sign in to your rental distributor account with credentials.
2. From the **Home** page, click the **Settings** icon on the top right-hand corner.
3. From the **Settings** drop down, select **Account**.
4. Click **Manage Subscription**.

5. To remove the licenses that you want, click **Remove Licenses**.
6. To cancel all subscriptions, you can click **CANCEL ALL SUBSCRIPTIONS**.
7. The new subscription details show on the **Distributor** home page.
8. Clicking the **More Transactions** on the account page shows the transaction history of the account.
9. To view the subscription details and remaining balance of your account, click **Manage My Account**.

1.5.5

Updating Billing Information

Procedure:

1. Log into the [WAVE PTX Account](#)
2. In Settings, click **Account**.
3. Click **Manage My Account**.
4. Click **Change Payment**.
5. Fill out the billing and payment information.
6. Click the **Update** button.

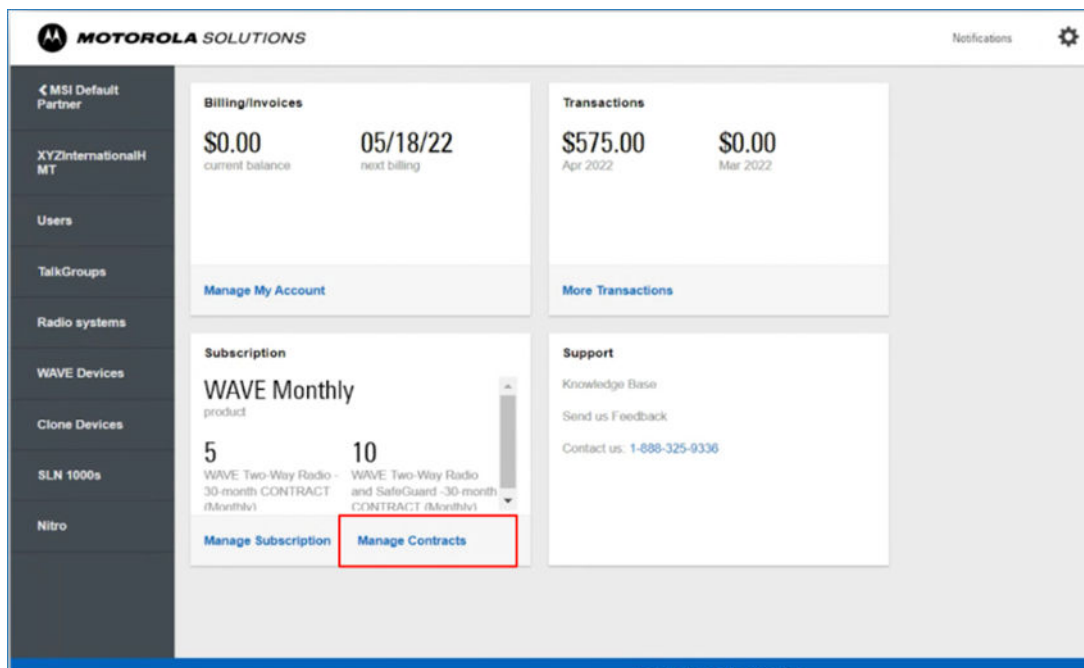
1.5.6

Contract Management (US Region Only)

Distributors, Partners, and Customers from the US region can manage the WAVE PTX contract licenses from one place.

To manage the WAVE PTX contract licenses that are purchased by the customer, navigate to the subscription management page by clicking **Account** under the settings icon in the top right-hand corner.

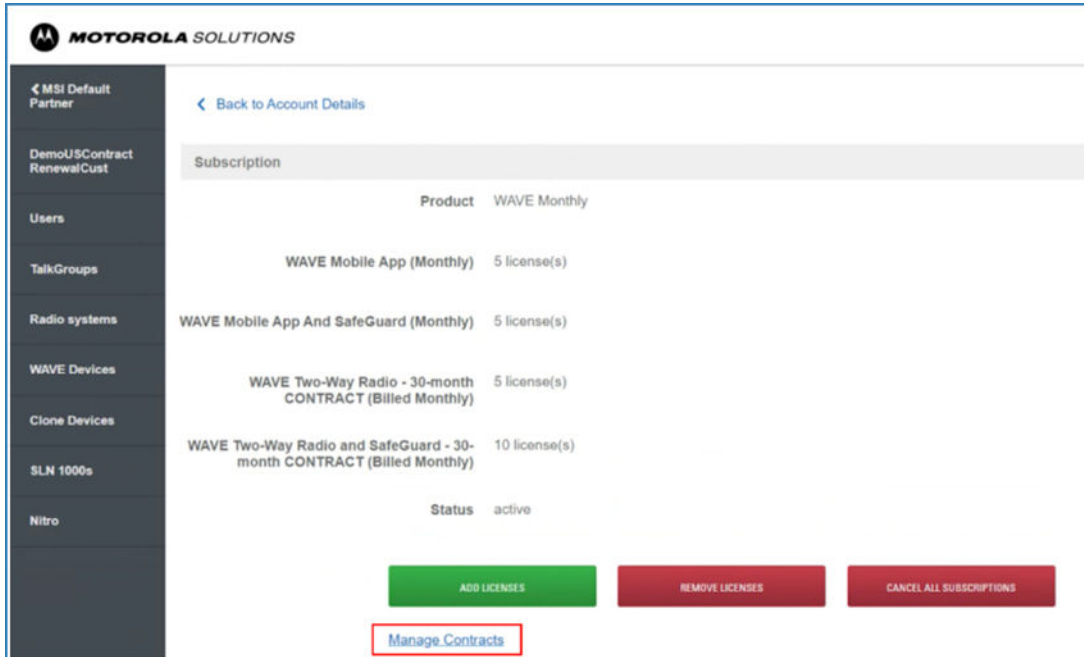
Figure 2: Manage Contracts



Under the **Subscriptions** card, click **Manage Contracts** to access the list of contracts purchased by the customer.

You can also navigate to the **Manage Contracts** page from the **Manage Subscriptions** link and click the **Manage Contracts** link at the bottom.

Figure 3: Manage Contracts from Subscription



IMPORTANT: On the **Subscriptions** page, from now on, you can only add, remove, and cancel license subscriptions related to non-contract licenses only. If you want to add or remove any contract licenses, you need to navigate to the [Manage Contracts Page on page 25](#).

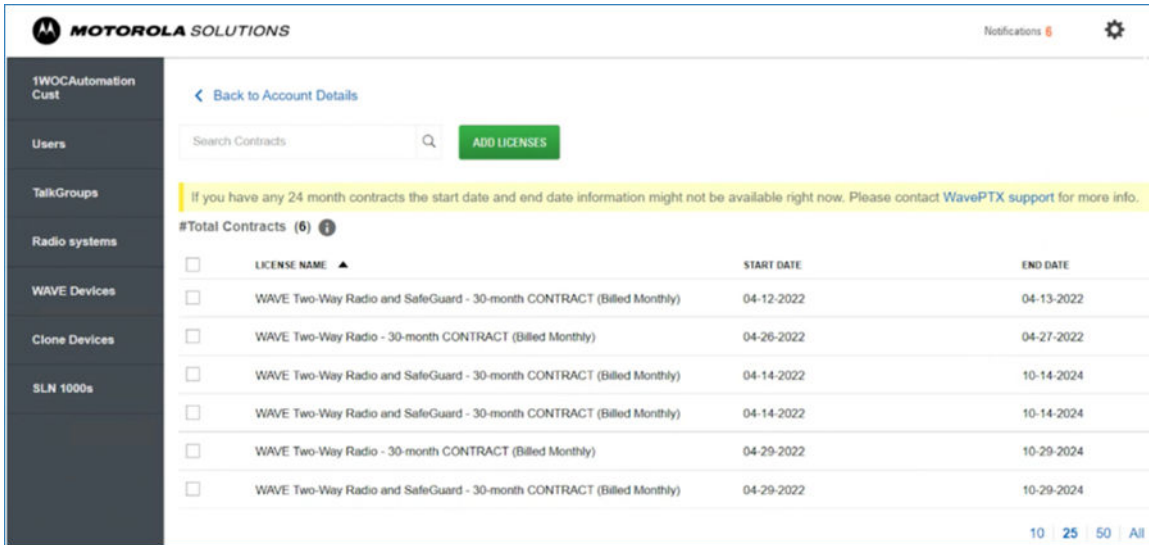
1.5.6.1

Manage Contracts Page

The **Manage Contracts** page lets you manage all contract licenses in one place.

From now on, any addition or removal of contract licenses can only be done on the **Manage Contracts** page.

Figure 4: Manage Contracts Page



From the **Manage Contracts** page, you can access the list of all contracts along with the **Start Date** and **End Date** of the contracts. If you have any 24-month contracts, the **Start Date** and **End Date** information may not be available right away on the page. Please contact WAVE PTX Support to confirm the status of your contract.

1.5.6.2 30-Month Contract Licenses

30-months contract licenses are now available for US agents only.

The 24-month contract licenses has been removed. The new 30-month contract licenses are now displayed on the page where you add licenses.

Figure 5: 30-Month Contract Licenses

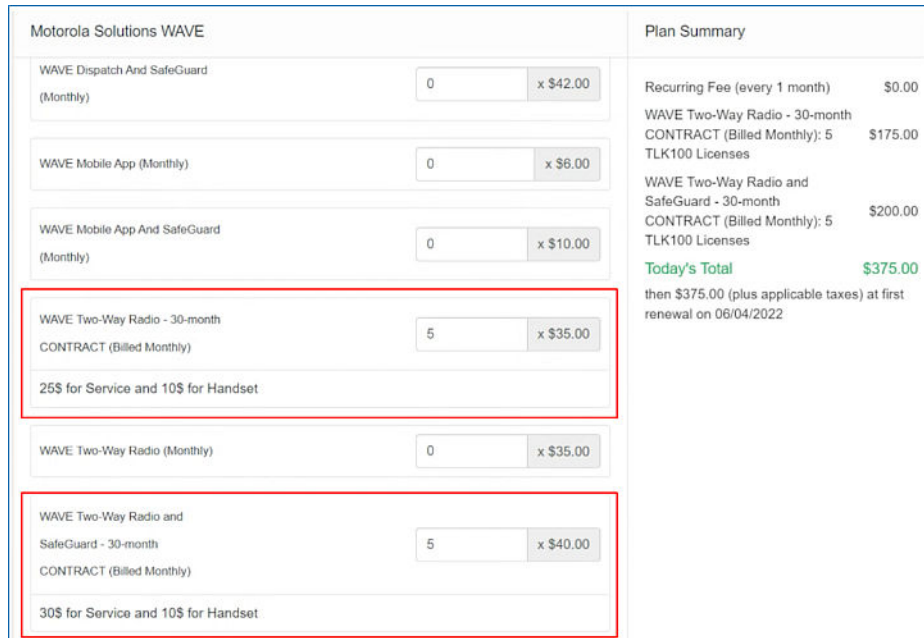
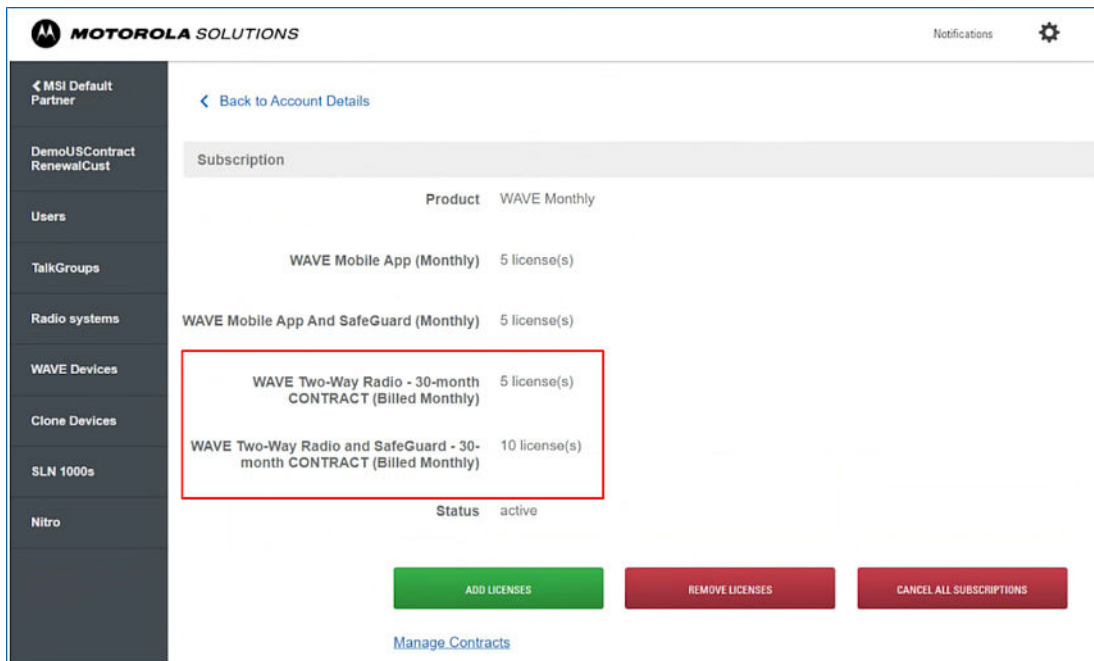


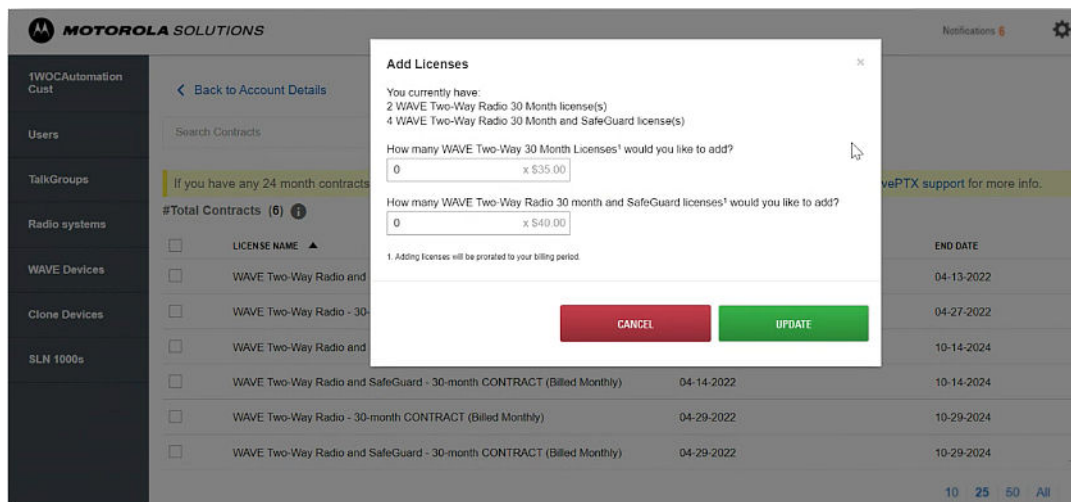
Figure 6: Subscription with 30-Month Contract Licenses



1.5.6.3 New Contract Licenses Addition

If you are a customer admin, you can add new contract licenses by clicking on the **Add Licenses** button on the **Contracts** page and entering the number of contract licenses in the **Add Licenses** window.

Figure 7: Add New Licenses



Only a customer admin can add new contract licenses (that is, 30-month contracts only). To add new contract licenses to a customer account, the portal user must have the a customer admin role/permissions assigned. You can also view a summary of all the contract licenses by clicking the **Info** icon next to **#Total Contracts**.

Figure 8: Contract Licenses Summary

| Total Contracts (15) | |
|---|-------|
| LICENSE NAME | COUNT |
| WAVE Two-Way Radio - 30-month CONTRACT (Billed Monthly) | 5 |
| WAVE Two-Way Radio and SafeGuard - 30-month CONTRACT (Billed Monthly) | 10 |

| LICENSE NAME | START DATE | END DATE | STATUS |
|--|------------|------------|----------------|
| <input type="checkbox"/> WAVE Two-Way Radio - 30-month CONTRACT (Billed Monthly) | 05-04-2022 | 11-04-2024 | Under Contract |
| <input type="checkbox"/> WAVE Two-Way Radio - 30-month CONTRACT (Billed Monthly) | 05-04-2022 | 11-04-2024 | Under Contract |
| <input type="checkbox"/> WAVE Two-Way Radio - 30-month CONTRACT (Billed Monthly) | 05-04-2022 | 11-04-2024 | Under Contract |
| <input type="checkbox"/> WAVE Two-Way Radio - 30-month CONTRACT (Billed Monthly) | 05-04-2022 | 11-04-2024 | Under Contract |
| <input type="checkbox"/> WAVE Two-Way Radio - 30-month CONTRACT (Billed Monthly) | 05-04-2022 | 11-04-2024 | Under Contract |
| <input type="checkbox"/> WAVE Two-Way Radio and SafeGuard - 30-month CONTRACT (Billed Monthly) | 05-04-2022 | 11-04-2024 | Under Contract |

1.5.6.4 Expired Contract Licenses

When contract licenses expire, the license is converted to a monthly license and is billed monthly after the contract term is over.

If you wish to upgrade an existing 24-month/30-month contract license to a 30-month contracts license, please contact your Partner Support for help. Operator Support will help you upgrade devices/licenses that are out of contract to a new 30-month contract.

Chapter 2

Manage Users and Talkgroups

You can add, delete, activate, deactivate, and assign users and manage talkgroups for the customers and partners. An Employee with Admin, Radio Admin, or Provisioning Roles can create users into the portal.

- The Radio system (LMR Interop) feature is available for both Collaboration and SafeGuard package customers.
- The customers with the Collaboration package need to purchase LMR Interop add-on licenses and then enable the LMR Interop feature on the user page.
- The LMR Interop feature is a part of the SafeGuard package by default.
- The customers who are upgrading to the SafeGuard package, do not need to purchase LMR Interop add-on licenses exclusively and this feature is enabled by default.



NOTE:

- The LMR Interop feature is only available for the US region.
- Customers created between 1st Oct 2019 to 30th June 2021, the LMR Interop feature is lifetime free for existing users. For new users, customers need to purchase LMR Interop as an add-on.
- The MOTOTRBO customers have to either downgrade to Collaboration or upgrade to the SafeGuard package to use the LMR Interop feature and have to follow the same process mentioned in the previous section.


2.1

Adding a Mobile, Tablet, or WAVE PTX Dispatch User

You can add users manually one at a time or you can add multiple users using a `.csv` document import.

Procedure:

1. In the Customer details page, click the **Users** menu.
2. Click **Add User**.
3. Select the User Type.
 - **Mobile or Tablet**
Standard users on Mobile devices (with a Cellular connection and phone number) or on Tablet devices (Wi-Fi Only). Mobile or Tablet Users may be assigned to any Talkgroup.
 - **WAVE PTX Dispatch**
For users of the WAVE PTX Dispatch client that is installed as a web browser plug-in. Dispatchers can only be assigned to Talkgroups of type Dispatch or Broadcast.
 - **MOTOTRBO Client**
MOTOTRBO type of users. Refer to [Adding a MOTOTRBO User on page 30](#)
 - **ION**
Adding an ION
4. The Number of licenses used and available for the user show on the top of the users list view on the Users Page.
5. Add the following information:

- a. Enter the users details in the fields provided.
 -  **NOTE:** Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.
- b. From the PTT Client Type drop down, select the client type for the user. You can select PTT standard Cross Carrier or PTT Radio Cross Carrier.

Cross-Carrier is a feature provides PTT service to a user on another carrier through the data plan and Internet data connection available on the device. Cross-Carrier PTT enables selling PTT to enterprises that have multiple carriers providing wireless service. Cross-carrier users download and install the same application as on-carrier users.
- c. Leave the Active check box selected unless you want to create a deactivated user. Deactivated users cannot sign in but may be activated at any time.
- d. If the user is on a device without a phone number then select **Tablet User or Wi-Fi Only Devices**. The system generates an Activate Code. The activation code is sent to the email address.
- e. If you want this user to be able to do video streaming then select **Add-on Packages**. User can initiate and receive video streams on the devices. The Add-on package is available only for the Mobile, Tablet, and WAVE PTX Dispatch user.
- f. If you want the user to have the LMR Interoperability feature then select the **LMR Interop** checkbox (Applicable only for the US region).

2.2

Adding a MOTOTRBO User

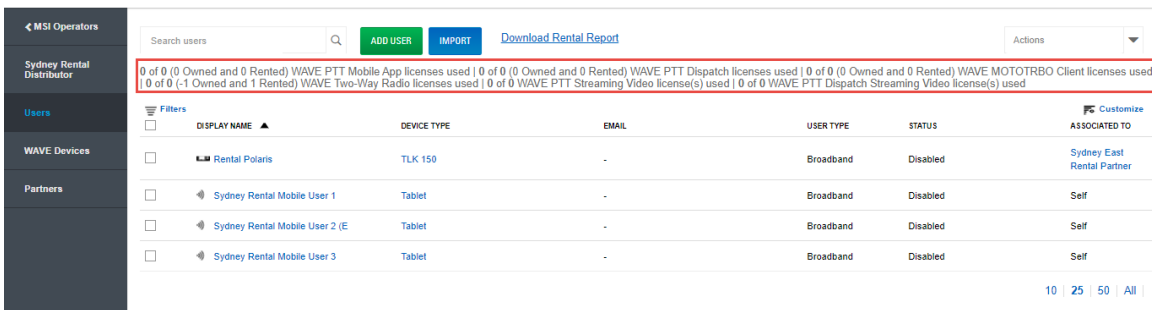
You can add users manually one at a time or you can add multiple users using a .CSV document import.


When and where to use: To manually add a MOTOTRBO User, follow these steps:

Procedure:

1. In the Customer details page, click the **Users** menu.
2. Click **Add User**.
3. Select the User Type as **MOTOTRBO**.
4. The Number of licenses used and available for the user show on the top.

Figure 9: Available Licenses for Adding Users



5. Add the following information.
 - a. In **Display Name**, enter the name of the user that appears to other WAVE PTX users in WAVE PTX client devices.
 -  **NOTE:** Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.
 - b. The Phone Number field is disabled. An activation code generates once for the sign in.

- c. Leave the Active check box selected unless you want to create a deactivated user. Deactivated users cannot sign in but can be activated at any time.
- d. If you want this user to be able to sign in to the WAVE PTX Portal, then select **Allow Portal Access**. User can create own Talkgroups and add users to those talkgroups. User can add users but cannot delete Users that this user has not created.
- e. If you want the MOTOTRBO user to have the LMR Interoperability feature then select the **LMR Interop** checkbox (Applicable only for the US region).

Postrequisites: The user needs a special type of activation using an activation code. You must generate and communicate the activation code either using email or verbally. To generate or activate the user, click the link on the activation code column associated with the user. Click **OK** on the message that displays.

2.3

Assigning Contacts

When and where to use: Follow these steps to assign contacts:

Procedure:

1. Click the **Manage** link associated with the user to go to the Central Admin Tool (CAT) page.
2. From the **Contacts** tab, click the **Assign Contacts** button.
3. Select the contacts you want to assign to the user's phone book by selecting the applicable check boxes. Only unassigned contacts are available to the user for selection. You can also select multiple contacts by clicking the check box before the Name header, which functions as a Select All check box.
4. Click the **Assign** button. The assigned contacts display in the **Contacts** tab and the total contacts count increases accordingly.
5. A success message displays.

2.4

Removing Contacts

When and where to use: Follow these steps to remove a contact:

Procedure:

1. Click the **Manage** link associated with the user to go to the Central Admin Tool (CAT) page.
2. In the work area, click the **Tools** icon.
3. From the **Contacts** tab, select the check box associated with the contact you choose to delete.
4. You can also search for a contact by selecting a parameter.
5. Click the **Delete** icon to perform the removal operation. A confirmation message displays stating the user updated successfully. The contacts selected for removal are removed from the **Contacts** tab, and subsequently, the total contacts count decreases.

2.5

Features Authorization

As per your subscription, you can enable the specific or all the features to selected PTT users such as Location History, Geofence, and Messaging.

You can also enable the specific or all the features in Messaging such as Text, Multimedia, and Location. The **Features** tab under the PTT Users screen shows the Packages, Device Info, Messaging, Location Sharing,

Automatic Location Publish Control, Geofence, and Emergency-specific information. Mouse hovers on the Help icon displays the details of each feature assigned to the user. The authorized user for the selected PTT user displays under the **Features** tab in a tabular format showing the operations that an authorized user can be performed for the selected PTT user.

The **Features** tab displays the information below:

Packages

Displays the type of package assigned to the user. These packages include Tired Package and Add-on Packages.

Device Info

Displays the information related to the Manufacturer, Model, OS, and Application of the user's device.

Messaging

Displays the messaging capability of the user. You can configure the messaging capability of the user as below.

Text Multimedia

Allows you to provide permission from one of the following:

- **None** – No messaging capabilities.
- **Text** – Only text messaging.
- **Text and Multimedia** – Both text and multimedia messaging.

Location Sharing

Allows you to provide permission for sharing member's location capability in messages.

Geofence

Allows you to enable the geofence capability for the user.

Automatic Location Publish Control

Allows you to enable or disable the location to publish capabilities for the user.

Emergency

The following emergency configuration is available for the administrator. If configured, the administrator can configure the following:

- **Allow Emergency Initiation:** From the drop-down, you can select **Yes** or **No** to enable or disable emergency initiation respectively for the user. If you select **Yes**, the following options display:
 - **Destination** From the drop-down, you can select **User Selected Talkgroup or Admin Selected Contact or Talkgroup**. If you select **User Selected Talkgroup**, then the user can initiate the emergency to any of the assigned talkgroup lists. If you select **Admin Selected Contact or Talkgroup**, then you can choose the destination of the emergency to Primary and Secondary contacts or talkgroups. From the drop-down, choose the talkgroup or contact where you want the user to initiate the emergency.
- **Call Initiation Type:** You can select **Manual** or **Automatic**. If you select **Manual**, then an emergency alert is sent to the user and the PTT button need to be pressed to initiate the emergency call. If you select **Automatic**, then an emergency alert is sent, and the emergency call starts.
- **Cancellation:** From the drop-down, you can select **Yes** or **No**. If you select **Yes**, then the user can cancel the emergency. If you select **No**, then only authorized user can cancel the initiated emergency.
- **Special Notification-** From the drop-down, select one of the followings:
 - **None (Regular call notification):** If you want the user to be notified for regular call notifications.
 - **For received emergency calls:** If you want the user to be notified for the received emergency calls only.
 - **For initiated emergency calls:** If you want the user to be notified for the initiated emergency calls only.

- **For both:** If you want the user to be notified for both the initiated and received emergency calls.

Talkgroup Steering

From the drop-down, select **Yes** or **No**. If you select **Yes**, then the user automatically joins the emergency. The User does not join the emergency automatically if you select **No**.

Streaming Video

Allows you to enable or disable the live video stream session feature for the individual user. When you enable this feature, the user can send one-way, stream live video with audio to another user. You can configure whether the type of video stream pull is confirmed (initiate video stream after recipient's confirmation) or unconfirmed (no confirmation needed for video stream).

The following selections are available for you to configure streaming video:

- **Video:** Allows you to enable or disable the video stream for the selected user to send and receive one-to-one, talkgroup, and quick group video stream. Enable or Disable Video Stream.
- **Initiate confirmed pull:** If you select **Yes** then the user needs to accept the request received from the authorized user to start the video stream on their device. If you select **No**, then the video stream starts on the user's device without their acceptance.
- **Receive group video:** If you select **Yes** then the user can receive talkgroup video stream. If you select **No**, then they cannot receive talkgroup video stream from their assigned talkgroup list but can receive one-to-one video streams.

2.6

Authorizing Features to the Users

You can authorize individual or multiple members for the remote supervision, ambient listening, and discreet listening from the edit screen of a user.

When and where to use: To authorize individual or multiple members, do the following:

Procedure:

1. Form the **Users** work area, click the **Manage** link associated with the user.
2. Make sure that the **Authorized User** check box is checked.
3. In the **Users** work area, click the **Tools** icon under the **Contacts** tab.
4. Select the member or the members of the user set to which you want to enable the feature.
5. Click the **Remote Supervision** icon. A **Select the Configuration** block opens.
6. Select from the following options:
 - **Change Remote Supervision**
 - **Change Ambient Listening**
 - **Change Discreet Listening**
7. Click one of the following:
 - **Allow** to authorize the features.
 - **Do not allow** to remove the authorization features.
8. Once selected, do one of the following:
 - Click **Apply** to save the changes.
 - Click **Cancel** to cancel the action.
9. A confirmation message `You are about to update remote supervision, ambient listening, discrete listening, unconfirmed pull on the selected contacts. Are you sure?` displays.

- Click **OK** to continue.
- Click **Cancel** to cancel the action.



NOTE:

- You cannot activate remote supervision, ambient listening, and discreet listening for a dispatcher. If you select the dispatcher for authorization, an error message displays.
- A PTT User that uses a feature phone may not work as an Authorized User even if assigned from the Central Admin Tool.

2.7

Adding Contacts to a User

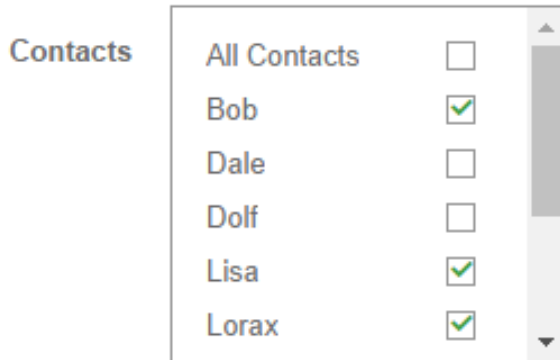
Contacts in WAVE PTX OnCloud are for Broadband Users only. Radio Subscribers are not currently enabled for Private Calls. The purpose of Contacts is to allow Private Calls between Broadband Users. The Contacts you add to a Broadband User appear in the Contacts or Address Book list of the WAVE Mobile Communicator or WAVE Web Communicator client.

When and where to use: To add contacts to a User, follow these steps:

Procedure:

1. In the main menu, Click **Users**. The Users page opens.
2. Click the name of the user to add Contacts.
3. In the **Contacts** section, select the contacts to add to this user and then click the **SAVE** button.

Figure 10: Adding Contacts to User



The selected contacts are added to the user. Contacts not selected are removed.

2.8


Activation Code

The mobile and tablet user needs a special type of activation using an activation code. If you are an administrator, you must generate and communicate the activation code either using email or verbally. To generate or activate the user, click the link on the activation code column associated with the user. Click **OK** on the message that displays.

2.9

Activating Tablet Users


Users marked with the 'Tablet' selection are designed to allow devices without a phone number to connect with WAVE. When they log in using the new WAVE PTX Client, 'Tablet' users are prompted for an activation code. If you are an administrator, you can generate the code any time. It is only required the first time when the new tablet user signs in. However; if you generate a new code, the previous code is invalidated and they are prompted for the new code the next time they sign in. You can generate activation code for the individual or multiple users at a time.

 **NOTE:** Most users have a phone number for ease of use. Users with phone numbers in the WAVE PTX system do not require Activation Codes and it is easier for them to sign in using the client. Try to use phone numbers whenever possible and only create Tablet users when the device has no cellular access.

Procedure:

1. Click **Users** in the left frame. The Users page opens.
2. To generate activation code, do one of the following:
 - Under the Activation Code column for the desired user, click **Generate**.
 - Select the check box next to the users and from the **Actions** drop down, select **Generate Activation Codes**. The generated code appears.

Figure 11: Generate Activation Code



| <input type="checkbox"/> | DISPLAY NAME ▲ | PHONE NUMBER | ACTIVATION CODE | USERNAME | CUSTOMER ADMIN EMAIL | USER TYPE | STATUS | TALKGROUPS |
|--------------------------|----------------|--------------|-----------------|----------|----------------------|-----------|--------|------------|
| | | | Generate | | | | | |

3. If the user has an email address, the activation code is automatically mailed to them. If the user does not have an email address, send the codes to them manually.
4. Click **OK** to the confirmation message that displays to return to the Users page.

2.10

Deleting Users

Users must be deleted manually. Users cannot be deleted by importing a .CSV file. You can select Users individually, or select all users by using the check box next to Display Name. Once deleted, users cannot be restored and must be entered manually or imported using a CSV file. Deleted WAVE PTX Users are immediately signed-out of their WAVE PTX clients. They cannot sign back in until their account is reactivated.

When and where to use: To delete selected Users, follow these steps:

Procedure:

1. Click the **Users** button. The Users page appears with a list of available users (if any).


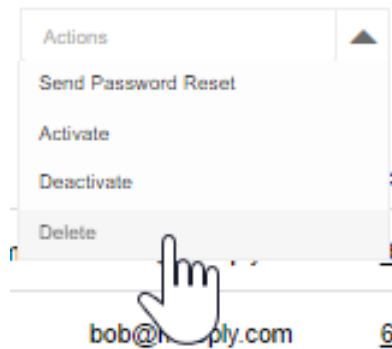
 **NOTE:** By default the first 25 Users will appear on the page. If you require operations on more users, select the number of users to display in the bottom-right corner of the page. Operations you select will only affect the users appearing on the page.
2. In the left column next to the user, click the check box to select the users to delete. You may select any user appearing on the page. Click the check box next to Display Name to select all visible users.
3. Once you have selected one or more users, the **Actions** menu appears at the top of the page.

Figure 12: Deleting Users



4. In the **Actions** menu and click **Delete**. A delete confirmation message `Are you sure you want to delete the selected user?` displays.
5. Click the **OK** button to confirm the deletion.

2.11

Changing Package or Tier for the Users

A customer can change the package that user has subscribed. Ensure that you have enough license available to change the package.

Procedure:

1. From **Users** work area, select the check boxes next to the users whose package you want to change.
2. Select the checkboxes next to the users and click the **Actions** drop-down.
3. Do one of the following:
 - If you have purchased SafeGuard package and want to downgrade to Collaboration then select **Change to Collaboration**.
 - If you have purchased Collaboration package and want to downgrade to SafeGuard then select **Change to SafeGuard**.
4. A confirmation message displays.
 - Click **OK** to continue the change.
 - Click **Cancel** to cancel the action.

2.12


Resetting a User Password

Users will receive a password reset email providing them with a link to reset their password. When they open the reset page, they do not need to validate their existing password, they only need to enter the new password, confirm it, and click the reset button.

In the event that you need one or more Users to reset their password, you can send a password reset command to them in the WAVE PTX portal. This will send an email to their registered email account. This will result in an error message if one or more of the accounts do not have an email address.

When and where to use: To send a password reset, follow these steps:

Procedure:

1. In the main menu click **Users**. The Users page appears with a list of available users (if any).
 **NOTE:** By default the first 25 Users will appear on the page. If you require operations on more Users, select the number of Users to display in the bottom right corner of the page. Operations you select will only affect the Users appearing on the page.
2. In the left column next to the User, click the check box to select the Users to send a password reset. You may select any User appearing on the page. Click the check box next to Display Name to select all visible users.
3. Once you have selected one or more users, the Actions menu appears at the top of the page.
4. In the Actions menu, Click **Send Password Reset**.
5. Click the **OK** button to confirm. The Password Reset email is sent.

2.13

Uploading a User CSV file

When and where to use: To upload a User CSV file, follow these steps:

Procedure:

1. Click **Import button**.
2. Click **Choose File** and browse to the CSV file you saved from the Excel template.
3. Click the **UPLOAD** button.
4. Review the Import Complete results to determine the status of the import.
5. Click the **DONE** button to complete the import.

2.14

Uploading Users with a CSV file

The Import feature of the WAVE PTX portal allows you to upload a .CSV file of users to a Customer. You can perform an Import at any time, but if the users are duplicated, they will not be added and will count as an error.

In general, you will need to download the User CSV file, edit it in a spreadsheet to include the users you want to add, save the spreadsheet as a comma-delimited CSV file, and then upload the file. If you already

have a CSV file you saved in Excel format, you may edit that file to include new users. Existing users will be ignored and will not be duplicated.



IMPORTANT: If you intend to use the same CSV file to maintain Users for a Customer, then maintain the file in Excel format. Save the file as a CSV file when you are ready to import it but keep the XLS file for later editing. Users can be added by uploading a CSV file but they cannot be removed by uploading the CSV file. If you remove a User from the list it will not be removed from Customer. To remove a user you must manually delete the user.

Procedure:

1. Click the **Users** button
2. Click the **Import** button.
3. Click **CSV TEMPLATE**. The CSV template is now in your browser's download folder. Open and modify the file by adding the appropriate user data before importing it.

2.15

Modifying a Spreadsheet

When and where to use: To modify a spreadsheet, follow these steps:

Procedure:

1. Open the CSV template file and add the required information.
2. In Display Name, enter the name of the user as it will appear to other WAVE users in WAVE client devices.

Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

3. In Phone, enter the phone number for the user.
4. In Email, enter the email for the user.
5. Save the file as a comma-delimited .CSV file.

2.16

Manage Talkgroups

Talkgroups are associated with a Customer and may not be shared between Customers. When you mouse-over an existing Talkgroup, the group changes to show the existing Users assigned to that Talkgroup. Additionally, three icons appear at the top-right corner of each Talkgroup. Talkgroups represent individual collections of WAVE Users and Subscribers (radio users). When a user transmits or sends a text message over a Talkgroup, all other users signed in to that Talkgroup receive the audio transmission or text message. Maps are also Talkgroup-specific and show only those users on the selected Talkgroup.

Talkgroups may be assigned to WAVE Users, Radio Systems, or both. Talkgroups do not consume a license. More than 16 Talkgroups may be assigned WAVE Users, but WAVE Broadband clients can only activate up to 16 Talkgroups simultaneously. Broadband Users may determine which Talkgroups are active or inactive on their client. You can create the following types of talkgroups:

Operator users can configure the Number of Large Talkgroups allowed for a customer. When operator user configures the number of Large Talkgroups, make sure that the customer is in SafeGuard Package (Command).



NOTE: Maximum number of Large Talkgroup allowed per customer is dependent on the server capacity.

Standard Talkgroup

A Standard talkgroup can be used by any type of talkgroups and can have one or more supervisors assigned. It requires at least two members.

User can also create a large (only standard) talkgroup with up to 3000 members. You can only create a limited number of large talkgroups based on your region. To create the large talkgroups, the customers should have purchased the SafeGuard package and the large talkgroup functionality must be enabled at their account level. Please contact wavesupport@motorolasolutions.com for more details.

Dispatch Talkgroup

A Dispatch talkgroup is a standard talkgroup with the additional capability to assign a dispatcher to it. The members of the talkgroup are called fleet members. It requires at least two members, including a dispatch user. You must assign a dispatcher to use the talkgroup.

Broadcast Group

A Broadcast group is a special type of talkgroup where the communication is one way from the broadcasters of the talkgroup to the members. It requires at least two members, including a broadcaster. A broadcast group can have up to 500 members including the broadcaster. These types of talkgroups allow a broadcaster to make high-priority calls typically used for making important announcements.

2.16.1

Creating a Talkgroup

When and where to use: To create a Talkgroup, follow these steps:

Procedure:

1. If you are a Partner or Partner Employee then click the name of the Customer to edit. If you are a Customer Employee then you are already in the Customer screen.
2. Click **Talkgroups**. The **Talkgroup** screen opens.
3. Click the **Large Plus** icon to create a Talkgroup
4. In **Talkgroup Name**, enter a name for the new Talkgroup.



NOTE: Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

5. You can choose the type of talkgroup when you creating talkgroup. Select one of the following Talkgroup type:
 - **Standard Talkgroup**
 - **Dispatch Talkgroup**
 - **Broadcast Group**

For information on the talkgroup types, see [Manage Talkgroups on page 38](#).

6. Optional: If you have permission to create the **Large Talkgroup** then select the Large Talkgroup checkbox in the **Edit Talkgroup** screen to create the Large Talkgroup.
7. In the **Select a radio system** list, leave the selection as **None** for a Broadband-Only Talkgroup, or select an existing Radio System if you are creating a Talkgroup that integrates with a Radio System. You can edit Talkgroups later if you need to add or remove a Radio System.
8. Click the **Green Check** icon when you are done.

Result: The new talkgroup appears on the page.

2.16.2

Importing Talkgroups

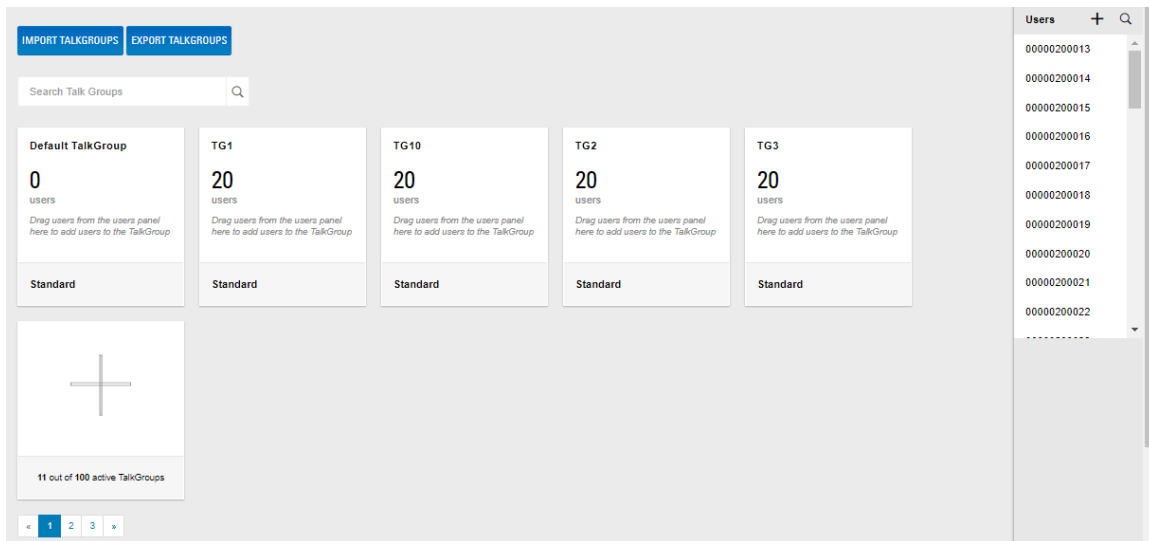
You can import talkgroups from a pre-configured excel sheet with all the details of the talkgroups. You must fill the details in the excel sheet as per the template available in the Import talkgroups window. Rental Customer supports up to 96 channels for the talkgroup positioning.

When and where to use: To import the talkgroups, follow these steps:

Procedure:

1. From the **Customer** portal, select the **Talkgroups** menu.

Figure 13: Importing Talkgroups



2. Click **IMPORT TALKGROUPS**. An **Import** window displays.
3. Click **CSV TEMPLATE** to download the CSV template.
4. Fill the details in the excel sheet downloaded on your local configured download folder.
5. Click **Choose File** in the **Import** window.
6. Click the **UPLOAD** to import the talkgroups.

2.16.3

Exporting Talkgroups

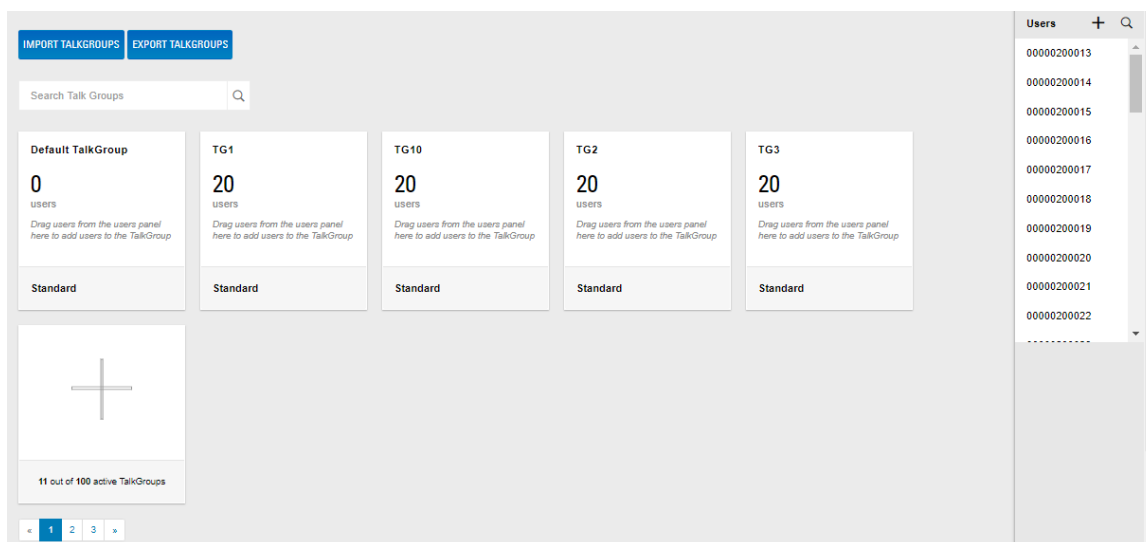
Export Talkgroups allows you to export the Configurations of one customer and import the configured file for other customers.

When and where to use: To export the talkgroups, follow these steps:

Procedure:

1. From the **Customer** portal, select the **Talkgroups** menu.
2. Click the **EXPORT TALKGROUPS** button. An **Export Talkgroups** window displays.
3. Click the **EXPORT** button to export the file.

Figure 14: Export Talkgroups



4. Once downloaded, edit the IMEI and Serial Numbers for the other Customer.

2.16.4

Removing a Single User from a Talkgroup

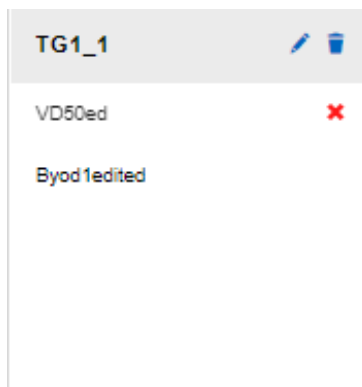
Users may be removed from a Talkgroup at any time. This does not sign the user out of WAVE. It removes the Talkgroup from the client and terminates any audio from that Talkgroup. If the User has only one Talkgroup, the portal displays that client has no Talkgroups available and the user remains signed in. Radio Subscribers removed from a Talkgroup continue to receive and transmit calls with other radio units, but cannot receive or transmit calls to Broadband clients.

When and where to use: To remove a single User from a Talkgroup one at a time, follow these steps:

Procedure:

1. Click **Talkgroups**.
2. In the **Talkgroups** screen, mouse-over an existing Talkgroup. The Talkgroup changes to display all current Users assigned to the Talkgroup.

Figure 15: Remove Single User from the Talkgroup



3. Click the **Red Check** next to a User to remove that User from the Talkgroup. A remove confirmation message `Are you sure you want to remove this user?` displays.
4. Click the **OK** button to confirm the deletion.

2.16.5

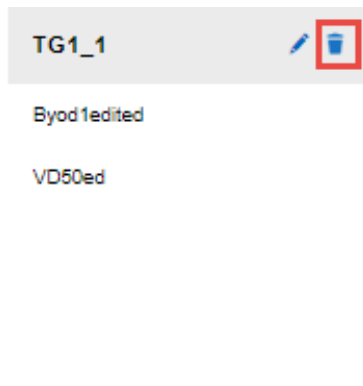
Removing Multiple Users from a Talkgroup

When and where to use: To remove multiple Users from a Talkgroup, follow these steps:

Procedure:

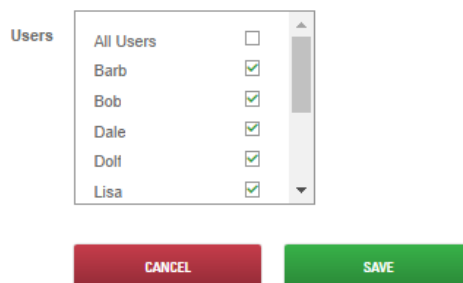
1. Click **Talkgroups**.
2. In the Talkgroups screen, mouse-over an existing Talkgroup and click the **Edit** icon. The editing page for the Talkgroup opens.

Figure 16: Remove Multiple Users from a Talkgroup



3. In the **Users** list, all available Users for this Customer appear. Selected Users are already a member of the Talkgroup. Clear check boxes to remove users and select Check boxes to add them.

Figure 17: Select Users to Remove



4. Click the **SAVE** button when you are done.

2.16.6

Deleting a Talkgroup


Deleting a Talkgroup removes the Talkgroup from all WAVE PTX clients. If the Talkgroup is associated with a radio system, Radio Subscribers will continue to function as normal but all audio with Broadband clients

will terminate over the deleted Talkgroup. Talkgroups typically vanish from WAVE PTX clients within a few minutes.

When and where to use: To delete a Talkgroup, follow these steps:

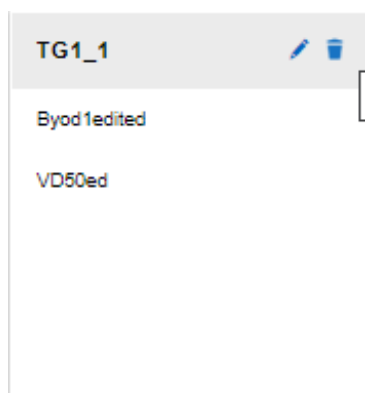
Procedure:

1. If you are a Partner or Partner Employee then click **Customer** and then the name of the Customer to edit.

 **NOTE:** If you signed in as an Employee then you are already in the Customer screen. Proceed to the next step.

2. Click **Talkgroups**. The Talkgroup screen opens.
3. Mouse-over the Talkgroup to delete and then click the **Delete** icon. A delete confirmation message *Are you sure you want to delete this group?* displays.

Figure 18: Deleting a Talkgroup



4. Click the **OK** button to confirm the deletion.

The Talkgroup is removed from the Talkgroups page and deleted.

2.17

Associating Users to Talkgroups

Talkgroup association allows you to assign Talkgroups to the Users. Make sure that you have created Talkgroups from the [Creating a Talkgroup on page 39](#) section of this document.

When and where to use: To associate Users to Talkgroups, follow these steps:

Procedure:

1. In the Talkgroup screen, hover over the Talkgroup and click the **Edit** icon.
2. Click the **Add User** icon on the Talkgroup edit page. A Manage User slider open.
3. Select the checkboxes next to the names of the Users.
4. Click **Assign**.
5. Click **SAVE** to add the users.

The number of Users in the Talkgroup updates to display the total count.

2.18

Manage Contacts & Features

You can manage contacts and features for Mobile, Tablet, WAVE PTX devices, and Dispatch users. Click the Manage> link associated with the user to go to the Central Admin Tool (CAT) page. You can also click the name of the user and click the **Manage Contacts and Features** link to go to the Central Admin Tool (CAT) of the user profile. From the Central Admin Tool, you can edit the user details, assign contacts, and enable or disable the features.

Chapter 3

Manage WAVE PTX Devices

This section provides instructions for adding an individual WAVE PTX device. You can add the WAVE PTX devices one at a time or you can add them to WAVE PTX using a spreadsheet. The spreadsheet method is advised if you have many WAVE devices to add.

To register WAVE PTX Devices, refer to [Adding a WAVE PTX Device on page 54](#)

3.1

WAVE PTX Devices Customer Instructions

WAVE PTX Devices are hand-held multi-connect devices designed by Motorola Solutions to integrate with WAVE PTX. They may connect over Wi-Fi or Cellular and switch between them depending on the connection available. The WAVE Device is not a radio unit, but has the same form-factor and durability with a simple to use Push-to-Talk interface and minimal display system. Through WAVE PTX, users of WAVE PTX Devices will be able to participate in Talkgroup and Private Calls with other Broadband and Radio Units

WAVE PTX Devices Ports

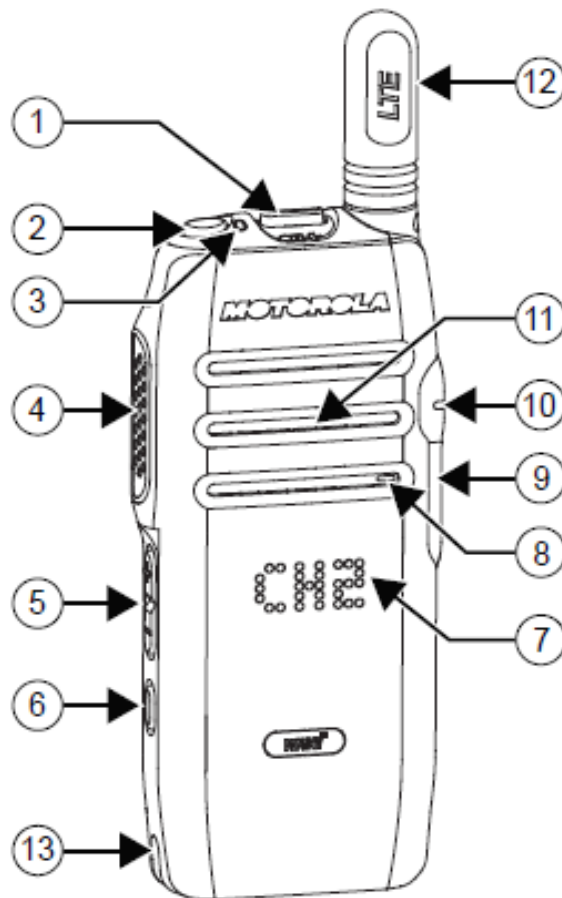
This information is supplied for IT Administrators managing corporate network connections. The WAVE PTX Devices use the ports listed below to connect with required external services. Ensure your firewall is open to incoming and outgoing traffic from these ports.

- TCP 443 – TLS communication with multiple servers (voice, storage, etc)
- UDP 123 – Network time protocol
- TCP 8883 – Device Management (AWS)
- TCP 7275 – SUPL (Supplemental location services)
- TCP 7276 – SUPL (Supplemental location services)
- TCP 53 – DNS
- UDP 53 – DNS
- UDP 67 – BOOTPS (DHCP)

3.2

Using a WAVE PTX Device

Figure 19: TLK Device



1. Talkgroup/Contact list scroll rocker
2. On/Off/Info Button
3. LED Status Indicator
4. Push-to-Talk (PTT) Button
5. Volume Button
6. Menu/Contact List Button
7. LED Display
8. Microphone
9. USB Port
10. Audio Accessory Port
11. High Output Speaker
12. LTE antenna
13. Charging Contacts

3.2.1

Turning the Radio On

Short press the On/Off/Information Button (Button 2). If successful, the green LED lights up and the display shows a power-on animation.


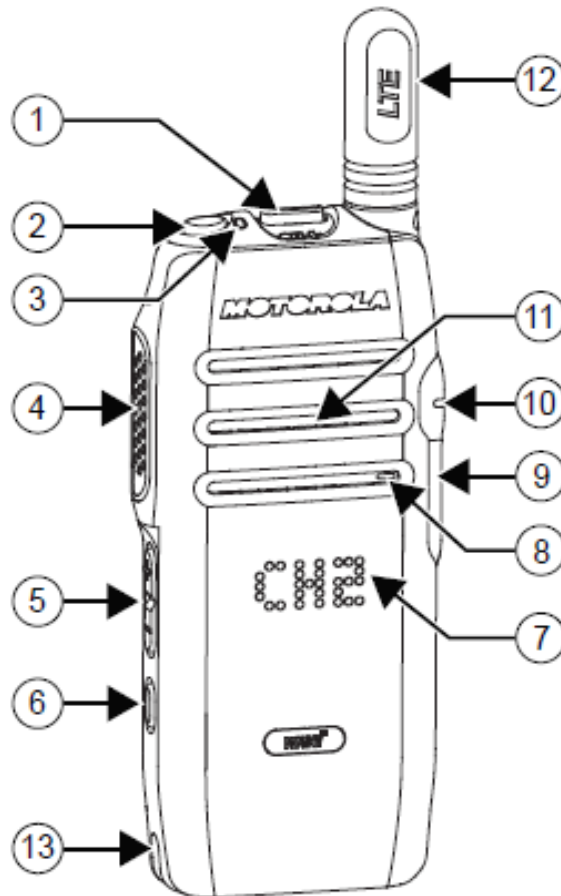
 **NOTE:** Long press the **On/Off/Information** Button to power up the radio when the radio is charging.

Figure 20: TLK100



3.2.2

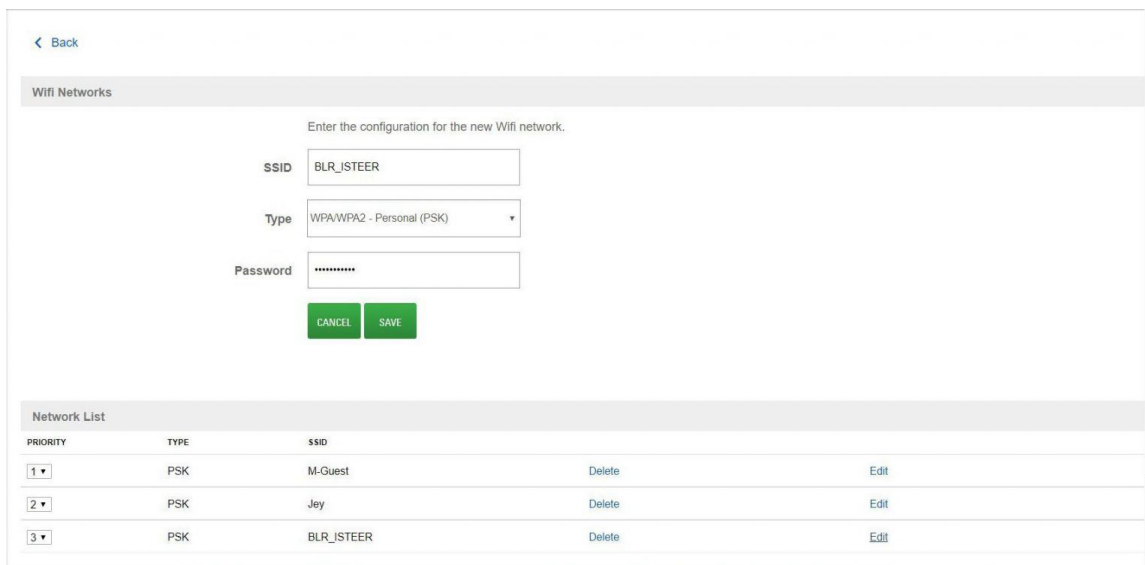
Configuring the Wi-Fi

When and where to use: To configure the Wi-Fi on the device, follow these steps:

Procedure:

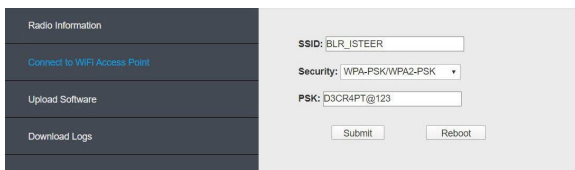
1. From the WOC portal, select the device to which you want to configure the Wi-Fi.
2. From the Actions drop-down, select **Manage Wi-Fi Networks**.
3. Enter the configuration details of your Wi-Fi network.

Figure 21: Configure Wi-Fi



4. Turn off the device.
5. Hold the **PTT** button, together with the **Power** button and **Channel Down** rocker button until the device enters **Configure Mode**.
6. Connect the device to your laptop or PC using a USB cable.
7. Click **Wi-Fi** connect and connect to the device Wi-Fi.
8. Enter the last eight digits of device serial number as password.
9. Open browser and enter the URL: `http://192.168.100.1/`
10. Click **Connect to Wi-Fi Access Point**.
11. Verify the configuration details and click **Submit**.

Figure 22: Verify Configured Wi-Fi



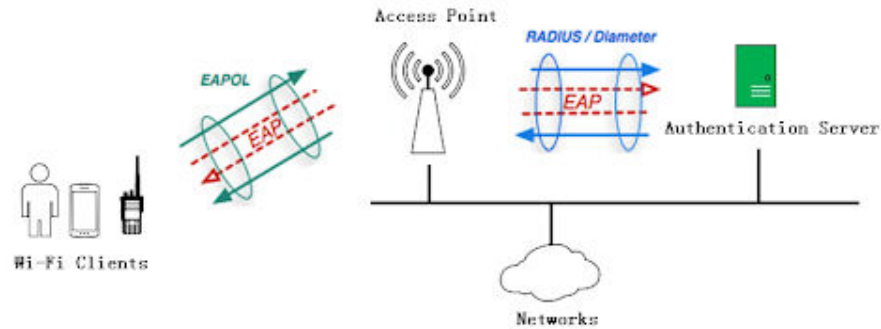
12. Click **OK** on the message that displays.
13. Reboot the device and tap the power button three times to show the Wi-Fi connection.

3.2.3

Configure Enterprise Wi-Fi

Enabling Enterprise Wi-Fi allows a much more secure Wi-Fi access based on WPA/WPA2-Enterprise/802.1x protocol. This enables TLK radios to be deployed over Wi-Fi networks that require WPA-Enterprise-based access. A WPA-Enterprise network requires authentication by the RADIUS server, during connection with the Wi-Fi.

Figure 23: WPA-Enterprise Network Authentication



The authentication methods supported by TLK devices are:

- PEAP-MSCHAPv2 (WPA/WPA2)
- EAP-TLS (WPA/WPA2)
- EAP-TTLS-MSCHAPv2 (WPA/WPA2)
- EAP-PWD

Certificate Management

EAP-TLS authentication uses certificate based authentication.

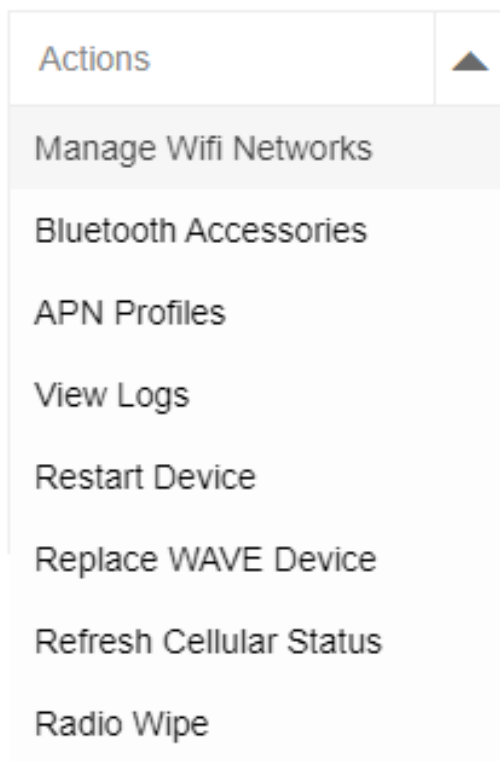
For this configuration of the Wi-Fi, a certificate management server is necessary which is based on Simple Certificate Enrollment Protocol (SCEP) to handle Certificate Enrollment, Renewal and Rollover. The radio automatically renews the certificate before they expire. The configurations set up in the SCEP server are used to configure the Enterprise Wi-Fi parameters for the portal.

For this type of authentication, it is necessary to perform the first time on-boarding of the device on Enterprise Wi-Fi in a secure network environment. Refer to <https://support.waveoncloud.com/wp-content/uploads/2021/09/TLK-Enterprise-Wi-Fi-Onboarding-Guide.pdf>

Configuration Details

To begin configuration, select the device and choose **Manage Wi-Fi Networks** option under **Actions** tab.

Figure 24: Actions Drop-down



This leads to the “Wifi Networks” setting page, where the configuration for the new Wifi network is to be done. Following are the required configurations for Enterprise Wi-Fi:

Figure 25: Configuration for Wi-Fi Network

A screenshot of the "Wifi Networks" configuration page. The page has a header "Wifi Networks" and a sub-header "Enter the configuration for the new Wifi network." Below this, there are several form fields: "SSID*" with the value "TLK_Test", "Type*" with a dropdown menu set to "Enterprise", "Enterprise Security Protocol" with a dropdown menu set to "peap-mschapV2", "Common Name*" with a dropdown menu showing options like "psk", "none", "peap-mschapV2", "eap-tls", "eap-tls-mschapV2", and "eap-pwd", "Password*", and "SCEP Server URL*". To the right of these fields, there are more form fields: "Root certificate URI*", "Organization", "Organizational Unit", "City", "State", "Country", and "Email". At the bottom right, there are two green buttons: "CLEAR" and "ADD".

Type

Select **Enterprise**

Enterprise Security Protocol

Select the type of authentication protocol.

Common Name

For EAP-TLS type, this refers to the name to be used for certificate issuance by SCEP Server. For other types enter the name associated with the Enterprise Wi-Fi account.

Password

For EAP-TLS type, this refers to the Challenge Password issued from the SCEP Server. For other types enter the password associated with the Enterprise Wi-Fi account.

SCEP Server URL

This is required for EAP-TLS type only. Enter the URL for SCEP server. For other types, just enter “none”.

Root certificate URI

This is to specify a preferred folder name where the root certificate is located.

3.2.4

Making a Group Call

A ‘Group Call’ is a transmission that goes out over a specific Talkgroup. All individuals listening to that Talkgroup will receive the transmission.

When and where to use: To make a group call, follow these steps:

Procedure:

1. To transmit over the currently selected Talkgroup you must first choose to which Talkgroup you currently have selected. Use the Talkgroup/Contact List Scroll Rocker to see and scroll through the Talkgroup and Contact list.
2. Press the PTT button to make the call. The green LED lights up. The display shows the Talkgroup alias.
3. Wait for the Talk Permit Tone to end and speak clearly into the microphone. Release the PTT button to listen for a response.
4. The green LED blinks when the target radio responds.



NOTE: The call ends when there is no voice activity for a predetermined period. The radio returns to the screen you were on before initiating the call.

3.2.4.1

Changing Talkgroups

The device supports a list of Talkgroups from WAVE. Use the Channel Rocker to select the Talkgroups on the device display.

3.2.5

Making a Private Call

A Private Call is a call from an individual radio to another individual radio.

When and where to use: To make a Private Call, follow these steps:

Procedure:

1. Long press side button to access the Individual Contacts list.
2. Scroll through the contact list using Talkgroup/Contact List Scroll Rocker until the right contact is displayed. You can also use the volume up / down buttons to scroll through the Contact list.



NOTE: If “X” precedes the contact, then the contact is in Do Not Disturb (DND) mode and a reject tone sounds when PTT button is pressed.

3. Press the PTT button to initiate the Private Call. The green LED lights up. The display shows the caller alias.

4. Wait for the Talk Permit Tone to end and speak clearly into the microphone. Release the PTT button to allow reception.
5. When you are done, press the side button on the device to disconnect the Private Call. Private Calls also timeout after a few seconds of inactivity and the device returns to Talkgroup call mode.

3.2.6

Receiving Private Calls

When you receive a Private Call the green LED blinks. Your radio generates an inbound call alert tone before the inbound audio call. You hear a short alert tone the moment the transmitting radio releases the PTT button, indicating the channel is free for you to respond.

When and where to use: To respond to the call

Procedure:

1. Press **PTT** button. The green LED lights up.
2. Wait for the Talk Permit Tone to end and speak clearly into the microphone.





















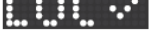





NOTE: The call ends when there is no voice activity for a predetermined period.

3.2.7

Understanding Status Indicators

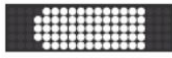
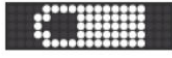
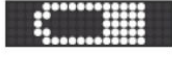


Figure 26: Understanding Status Indicator

| Icon | Description |
|---|--|
|  | Battery Level |
|  | Battery Charging |
|  | Battery Charging Error |
|  | Volume Level |
|  | Mute Mode |
|  | Brightness Level |
|  | Do Not Disturb On |
|  | Do Not Disturb Off |
|  | Voice Announcements On |
|  | Voice Announcements Off |
|  | Alert Tones On |
|  | Alert Tones Off |
|  | Cellular Strength |
|  | Cellular On |
|  | Cellular Off |
|  | Cellular Unavailable |
|  | Wi-Fi Strength |
|  | Wi-Fi On |
|  | Wi-Fi Off |
|  | Wi-Fi Unavailable |
|  | Location On |
|  | Location Off |
|  | Downloading Software/Software Available ¹ |
|  | Log Created/Uploading Log ² |

3.2.8


Understanding Battery Indicators

Figure 27: Understanding Battery Indicator

| Icon | LED In-dication | Voice An-nouncement | Descrip-tion |
|---|-----------------|---------------------|-----------------------|
|  | ● Solid green | Battery high | 80%–100% capacity |
|  | ● Solid amber | Battery medi-um | 60%–80% capacity |
|  | ● Solid amber | Battery medi-um | 25%–60% capacity |
|  | ● Blink-ing red | Battery low | 5%–25% capacity |
|  | ● Blink-ing red | Battery low | Less than 5% capacity |

3.3

Adding a WAVE PTX Device

 **NOTE:** If you want to import the device from the spreadsheet, see [Importing WAVE PTX Devices from a Spreadsheet on page 57](#). The following steps describe how to manually add a WAVE device.

Prerequisites: Ensure that you have IMEI/MAC address and serial number. You can find the Serial Number and IMEI number you need to register the device on the box of each WAVE PTX Device. Record the IMEI and the serial number.

Figure 28: WAVE PTX Device IMEI



If you do not have the box, then alternatively you can identify the IMEI and S/N numbers from the label under the battery.

Procedure:

1. Log in to WAVE PTX using your Customer account credentials.
2. In the left navigation frame, click the **WAVE PTX Devices** menu.
3. The WAVE PTX Devices page opens displaying all registered WAVE PTX Devices. Initially, this page is empty.

4. Click the **Register Device** button corresponding to the device type.

The following device types may be available for registration:

- **TLK 100/ TLK 150**
- **EVOLVE**
- **TLK 110**
- **TLK 25**

The WAVE PTX Devices Registration Wizard opens.

5. Depending on the device type, perform one of the following:

- In the **IMEI** field, enter the IMEI value of the WAVE device to register.
- In the **MAC Address** field, enter the IMEI value of the WAVE device to register.

6. In the **Serial Number** field, enter the serial number of the WAVE PTX device to register.

7. In the **Display Name** field, enter a Display Name for this unit.

The Display Name is the User Name for this device in the WAVE PTX Portal and appears in the Users menu as a WAVE PTX device. The Display Name is also the Alias and appears to other users when this unit transmits.



NOTE: Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

8. Click the **ADD** button.

If the device was identified, then the information for the device appears on the screen below the entry fields. If the device was not identified then an error message appears and you must re-enter the numbers again or contact support.

9. Optional: If you want to delete the entered details and add another device, then click **Remove**.

10. Click **NEXT**.

11. If you want to clone device details from an existing device, see [Cloning a WAVE PTX Device on page 58](#).

12. Select the language from the **Language** drop-down.

13. Select the check boxes next to the talkgroup names.

The Position selection enables. These are the Talkgroups you have already created. You can also add or remove if you want to delete the entered details and add another device units to talkgroups later from the Manage under the **Users** menu option.

14. Assign the talkgroup position, priority, call initiate, call receive, and in call permissions.

15. If you want the user to be the supervisor of the talkgroup, then select the **Supervisor** check box.

16. Select the contact check box to associate the contacts to the user. You may also add or remove Private Call contacts from this if you want to delete the entered details and add another device unit later from the Manage under the **Users** menu option.

17. Click **NEXT**.

18. Review the summary information page for the correct information and then click the **SUBMIT** button.

The following message displays:

You are about to register **<n>** WAVE device(s). Are you sure you want to continue?

19. Perform one of the following actions:

- To confirm the device registration, click **OK**.

- To cancel the registration click **Cancel**.

Result: The following message displays:

Your devices are now being registered. They will begin to show up under the **WAVE devices** section as they complete the registration process. Any registration errors that occur will show up in the **Notifications** section. This might take up to 15 seconds per device or less based

3.3.1

Importing WAVE PTX Devices from a Spreadsheet

The Import feature of the WAVE PTX Portal allows you to upload a CSV file of WAVE PTX Devices.

WAVE PTX devices can be added by uploading a CSV file but they cannot be removed. If you remove a WAVE PTX Device from the list, it does not remove from the Customer. To remove a WAVE PTX Device you must manually delete the WAVE PTX Devices. Deleting a WAVE PTX Device is done by selecting the device and then clicking **Delete** from the **Actions** menu.

You can perform an import operation at any time, but if the entries are duplicated, they are not added. In general, you must download the devices CSV file, edit it in a spreadsheet to include the users you want to add, save the spreadsheet as a comma-delimited CSV file, and then upload the file. If you already have a CSV file saved in Excel format, you can edit that file to included new users. Existing users are ignored and are not duplicated.

Procedure:

1. Log in to the WAVE PTX portal using your customer account credentials.
2. Click the **WAVE PTX Devices** menu. The WAVE PTX Devices page opens displaying all registered WAVE PTX Devices.
3. Click the **Register Device** button corresponding to the device type.

The following device types may be available for registration:

- **TLK 100/ TLK 150**
 - **EVOLVE**
 - **TLK 110**
 - **TLK 25**
4. Click the **IMPORT** button.
 5. Click the **CSV TEMPLATE** button to download a CSV Template for entering your WAVE PTX Devices information.
 6. Navigate to your downloads folder and open the devices CSV template file.
 7. Edit the file to add the IMEI/MAC address, Serial Number, and Display Name for all the WAVE PTX devices you wish to register.


You can find the Serial Number and IMEI number you need to register the device on the box of each WAVE PTX Devices unit. Record the IMEI and the serial numbers.

If you do not have the box, then alternatively you can identify the IMEI and serial numbers from the label under the battery.

Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.


- a. In the **IMEI** field, enter the IMEI value of the WAVE PTX Devices to register.

For devices that do not have the IMEI number, provide the MAC address.

 **NOTE:** MAC address is required for TLK 25 WiFi devices.

- b. In the **Serial Number** field, enter the serial number of the WAVE PTX Devices to register.
- c. In the **Display Name** field, enter a Display Name for this unit.

The Display Name is the User Name for this device in the WAVE PTX Portal and appears in the Users menu as a WAVE PTX Device. The Display Name is also the Alias and appears to other users when this unit transmits.

 **NOTE:** Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

8. Save the file as a comma-delimited CSV file.
9. Once your file is ready, click the **Choose File** or **Browse** button.
10. Click the **IMPORT** button if you have closed the **Import** window.
11. Browse to the CSV file you saved from the Excel template and select the file.
12. Click the **UPLOAD** button.
13. Review the import complete results to ensure the status of the import.
14. Click the **DONE** button to complete the import.

Result: The WAVE PTX Devices page reappears with the newly added units visible on the page.

3.3.2

Cloning a WAVE PTX Device

Cloning, at the time of device registration, allows you to copy the details from an existing registered WAVE PTX device. All configuration details of the template device are copied to a new device. The **Cloning Device from** field is only visible when you have already registered a minimum of two WAVE PTX devices and configured two users.

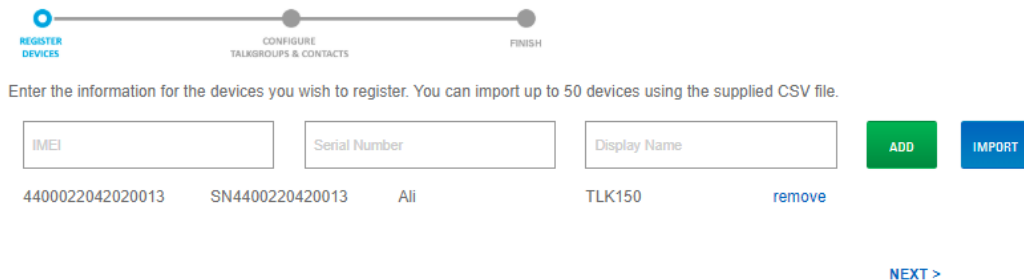
TLK 25 cloning is available only for EMEA region.

Prerequisites: Ensure that you meet the template requirements for the details to be copied to the new device. Mouse over the **Information** icon next to the **Cloning Device from** to view the template requirements.

Procedure:

1. After you add a device in the **Register Device** page, Click **NEXT**.

Figure 29: Adding WAVE PTX Device



REGISTER DEVICES CONFIGURE TALKGROUPS & CONTACTS FINISH

Enter the information for the devices you wish to register. You can import up to 50 devices using the supplied CSV file.

| | | | | |
|------------------|-----------------|--------------|-----|--------|
| IMEI | Serial Number | Display Name | ADD | IMPORT |
| 4400022042020013 | SN4400220420013 | Ali | | |

TLK150 remove

NEXT >

2. From the **Clone Device from** the drop-down, select the source device from which you want to copy the details.
3. If you are cloning a device from 2.0 software to 3.0 software (mixed registration), follow these steps:

Figure 30: Configure Talkgroups and Contacts

Select from the available Languages, TalkGroups, and Contacts.

Clone Device from: Ali

Language: -

| TALKGROUP NAME | TYPE | POSITION | PRIORITY | CALL INITIATE | CALL RECEIVE | IN CALL | SUPERVISOR |
|---|----------|------------------|----------|---------------|--------------|---------------|-------------------------------------|
| <input checked="" type="checkbox"/> Ambulance | Standard | 1 | 1 | Allow | Allow | Talk + Listen | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> Default TalkGroup | Standard | 8 | 2 | Allow | Allow | Talk + Listen | <input type="checkbox"/> |
| <input type="checkbox"/> Dispatch | Dispatch | Not in Scan List | | Allow | Allow | Talk + Listen | <input type="checkbox"/> |

Contacts:

- Select All
- Ali
- Bren
- Brian
- Charlie
- Christian

Associate all new WAVE devices with each other

< BACK NEXT >

- a. All contacts and talkgroup details are copied from the cloning device.
- b. Only eight talkgroups and channels configuration of the 2.0 software is copied.

NOTE: You cannot modify contacts and talkgroup details when cloning.

- 4. If you are cloning a device from 3.0 software to 2.0 software (mixed registration):

Figure 31: Configure Talkgroups and Contacts

Select from the available Languages, TalkGroups, and Contacts.

Clone Device from: Ricky

Language: -

| TALKGROUP NAME | TYPE | POSITION | PRIORITY | CALL INITIATE | CALL RECEIVE | IN CALL | SUPERVISOR |
|--|----------|------------------|----------|---------------|--------------|---------------|--------------------------|
| <input type="checkbox"/> Ambulance | Standard | Not in Scan List | | Allow | Allow | Talk + Listen | <input type="checkbox"/> |
| <input type="checkbox"/> Default TalkGroup | Standard | Not in Scan List | | Allow | Allow | Talk + Listen | <input type="checkbox"/> |
| <input type="checkbox"/> Dispatch | Dispatch | Not in Scan List | | Allow | Allow | Talk + Listen | <input type="checkbox"/> |

Contacts:

- Select All
- Bren
- Brian
- Charlie
- Christian
- David

Associate all new WAVE devices with each other

< BACK NEXT >

- a. All contacts and talkgroup details are copied from the cloning device.
- b. Only the first eight talkgroups and channels of the 3.0 devices are copied and remaining talkgroups show as selected.

- 5. Click **Next**.

6. Review the details and click **Submit**. A confirmation message displays.



NOTE: You cannot modify contacts and talkgroup details when cloning.

7. Click **OK**.

3.4

EVOLVE Devices

The EVOLVE device is a Cross Carrier PTT Radio type User and uses WAVE PTX mobile app licenses for the connection.

The EVOLVE devices support Video Streaming and allow talkgroup position assignment up to 96 channels. The EVOLVE device can be used with the Nitro data plan and available only when the customer is activated to the Nitro data services. The device can be used both by the re-seller and rent out options.

EVOLVE Device supports Critical Communication subscription. You can upgrade or downgrade the existing licenses and subscriptions for the devices. Refer [Nitro Portal User Guide](#).

3.4.1

Activating Nitro Data Service

If the customer wants to use the Nitro data plans then the operator must activate and subscribe to Nitro data service for the customer. Customers can choose the Nitro plan (Basic and Unlimited) type from a drop-down available during the device registration and can change the plan anytime at the time of using the registered device.

When and where to use:

To activate and subscribe to the Nitro Data plan, follow these steps:

Procedure:

1. From the Customer main page, select the **Nitro** menu. A Nitro activation page displays.
2. Select the network type, billing type, purchase model, and click **Activate**.
3. Select the **CBSDS** menu and click the **Register CBSDS** button.
4. Click the **Sign Me Up** button. Select **OK** to the confirmation message that displays.
5. The Nitro subscription activates for the customer. Click **Go To Nitro dashboard**.
6. From the Settings drop-down under the Nitro menu, select **Account**.
7. A Nitro subscription is shown in addition to WAVE PTX Monthly.

3.4.2

Registering EVOLVE Devices


You can add an individual or can import multiple EVOLVE devices to the portal. To register multiple devices to the portal, use the Import option. Make sure that you configure all the details in the CSV file before importing the file to the portal.

When and where to use:

To register an EVOLVE device, follow these steps:

Procedure:

1. From the WAVE PTX Devices menu, select **Register EVOLVE**.
2. Enter the IMEI number in the IMEI field.

3. Enter the serial number of the device in the Serial Number field.
4. Enter the name for the device in the Display name field.
 **NOTE:** Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.
5. Select a Nitro plan from the drop-down. You can select None, Nitro Basic, and Nitro Unlimited. If you select the Nitro plan then enter the SIM ICCID number.
6. Select the quality and priority of the calls from the SIM Priority drop-down.
7. If you want the device to use video streaming then select the Video Streaming check box.
8. Click **Add**. The device shows in the list.
9. Click **Next**. The talkgroups and contacts configuration page displays.
10. You can clone the configuration from a pre-configured device or can manually choose the language, talkgroups, and contacts from the Language, Talkgroups, and Contacts list.
11. Select the check boxes next to the talkgroup names. The Position selection enables. These are the Talkgroups you have already created. You can also add or remove EVOLVE devices from the talkgroups later from the **Manage** under the **Users** menu option.
12. Assign the talkgroup position, priority, call initiate, call receive, and in call permissions.
13. If you want the user to be the supervisor of the talkgroup then select the **Supervisor** check box.
14. Select the contact check box to associate the contacts to the user. You can also add or remove Private Call contacts from this EVOLVE unit later from the **Manage** under the **Users** menu option.
15. Click **Next**.
16. Verify the details and click **Submit**.
17. Click **OK** to the confirmation message that displays.
18. Click **View My Devices** to view the registered device.

3.4.3

Changing Nitro Data Plan

You can change the Nitro Data plan of the EVOLVE devices anytime when using the devices. The plan changes show in the User details, Subscription, and Transactions pages of the EVOLVE devices.

When and where to use:

To change the Nitro Data plan of the EVOLVE device, follow these steps:

Procedure:

1. From the **Users** menu, click the name of the device to display the edit page.

Figure 32: Changing Nitro Data Plan

The screenshot shows a user configuration page for a device named 'Vail Device'. The 'Display Name' field is 'Vail Device' and is marked as required. The 'Email' field is 'abc@org.com'. The 'Active' checkbox is checked. The 'Allow Portal Access?' checkbox is unchecked. The 'Nitro Data Plan' dropdown menu is open, showing options: 'None', 'Nitro Basic' (highlighted), and 'Nitro Unlimited'. Below the dropdown is the 'AddOn Package(s)' field. At the bottom of the form are three links: 'Manage Contacts and Feature', 'Manage TalkGroup Associations', and 'Update Device Properties'. At the very bottom are two buttons: 'CANCEL' (red) and 'SAVE' (green). A small note indicates that an asterisk (*) indicates a required field.

2. From the **Nitro Data Plan** drop-down, choose the plan that you want to change.
3. Click **Save**.

3.4.4

Replacing an EVOLVE Device

You can replace an EVOLVE device with another EVOLVE device from the portal. Make sure that you have the IMEI and a Serial number of the new device before you replace the existing device.

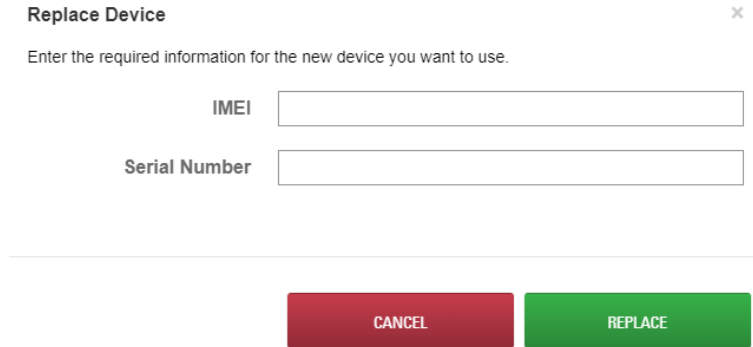
When and where to use:

To replace the EVOLVE device, follow these steps:

Procedure:

1. From the WAVE PTX Device page, click the EVOLVE device. The EVOLVE device details page displays.
2. From the **Actions** drop-down, select **Replace**. A **Replace Device** dialog box displays

Figure 33: Replacing an EVOLVE Device



Replace Device x

Enter the required information for the new device you want to use.

IMEI

Serial Number

CANCEL REPLACE

3. Enter the details of the new device in the given fields and click **SAVE**.

3.4.5

Editing an EVOLVE Device

Once you have added an EVOLVE device to the WAVE PTX Portal, it automatically appears as a User in your Users menu. From the Users menu, you can edit the Talkgroups and Contacts associated with the device. From the WAVE PTX menu, you can edit the properties of the EVOLVE unit.

When and where to use:

To edit an individual EVOLVE device, follow these steps:

Procedure:

1. Log in to WAVE PTX with your Customer account.
2. In the left navigation frame, select the **WAVE PTX** menu. The EVOLVE page opens displaying all registered EVOLVE devices.
3. Click the name of an EVOLVE device to edit.

The Device Information page for the selected EVOLVE opens. Click the gray heading areas to switch between **Device Info** and **Settings**.

4. **Device Information** options include the following:
 - **Device Type**
Displays the type of device. An EVOLVE type device displays if the device is an EVOLVE device.
 - **IMEI**
International Mobile Equipment Identity (IMEI) is a unique numerical identifier for every mobile device. WAVE PTX uses the IMEI in conjunction with the Serial Number to identify each EVOLVE. There are two IMEI that you can find in the EVOLVE. You can use any one of the IMEI numbers to register the device.
 - **ICCID**
ICCID is a unique serial number for the SIM (sent at the time of registration).
 - **Serial Number**
Each serial number is unique to an EVOLVE device. WAVE uses the Serial Number in conjunction with the IMEI to identify and register to EVOLVE.
 - **Cellular Data Plan Enabled**
Displays the status of the cellular data plan. If enabled, status displays Yes.
 - **Cellular Status**
Shows the status of cellular services.

- **Last Connected**
Last connected time of the device.
- **Bluetooth MAC Address**
Displays the MAC address of the device.
- **Wi-Fi MAC Address**
Displays the Wi-Fi MAC address of the device.
- **Hardware ID**
It is the hardware ID of the device.
- **Radio Alias**
It is the alternate name of the radio device.
- **Schema Version**
It is the schema version of the device.

5. **PTT App Settings** options include the following:

- **Preferred Network**
Displays the type of network that the device uses for the connection. You can change the network from the drop-down to Wi-Fi, Wi-Fi only, Cellular, or Cellular only.
- **Username**
Displays the name of the device that you entered when registering the device.
- **Service URL**
Displays the server URL to connect the device to the service.
- **LCMS URL**
Displays the Life Cycle Management Server URL (for DRX configuration).
- **Kodiak ID**
Displays the 15 digits (MDN or MSISDN) Set by the system during the Fulfillment flow.
- **Activation Code**
Displays the code that the user needs to enter on the EVOLVE device for activation.
- **Client Secret**
MCPTT server access requires a `clientId` and a **Client Secret**. `clientId` for PTTapp is `ptths`, this is its corresponding secret key.
- **OIDC URI**
MCPTT servers use keycloak server as access management, the connection uses an Open ID connection. All 3 instances for Wi-Fi, ims & inet share the same URL.

6. **Diagnostics** options include the following:

- **Diagnostic Level**
Trace Level, and Diagnostic Report Level. This is reported as a semicolon-separated string.
- **Generate Diagnostics Package**
Timestamp to trigger diagnostic package.
- **Upload Diagnostics Package**
Command for the device to upload the package.
- **Diagnostics Upload Transport**
What transports may be used to upload packages.
- **Diagnostics Package Available**
Inform DM that radio has a diagnostics package available for uploading.

7. **Status Report** options include the following:

- **Battery Level**
Periodically reports battery level.

- **Cellular Signal Strength**
Periodically reports the Signal level.
 - **Wi-Fi Signal Strength**
Periodically report signal level.
 - **GPS Coordinates**
This is the GPS of the device.
8. **ViQi Settings** options include the following:
- **Enable Voice Control**
This bitmask is used to enable or disable specific EVA features, current only used for enabling or disabling the Voice Control.
 - **ViQi Gateway URI**
URI to EVA Gateway.
 - **ViQi Address Book Storage URI**
URI to EVA Address Book storage.
9. **Android Device Policy Management** options include the following:
- **Maximum Time to Lock**
Enter the duration after which the device locks itself.
 - **Camera Disabled**
Select the check box to disable the device camera.
 - **App Install Disabled**
Select the check box to disable installing applications.
 - **App Uninstall Disabled**
Select the check box to disable the uninstalling applications.
 - **Allow Unknown Source App Install**
Select the check box to allow users to install the unknown source applications on the device.

3.4.6

EVOLVE Multizone Support

EVOLVE devices now support a multizone configuration, which allows each device to support up to six zones and sixteen positions. Multizone Support applies to both Rental and Non-Rental Business customers and affects all EVOLVE supported regions. Existing devices are converted from single-zone to multizone support and new devices are registered as multizone during production. The Clone Device Functionality may be affected by the integration of Multizone Support in existing and new devices. The auto channel assignment support remains the same for Bring Your Own Devices and ION devices. If an existing device remains in single-zone support, there is no service disruption.

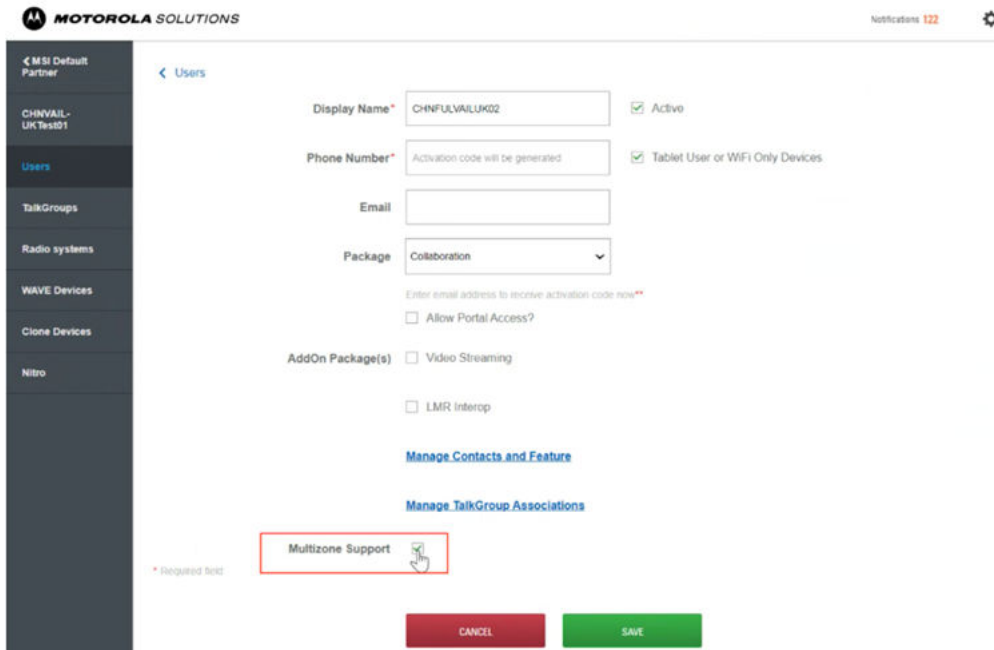
3.4.6.1

Converting Devices to Multi-Zone Support

EVOLVE devices in the **Users** list must be converted from single-zone to multizone support.

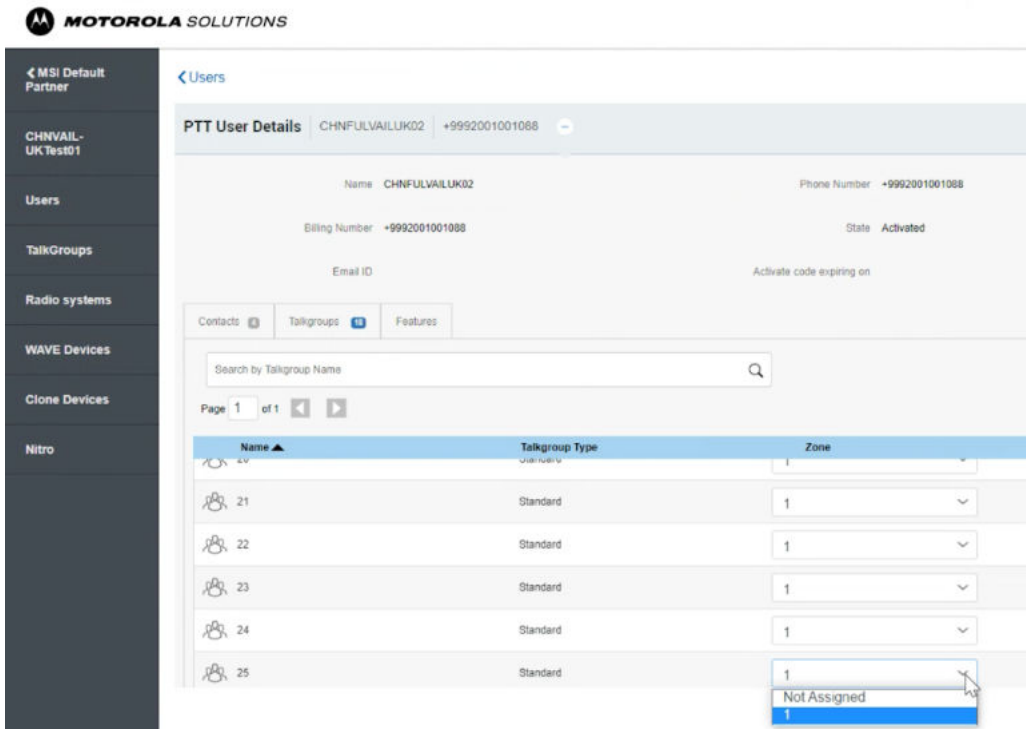
Procedure:

1. On the **Device Edit** window in the **Users** tab, enable **Multizone Support** for an EVOLVE device.



NOTE: If multizone support is already enabled, the multizone support check box is not displayed. Once multizone support is enabled, it can not be disabled.

2. If the device supports more than 16 positions, remove any positions greater than 16.



NOTE: If multizone support is enabled for a device with more than 16 positions, any position greater than 16 generates an error message, "Multizone Support conversion is not allowed for channel sets greater than 16. Either clone or remove channel sets greater than 16."

3. You must reassign any remaining positions to new zones.

PTT User Details CHNFULVAILUK01 +9992001001087

Name: CHNFULVAILUK01 Phone Number: +9992001001087
 Billing Number: +9992001001087 State: Activated
 Email ID: Activate code expiring on

Search by Talkgroup Name

Page 1 of 1

| Name | Talkgroup Type | Zone | Position |
|------|----------------|--------------|--------------|
| 23 | Standard | 1 | 16 |
| 24 | Standard | Not Assigned | Not Assigned |
| 25 | Standard | 2 | Not Assigned |
| 26 | Standard | Not Assigned | Not Assigned |
| 27 | Standard | Not Assigned | Not Assigned |

PTT User Details CHNFULVAILUK01 +9992001001087

Name: CHNFULVAILUK01 Phone Number: +9992001001087
 Billing Number: +9992001001087 State: Activated
 Email ID: Activate code expiring on

Search by Talkgroup Name

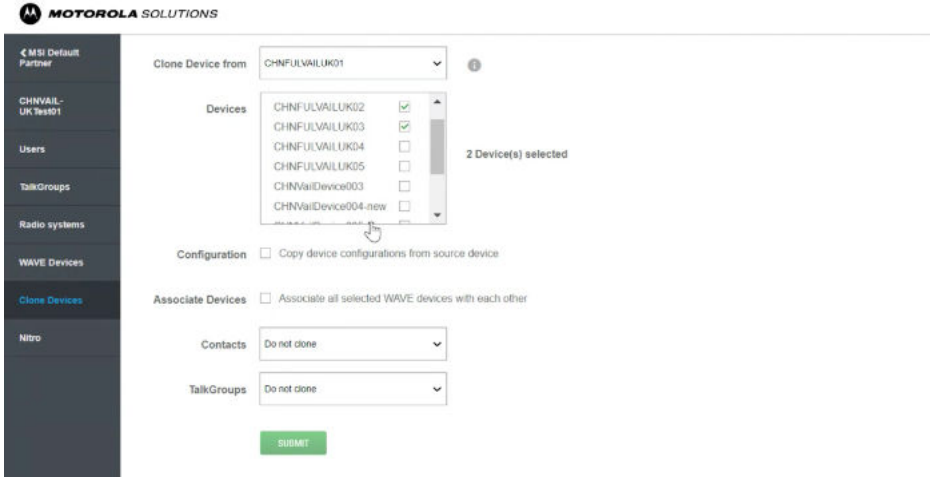
Page 1 of 1

| Name | Talkgroup Type | Zone | Position |
|------|----------------|--------------|--------------|
| 23 | Standard | 1 | |
| 24 | Standard | 2 | |
| 25 | Standard | Not Assigned | Not Assigned |
| 26 | Standard | Not Assigned | Not Assigned |
| 27 | Standard | Not Assigned | Not Assigned |

3.4.6.2 Clone Device Functionality

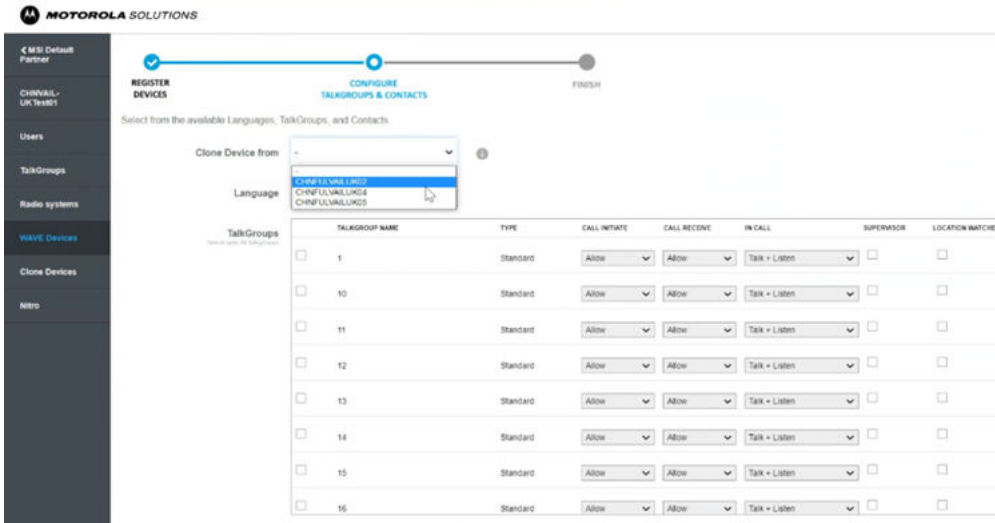
Once you have enabled multizone support and it goes into production, you may notice differences in the functionality of cloned devices.

All devices are shown on the source device list, except for outdated single-zone EVOLVE devices. If you select multizone EVOLVE devices as a source device, then all multizone devices are available for selection. If you select a single-zone EVOLVE device and proceed with the cloning function, it automatically converts the device to multizone.



3.4.6.3 New EVOLVE Device Registration with Default Multizone Support

Any differences in a new EVOLVE device registration may not be noticed, except for the cloning feature. All multizone EVOLVE devices, Bring Your Own Device, and ION devices are shown on the source device list, except for outdated single-zone EVOLVE devices.



3.5 ION Devices (only for Non-rental Customer – US and Canada region)

ION device is registered as Cross Carrier PTT radio. You can add the ION device one at a time or you can add them to WAVE PTX using a spreadsheet.

The spreadsheet method is advised if you have many ION devices to add. When you register a ION, the license is automatically added to your monthly subscription.

3.5.1

Adding ION Devices

The spreadsheet method is advised if you have many ION devices to add. When you register a ION, the license is automatically added to your monthly subscription.

Procedure:

1. Log in to WAVE PTX portal using your Customer account credentials.
2. In the left navigation frame, the Users menu option is now available.
3. Click the **Users** menu. The Users page opens displaying all registered users. Initially, this page is empty.
4. Click **ADD User**. An Add user block opens.
5. Click **ION**.
6. In the **IMEI**, enter the IMEI value of the ION to register.

Figure 34: Adding ION Device

REGISTER DEVICES CONFIGURE TALKGROUPS & CONTACTS FINISH


Enter the information for the devices you wish to register. You can import up to 250 devices using the supplied CSV file.

IMEI Serial Number Display Name ADD IMPORT

NEXT >

7. In the **Serial Number**, enter the serial number of the ION to register.
8. In the **Display Name**, enter a Display Name for this unit.

The Display Name is the User Name for this device in the WAVE PTX Portal and appears in the Users menu as an ION unit. The Display Name is also the Alias and appears to other users when this unit transmits.

 **NOTE:** Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

 **NOTE:** The device IMEI can be obtained from device **Settings** → **About device**. Serial number can be obtained from **Settings** → **About device** → **Model**.

9. Click **ADD**.

If the device was identified then the information for the device appears on the screen below the entry fields. If the device was not identified then an error message appears and you must re-enter the numbers again or contact support.


 **NOTE:** When a register a ION, by default the Dual mode and LMR features are enabled.

Figure 35: Added ION Device

Enter the information for the devices you wish to register. You can import up to 250 devices using the supplied CSV file.

IMEI Serial Number Display Name ADD IMPORT

| IMEI | Serial Number | Display Name | Device Type | |
|-----------------|---------------|------------------|-------------|--------|
| 882620434971741 | 123aaw0012 | Mackenzie_Robert | ION | Remove |

NEXT >

10. The page displays the details entered and type supported on the device.
11. Click **Remove** if you want to delete the entered details and add another device.

12. Click **NEXT**.
13. Select the checkboxes next to the talkgroup names. If needed, you can clone the talkgroups along with the configurations and contacts from the existing registered ION, mobile, or tablet from the Clone Device from drop-down.


 **NOTE:** These are the Talkgroups you have already created. You can not assign zones and priority to the ION from this Talkgroup selection. You can configure these zones and priority from the Manage (Central Admin tool) under the Users menu option.

Figure 36: Configure Talkgroups and Contacts

| Clone Device from | TalkGroups | Priority | Permissions |
|-------------------|-------------------|----------|-----------------------------|
| RadioMobile1 | AA-G1 | Standard | Allow, Allow, Talk + Listen |
| | ABCGrp | Standard | Allow, Allow, Talk + Listen |
| | A-G1 | Standard | Allow, Allow, Talk + Listen |
| | A-G2 | Standard | Allow, Allow, Talk + Listen |
| | AUGWGrp | Standard | Allow, Allow, Talk + Listen |
| | CloneGRP | Standard | Allow, Allow, Talk + Listen |
| | CloneGrp2 | Standard | Allow, Allow, Talk + Listen |
| | Default TalkGroup | Standard | Allow, Allow, Talk + Listen |

Contacts: Select All, MOTOPlanoUser, PLanoUGWTabU..., RadioMobile1, RadioMobile2, SecondUGWTab...

Associate all new WAVE devices with each other

14. Assign the call initiate, call receive, and in call permissions.
15. If you want the user to be the supervisor of the talkgroup then select the **Supervisor** checkbox.
16. Select the contact checkbox to associate the contacts to the user. You can also add or remove Private Call contacts from this ION unit later from the Manage under the Users menu option.
17. Click **NEXT**.
18. Review the summary information page for the correct information and then click the **SUBMIT** button.

 **NOTE:** It is recommended to set the WAVE PTX Radio Alias (Display Name) to be the same as the LMR Radio Alias set in RC.

Postrequisites: To associate a Radio System to an ION device, refer to [Adding a Radio System on page 92](#).

3.5.2 Clone an ION Device

Cloning allows you to copy the details of an existing registered device when creating an ION device.

All configuration details of the template device are copied to a new device. The “Cloning Device from” field is only visible when you have already registered a minimum of two ION, mobile, or tablet and configured two users. Make sure that you meet the template requirements for the details to be copied to the new device. Mouse over the Information icon next to the “Cloning Device from” to view the template requirements.

3.5.2.1

Cloning an ION Device

Procedure:

1. After you add a device in the Register Device page, click **NEXT**.
2. From the **Clone Device from** the drop-down, select the template device to copy the details.
3. From the **Clone Device from** the drop-down, select the template device to copy the details.
4. Click **Next**.
5. Review the details and click **Submit**. A confirmation message displays.
6. Click **OK**.
7. Click **View My Devices** to go to the device list.

3.6

Auto Channel Assignment

WAVE PTX Portal supports Auto Channel assignment of the talkgroups for both 2.0 and 3.0 devices. In the Auto Channel Assignment, whenever you assign a talkgroup to the user from the portal or Central Admin Tool, the talkgroup automatically takes the next available talkgroup position. For example, if a user is assigned with 6 talkgroups with talkgroup Position from 1 to 6 then the newly assigned talkgroup takes the next available talkgroup position 7 in the Position list.

Also, for any talkgroup position more than the 16, the Talkgroup Priority shows as not in the scan list.

3.7

Viewing Available Actions for WAVE PTX Devices

WAVE PTX Portal admin can do following actions on WAVE PTX Devices.

Procedure:

1. Log in to the WAVE PTX Portal.
2. In the left navigation frame, click the **WAVE PTX Devices** menu. The WAVE PTX Devices page opens displaying all registered WAVE PTX Devices.
3. Select the check box next to the name of the WAVE PTX Device you wish to edit. You can also select multiple check boxes to bulk edit the WAVE PTX Devices.



NOTE: The top-most check box allows you to select or deselect all WAVE PTX Devices. You can also select only one WAVE PTX Devices if you require the ability to delete or modify a single unit using the **Actions** menu available in the next step.

4. Click the **Actions** menu at the top of the page. Click the action you want to perform. Bulk actions are defined below and performed on ALL selected devices. You are prompted before the actions are performed.
 - **Manage Wi-Fi Networks**
This allows you to specify the preferred Wi-Fi network for all selected WAVE PTX Devices units. Selecting the **Hidden Network** checkbox allows the device to connect to any network if the device is configured with schema version 3.4.
 - **Manage Bluetooth Accessories**
Allows to configure the Bluetooth accessories. See [Managing Bluetooth Accessories in Bulk on page 72](#).

- **Enable Wi-Fi**
Activates Wi-Fi on all selected WAVE PTX Devices units.
- **Disable Wi-Fi**
Deactivates Wi-Fi on all selected WAVE PTX Devices units.
- **Enable Location**
Enables GPS location updates from all selected WAVE PTX Devices units.
- **Disable Location**
Disables GPS location updates from all selected WAVE PTX Devices units.
- **Enable Bluetooth**
Enables Bluetooth on the all selected WAVE PTX Devices units.
- **Disable Bluetooth**
Disables Bluetooth on the all selected WAVE PTX Devices units.
- **Stun**
Temporarily deactivates all selected WAVE PTX Devices units without removing them from WAVE PTX portal.
- **Un-Stun**
Reactivates all selected WAVE PTX Devices units. Has no effect on units that are not currently stunned.
- **Update Configuration**
Updates the firmware version of the WAVE PTX Devices.
- **Delete**
Deletes all WAVE PTX information for the selected WAVE PTX Devices. The units are deactivated until added back to WAVE PTX.



NOTE: Deleting the WAVE PTX Devices also removes the license from the account.

Applicable only for distributors and partners in rental business:

- **Revoke**
Withdraws all selected WAVE PTX devices from the assigned Partner or Customer.
- **Assign**
Assignes all selected WAVE PTX devices to the selected Partner or Customer

3.7.1

Managing Bluetooth Accessories in Bulk

Procedure:

1. In the left navigation frame, click the **WAVE PTX Devices** menu.
The **WAVE PTX Devices** page opens displaying all registered WAVE PTX Devices.
2. Select the check box next to the name of the WAVE PTX Device you wish to edit. You can also select multiple check boxes to bulk edit the WAVE PTX Devices.



NOTE: The top-most check box allows you to select or deselect all WAVE PTX Devices. You can also select only one WAVE PTX Devices if you require the ability to delete or modify a single unit using the **Actions** menu available in the next step.

3. In the top-right corner click **Actions** and select **Manage Bluetooth Accessories** from the actions list.



IMPORTANT: Bulk editing Bluetooth accessories overwrites all existing bluetooth accessories on the selected devices. Any existing Bluetooth accessories on these devices will not be shown during the bulk update.

4. To confirm click **Save**.

3.8

Editing a WAVE PTX Device

Once you have added a WAVE PTX device to the WAVE PTX Portal, it automatically appears as a User in your **Users** menu. From the **Users** menu, you can edit the Talkgroups and Contacts associated with the device. From the **WAVE PTX Devices** menu, you can edit the properties of the WAVE PTX unit.



NOTE: Depending on the device type, the device details in the **Device Information** may differ.

When and where to use: To edit an individual WAVE PTX device, follow these steps:

Procedure:

1. Log in to WAVE PTX with your registered account.
2. In the left navigation frame, click the **WAVE PTX Devices** menu.
The **WAVE PTX Devices** page opens displaying all registered WAVE PTX devices.
3. Click the Name of a WAVE PTX device to edit.
The **Device Information** page for the selected WAVE PTX opens.
4. Click the gray heading areas to switch between the sections.
5. In **Device Information** edit the following information as needed:

Depending on the device type, the following details may be displayed:

Device Type

Displays the device type that is TLK 100, TLK 110, TLK 25 or TLK 150.



NOTE: Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

MAC Address

Media access control (MAC) address is a unique ID assigned to network interface cards (NICs). WAVE PTX uses the MAC with the Serial Number to identify TLK 25 WiFi WAVE PTX Device.

IMEI

International Mobile Equipment Identity (IMEI) is a unique numerical identifier for every mobile device. WAVE PTX uses the IMEI with the Serial Number to identify each WAVE PTX Device.

ICCID

Integrate Circuit Card Identity.

Serial Number

Each serial number is unique to a WAVE PTX device. WAVE PTX uses the Serial Number with the IMEI to identify and register WAVE PTX Devices.

Cellular Data Plan Enabled/Disabled

Displays the status of the cellular data plan on the device.

Cellular Status

Shows the status of cellular services.

Last Connected

Shows the LST connected date and time of the device to the network.

Bluetooth MAC address**WLAN MAC address****Hardware ID****Radio Alias**

It is the alternate name of the radio device.

6. In **Settings** edit the following information as needed:

Depending on the device type, the following details may be displayed:

Language

Set the language to display on the device.

Location

Toggles the transmission of location information for this WAVE PTX device.

Wi-Fi

Toggles the Wi-Fi modem of the WAVE PTX device on or off.

All Alert Tones

Toggles the availability of Alert Tones on this WAVE PTX device.

Cellular

Toggles the cellular modem of the WAVE PTX on or off.

All Alert Tones

Toggles the availability of Alert Tones on this WAVE PTX device.

Brightness Level

Sets the display brightness level on the WAVE PTX device.

Device Mode

User mode is the standard device mode. If you switch **Device Mode** to **stun**, then the device becomes inoperable until it is switched back to user. **Stun** is typically used to deactivate a WAVE PTX unit without removing its settings from WAVE PTX.

Maintenance mode Announcements PW

Allows entering the password. If you do not set a password here, then the default password is the last eight alphanumeric of the radio device serial number.

Voice Announcements

Toggles the reception of Voice Announcements by the WAVE PTX device.

Bluetooth

Toggles the Bluetooth of the WAVE PTX on or off.

Scan

Toggles to enable or disable the scan for the WAVE PTX to on or off.

Do Not Disturb

Toggles to enable or disable the do not disturb mode on the WAVE PTX.

Randomize MAC Address

Toggles to enable or disable the randomization of MAC address.

Power Down Confirmation Menu

Toggles to enable or disable the powering down the confirmation menu.

Minimum Volume

Sets the minimum volume on the WAVE PTX.

Accessory Charging via OTG

Toggles to enable or disable the accessory charging via On The Go adapter (OTG).

The following options are available only for the TLK 110 device:

Indoor Location

Toggles to enable or disable the indoor location tracking of the asset.

Extra Loud Accessory

Toggles the maximal sound of the WAVE PTX on or off.

GNSS Constellations

Sets the global navigation satellite system (GNSS) constellation on the WAVE PTX device.

7. In Alert Tones edit the following information as needed:

Depending on the device type, the following details may be displayed:

Alert Tone Offset (dB)

Sets the alert tone offset level of the WAVE PTX.

This feature adjusts the volume of the tones/alerts, allowing it to be higher or lower than the voice volume.

Incoming Call Tone

Toggles the **Incoming Call** tone of the WAVE PTX on or off.

The **Incoming Call** tone is played once at the beginning of the call to alert you to an incoming PTT call.

Floor Gran (Talk Permit) Tone

Toggles the **Floor Gran** tone of the WAVE PTX on or off.

When the floor is granted or acquired, a specific tone is heard. This tone indicates you can speak. The **Floor Gran** tone indicates you can speak.

Floor Free Tone

Toggles the **Floor Free** tone of the WAVE PTX on or off.

The **Floor Free** tone is played to listeners on the call to indicate that someone has stopped talking and the floor is available for everyone else to talk.

Floor Release Tone

Toggles the **Floor Release** tone of the WAVE PTX on or off.

The **Floor Release** tone is played when you who has the floor release the floor.

Floor Error/Busy Tone

Toggles the **Floor Busy (Error)** tone of the WAVE PTX on or off.

The **Floor Busy (Error)** is played when you press the PTT button and you are unable to take the floor.

8. Menu Visibility section provides the possibility to configure the visible elements in the menu of the device. Edit the following information as needed:

Depending on the device type, the following details may be displayed:

Location

Toggles the transmission of location information for this WAVE PTX device.

Alert Tones

Toggles the availability of Alert Tones on this WAVE PTX device.

Voice Announcements

Toggles the reception of Voice Announcements by the WAVE PTX device.

Brightness Level

Sets the display brightness level on the WAVE PTX device.

Do Not Disturb

Toggles to enable or disable the **do not disturb** feature.

Wi-Fi

Toggles the Wi-Fi modem of the WAVE PTX on or off.

Cellular

Toggles the cellular modem of the WAVE PTX on or off.

Bluetooth

Toggles the Bluetooth of the WAVE PTX on or off.

Scan

Toggles the scanning of the WAVE PTX on or off.

Mute

Toggles the speaker of the WAVE PTX to on or off.

The following options are available only for the TLK 110 devices:

Keylock

Toggles the keylock of the WAVE PTX to on or off.

Lone Worker

Toggles the **Lone Worker** feature on the WAVE PTX on or off.

Fall Alert

Toggles the **Fall Alert** feature on the WAVE PTX on or off.

VOX

Toggles the voice-operated exchange (VOX) of the WAVE PTX to on or off.

Noise Reduction

Toggles the noise reduction of the WAVE PTX to on or off.

9. Optional: In **Lone Worker** edit the following information as needed:

Depending on the device type, the following details may be displayed:



NOTE: The section is applicable only for a SafeGuard package with Emergency Initiation allowed. To configure the emergency configuration, see [Features Authorization on page 31](#).

Lone Worker

Toggles the **Lone Worker** feature of the WAVE PTX to on or off.

The feature provides the user with a predefined timer that can be reset with user activity. The application triggers a reminder tone on the device for user to activate the device button or the channel sector to reset the timer. If the reminder is ignored or the user is unable to reset the timer within the predefined period, an emergency alarm is generated.

Lone Worker Respond Timer (minutes)

The timer determines how long the device waits since the last user activity before it begins sending reminders. User activity is defined as activation any of the device buttons or activation of the channel selector.

Lone Worker Reminder Timer (seconds)

The timer determines how long the device waits since the Response Time has expired before raising an emergency.

10. Optional: The **Fall Alert** feature dispatches automatic emergency notifications to the appropriate response individuals or groups when an alarm is triggered. Edit the following information as needed:

Depending on the device type, the following details may be displayed:



NOTE: The section is applicable only for a SafeGuard package with Emergency Initiation allowed. To configure the emergency configuration, see [Features Authorization on page 31](#).

Fall Alert

Toggles the **Fall Alert** feature of the WAVE PTX to on or off.

Fall Alert Type

Sets the type of the feature on the WAVE PTX device.

Fall Alert Sensitivity

Sets the sensitivity of the feature detection algorithms on the WAVE PTX device.

Fall Alert Angle

Sets the angle of the feature detection algorithms on the WAVE PTX device.

Fall Alert Pre-Alarm Duration (seconds)

Sets the waiting time of the device from the detection of the user's fall to the emergency alarm.

Fall Alert Alarm Duration (seconds)

Sets the alarm duration on the WAVE PTX device.

11. In **PTT App Settings** edit the following information as needed:

Depending on the device type, the following details may be displayed:

Preferred Network

Displays the type of network that the device uses for the connection. You can change the network from the drop-down to Wi-Fi, Wi-Fi only, Cellular, or Cellular only.

Active Network

Shows the active network of the device chosen in the **Preferred Network** row.

Username

Displays the name of the device entered when registering the device.

Service URI

Displays the server URI to connect the device to the service.

LCMS URI

Displays the Life Cycle Management Server (LCMS) URI.

LCMS Auth Key

Displays the LCMS Authentication Key.

Kodiak ID

Displays the 15 digits (MDN or MSISDN) Set by the system during the Fulfillment flow.

Activation Code

Displays the code that the user needs to enter on the WAVE PTX device for activation.

Client Secret

MCPTT server access requires a `clientId` and a **Client Secret**. `clientId` for PTT app is `ptths`
The option displays the corresponding secret key.

OpenID Connect (OIDC) URI

MCPTT servers use keycloak server as access management, the connection uses an Open ID connection.

OIDC Wi-Fi URI

Service Wi-Fi URI

12. **Accessory Button** allows user to configure the device by assigning functions to the buttons. Edit the following information as needed:



NOTE: Depending on the device type, the **Accessory Button** section may be hidden.

- P1 Short Press
- P1 Long Press
- P2 Short Press
- P2 Long Press
- P3 Short Press
- P3 Long Press
- P4 Short Press
- P4 Long Press

The functions include the following:

All Alert Tones Toggle

Allows the user of the WAVE PTX device to toggle the alert tones on or off.

Do Not Disturb Toggle

Allows the user of the WAVE PTX device to toggle the **Do Not Disturb** feature on or off.

None

Voice Announcements Toggle

Allows the user of the WAVE PTX device to toggle the Do Not Disturb feature on or off.

Wi-Fi Toggle

Allows the user of the WAVE PTX device to toggle the Do Not Disturb feature on or off.

- 13. Programmable Button** allows user to configure the device by assigning a function to the side button. Edit the following information as needed:



NOTE: Depending on the device type, the **Programmable Button** feature may be hidden.

- Side Button Short Press
- Side Button Long Press

The functions include the following:

Contact List

Menu



NOTE: You cannot choose the same value for both options. Once you choose the value for one of the options, it automatically becomes unavailable for the other option.

- 14. In Audio** edit the following information as needed:

Voice Activated Alert (VOX)

Toggles the VOX to on or off.

Voice Activated Alert (VOX)

Toggles the VOX Sensitivity to **Low** or **High**.

Noise Reduction (AINS)

Toggles the noise reduction to on or off.

Noise Reduction (AINS) Level

Toggles the noise reduction level to **Low**, **Medium**, or **High**.

- 15. Software** options include the following

Apps package Version

Shows the application package version of the WAVE PTX unit.

Firmware Version

Shows the firmware version of the WAVE PTX unit.

Software Downloaded

Shows if the specified software component is downloaded for radio upgrade.

- 16. Diagnostics** options include the following:

- **Enable Diag Download MM**
Allows the user to extract the diagnostic logs via USB directly from the device. When disabled, the user does not have permission to extract with USB and shows an error message.
- **Diagnostic Package Available**
Shows if a diagnostics package is available for download or not.

17. **Report Status** allows user to configure the report from the WAVE PTX device. Edit the following information as needed:



NOTE: Depending on the device type, the **Report Status** feature may be hidden.

- **Report Interval**
Sets the interval of the report refresh.
- **GPS Coordinates**
- **Battery Level**
- **Cellular Signal Strength**
- **Wi-Fi Signal Strength**
- **Bluetooth Status**
- **Cellular Operator**

18. **Status Report** displays the latest report with the information about the selected options in the previous section. View the information listed.



NOTE: Depending on the device type, the **Status Report** feature may be hidden.

Battery Level

Battery Type

Charging Status

Cellular Signal Strength

Wi-Fi Signal Strength

GPS Coordinates

Bluetooth Status

Cellular Operator

19. In the top-right corner click **Actions**.

The following actions are available:

Manage WiFi Networks

This allows you to specify the preferred Wi-Fi network for the WAVE PTX Device. Selecting the **Hidden Network** checkbox allows the device to connect to any network if the device is configured with schema version 3.4.

Bluetooth Accessories

Allows to configure the Bluetooth accessories. See [Managing Bluetooth Accessories for an Individual Device on page 80](#).

APN Profiles

Allows view and manage the APN profiles.

View Logs

Allows to view logs specific for the device.

Restart Device



Allows to restart the device.

3.8.1

Managing Bluetooth Accessories for an Individual Device

You can view, edit, unpair and delete the Bluetooth accessories for a selected device.

Procedure:

1. In the left navigation frame, click the **WAVE PTX Devices** menu.
The **WAVE PTX Devices** page opens displaying all registered WAVE PTX Devices.
2. In the devices list search for the device and click on the device name.
 **TIP:** You can provide the device serial number into the **Search** bar. Device serial number can be located at the packaging box label or device label located inside the battery compartment.
3. For a selected device, navigate to **Details** → **Actions** → **Bluetooth Accessories**
4. To register the Bluetooth accessory, in the **Friendly Name** field provide the complete accessory name.
 **NOTE:** Avoid using special characters ! # ? _ and do not leave spaces in the name. If the friendly name is not correct, the Bluetooth pairing process is not successful.
Depending on the accessory the friendly name can differ.
5. Click **Save**.

If the provided information is valid, the Bluetooth pairing process is successful. The accessories are displayed in the list. The following information columns are displayed:

Name
MAC Address
Pin Code

6. Perform one of the following:
 - To remove the accessory information and unpair it, click **Delete**.
 - To unpair the accessory, click **Unpair**.
Bluetooth accessory pairing is successfully cleared when the MAC address of the device disappears.
 - To edit the accessory, click **Edit**.

3.9

Editing a WAVE PTX Device Users

Once you have added a WAVE PTX Device to the WAVE PTX Portal, it automatically appears as a User in your Users menu. From the **Users** menu, you can edit the Talkgroups and Contacts associated with the device. From the WAVE PTX Devices menu, you can edit the properties of the WAVE PTX Devices.

When and where to use: To edit a WAVE PTX Devices user, follow these steps:

Procedure:

1. Log in to the WAVE PTX Portal with your Customer account.
2. Click the **Users** menu in the left frame.
3. In the **Users** list, click the **Name** of the WAVE PTX Device user to edit.
4. Edit the following settings as necessary. Each setting is defined below:

Display Name

Specifies the name of this User/Device in both the WAVE PTX Devices menu and in the Users menu. It also determines the Alias of this user as it appears to other WAVE PTX Devices, radio units with displays, and Broadband units. You can edit this field.



NOTE: Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

Email

Displays the email address of this user for the mail communications. You can edit this field.

Package

Displays the selected package. You can edit this field. For more information on available packages see [Types of Subscriptions on page 20](#).

Allow Portal Access?

Select **Allow Portal Access** if you want this user to be able to sign in to the WAVE PTX Portal. This will allow them access to the Wi-Fi Networks list to configure additional Wi-Fi access points they may need for connectivity.

Contacts

You can select the Contacts that this WAVE PTX Device user can privately call.

Manage Contacts and Features

Clicking **Manage Contacts and Features** from this page takes you to the edit page of the contacts associated with this WAVE PTX Devices user.

Manage Talkgroup Associations

Clicking **Manage talkgroup Associations** from this page takes you to the edit page of the talkgroup associated with this WAVE PTX Devices user. Select the talkgroup and assign Position, Priority, and change call permissions from the drop-down. You can also select the Supervisor and Broadcaster check box to make them supervisor and broadcaster of the talkgroup.

Update Device Properties

Clicking **Device Properties** from this page switches you to the WAVE PTX Devices properties page. For more information on editing device details see [Editing a WAVE PTX Device on page 73](#).

5. Click the **SAVE** button when you have completed making changes and you will be returned to the User page.

3.10

Managing Talkgroups

You can manage the talkgroup for the 2.0 and 3.0 software devices from the WOC portal. Depending on the software version, you can either configure the talkgroups from the Talkgroups or Contacts and Features under the **Users** menu.

When and where to use: To manage the talkgroups configurations for WAVE PTX devices, follow these steps:

Procedure:

1. To configure the talkgroup for the 2.0 software devices:

Figure 37: Manage Talkgroups Configurations

| TALKGROUP NAME | TYPE | POSITION | PRIORITY | CALL INITIATE | CALL RECEIVE | IN CALL | SUPERVISOR | BROADCASTER |
|-----------------|----------|----------|-------------|---------------|--------------|---------------|--------------------------|-------------|
| DispatcherTG-11 | Dispatch | 1 | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| DispatcherTG-12 | Dispatch | 2 | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| DispatcherTG-13 | Dispatch | 3 | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| DispatcherTG-14 | Dispatch | 4 | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| DispatcherTG-15 | Dispatch | 5 | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| StandardTG-01 | Standard | 6 | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| StandardTG-02 | Standard | 7 | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| StandardTG-03 | Standard | 8 | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| StandardTG-04 | Standard | | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| StandardTG-05 | Standard | | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| StandardTG-06 | Standard | | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| StandardTG-07 | Standard | | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| StandardTG-08 | Standard | | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |
| StandardTG-09 | Standard | | No Priority | Allow | Allow | Talk + Listen | <input type="checkbox"/> | - |

- a. From the **Users** menu, click **Manage** in the Talkgroup column.
 - b. The talkgroup management page displays. Configure the details and click **Save** to apply the changes.
2. To configure the talkgroup for the 3.0 software devices:

Figure 38: Manage Talkgroups Configurations

| Name | Talkgroup Type | Zone | Position | Scan List Priority |
|-----------------|----------------|--------------|----------|--------------------|
| DispatcherTG-11 | Dispatch | 1 | 1 | Not in Scan List |
| DispatcherTG-12 | Dispatch | 1 | 01 | Not in Scan List |
| DispatcherTG-13 | Dispatch | 1 | 02 | Not in Scan List |
| DispatcherTG-14 | Dispatch | 1 | 03 | Not in Scan List |
| DispatcherTG-15 | Dispatch | 1 | 04 | Not in Scan List |
| StandardTG-01 | Standard | 1 | 05 | Not in Scan List |
| StandardTG-02 | Standard | 1 | 06 | Not in Scan List |
| StandardTG-03 | Standard | 1 | 07 | Not in Scan List |
| StandardTG-04 | Standard | Not Assigned | 08 | Not in Scan List |

- a. From the **Users** menu, click **Manage** in the Contacts and Features column.
- b. The Central Admin Tool page displays. Click the **Talkgroup** tab and configure the details.
- c. Click **Save** to apply the changes.

3.11

Cloning Devices – Post Device Registration

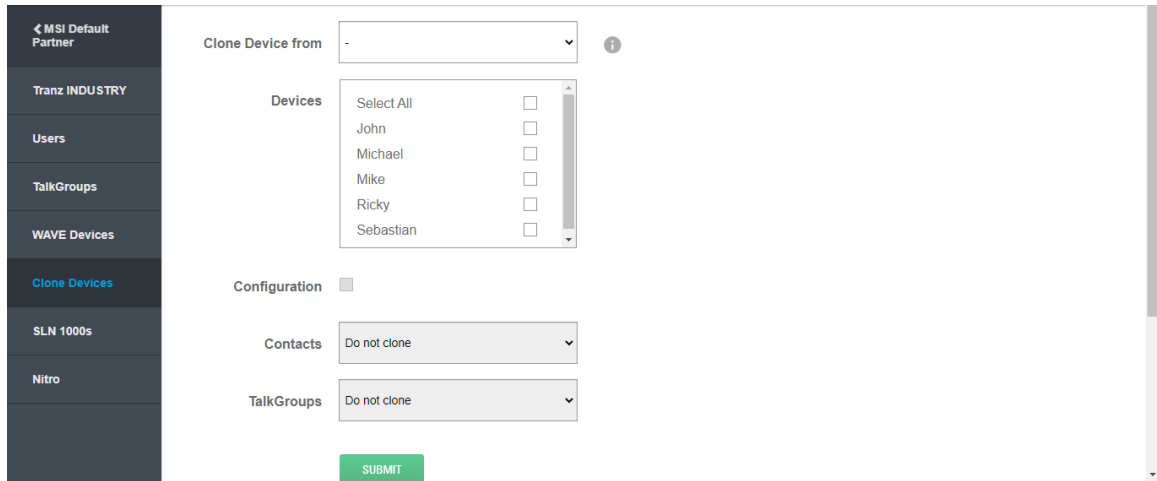
The post registration cloning allows you to copy the contacts, talkgroups, or configuration (device parameters) after the device registration. You can copy the configuration details of the source device without selecting the contacts and talkgroups or can copy only the contacts and talkgroups to the cloning device

without selecting the source device. The following procedure is applicable for TLK 100, TLK 150, TLK 110, TLK 25, EVOLVE, and SLN 1000 devices. TLK 25 cloning is available only for EMEA region.

Procedure:

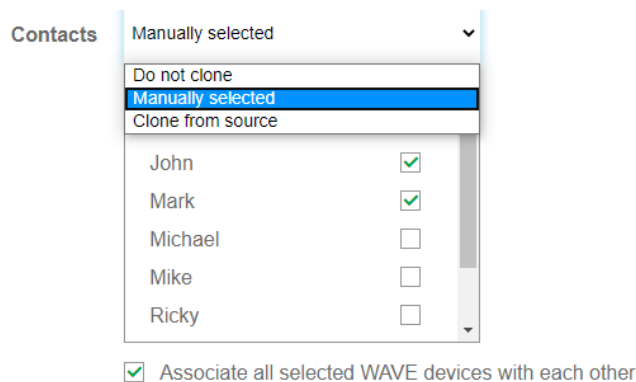
1. From the **Customer** menu, click **Clone Devices**.
2. From the **Clone Device from** the drop-down, select the source device from which you want to copy the details.

Figure 39: Clone Devices Home Page



3. From the **Devices**, select the check boxes next to the devices to which you want to copy the details.
4. If you want to copy the device parameters from the source device, then select the **Configuration** check box.
5. If you want to associate all selected WAVE devices with each other, then select the **Associate Devices** check box.
6. From the **Contacts** drop-down, select one of the following:
 - a. If you do not want to copy the contacts to the clone device, then select **Do not clone**.
 - b. If you want to manually copy the contacts of the registered devices to the clone devices, then select **Manually selected**.
 - c. If you want to copy only the contacts of the source devices, then select **Clone from the source**.
The **Clone from Source** shows only when you select the Source device in the **Clone Device from** drop-down.

Figure 40: Clone Contacts



7. From the **Talkgroups** drop-down, select one of the following:
 - a. If you do not want copy the talkgroups to the clone device, select **Do not clone**.
 - b. If you want to manually copy the talkgroups of the registered devices to the clone devices, then select **Manually selected**.
 - c. If you want to copy only the talkgroups of the source devices, then select **Clone from the source**.
The **Clone from Source** shows only when you select the Source device in the **Clone Device from** drop-down.
8. Click **Submit**,
9. In the confirmation pop-up window, click **OK**.

Result: A cloning success message displays along with a notification on the **Notifications**. Click **View My Devices** to go to the **WAVE PTX Devices** page.

Refer to the [Managing Talkgroups on page 81](#) to view and manage the talkgroups for the WAVE PTX 2.0 and 3.0 devices.

Chapter 4

Manage Talkgroups Associations

Use the **Manage** link next to the user to go to the Central Admin Tool (CAT) page associated with the user. You can also click the name of the user and use the **Manage Talkgroup Associations** link to go to the Central Admin Tool (CAT) of the user's profile.

4.1

Changing In Call Permissions

When and where to use: To Change In Call Permissions, follow these steps:

Procedure:

1. From the IN CALL drop-down associated with the talkgroup, select **Talk AND Listen** or **Listen Only** and click the **SAVE** button.
2. An information message displays.
3. Click **OK** to continue.

4.2

Changing Call Receiving Permissions

When and where to use: To change Call Receiving Permissions, follow these steps:

Procedure:

1. From the CALL RECEIVE drop-down associated with the talkgroup, select **Allow** or **Do not Allow** and click the **SAVE** button.
2. An information message displays.
3. Click **OK** to continue.

4.3

Changing In Call Permissions

When and where to use: To Change In Call Permissions, follow these steps:

Procedure:

1. From the IN CALL drop-down associated with the talkgroup, select **Talk AND Listen** or **Listen Only** and click the **SAVE** button.
2. An information message displays.
3. Click **OK** to continue.

4.4

Managing Location Watcher

Location Capabilities allows user to track the location of the talkgroup members.

When and where to use: To enable the location watcher capability of the user for talkgroup, follow these steps:

Procedure:

1. Select the talkgroup check box and select the **LOCATION WATCHER** check box associated with that talkgroup.
2. Click the **SAVE** button.
3. An information message displays.
4. Click **OK** to continue.

4.5

Managing Supervisor in a Talkgroup

Supervisory capability allows user to have the privilege to take the floor and speak at any time during a call, even if someone else has the floor.

When and where to use: To enable the supervisory capability of the user for any talkgroup, follow these steps:

Procedure:

1. Select the talkgroup check box and select the **SUPERVISOR** check box associated with that talkgroup.
2. Click the **SAVE** button.
3. An information message displays.
4. Click **OK** to continue.

4.6

Manage Talkgroup Position

The Standard and Dispatch talkgroups need a position for the talkgroup calling. You can assign between 1-16 positions for a talkgroup.

4.7

Associate Dispatchers and Users to Talkgroups

Once you create Dispatch talkgroups, you must associate the talkgroups to the Dispatch to which you want to use the talkgroups for communication.

When and where to use: To associate the talkgroups to the dispatchers, follow these steps:

Procedure:

1. In the Talkgroup screen, hover over the talkgroup and click the **Pencil** icon.
2. From here you can edit the Dispatchers and Users.

Figure 41: Associate Users to Talkgroup

TalkGroup Name*
0001_ALTG Large TalkGroup

Radio System
None

Talkgroup Members
Users: 0000

| NAME | DEVICE TYPE | USER TYPE | SUPERVISOR |
|--------------------|--------------|-----------|------------|
| +WAVEDevice060IMEI | TLK 100 | Broadband | No |
| A_Test Tablet | Tablet | Broadband | No |
| Dinesh Samsung | +12015556382 | Broadband | No |
| EVO_0002 | EVOLVE | Broadband | No |
| EVO_0003 | EVOLVE | Broadband | No |

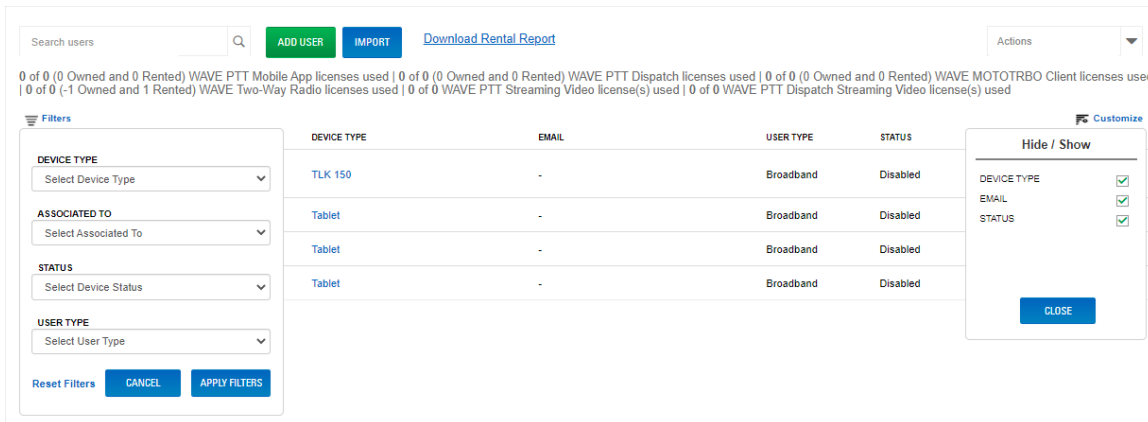
- 3. You must have at least one Dispatcher in a Dispatchers Talkgroups. A talkgroup must have minimum two users assigned to the talkgroup.

Chapter 5

View Users and WAVE PTX Devices

You can apply filter and customize the view in Users and WAVE PTX Devices page added to the distributor, Partner, and Customers.

Figure 42: Filters and Customization - Users Page



The following Filters are available on the **Users** page:

Device Type

Allows you to select and view the type of devices that is, Mobile or tablet, TLK 100, or TLK 150.

Associated To

Allows you to choose the Partner or Customer to which the users are associated with.

Status

Allows you to select and view the Active or Disabled users.

User Type

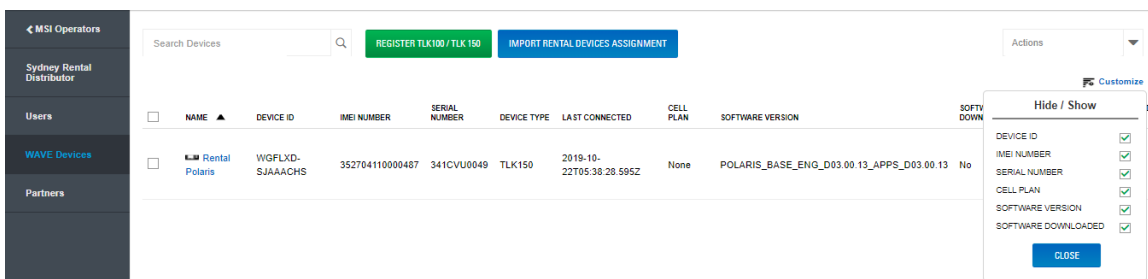
Allows you to select and view the user type that is, Broadband, Dispatcher, or MOTOTRBO.

Once you select the filters, click **Apply Filters**. You can click the **Reset Filters** to reset all the filters to default.

Customization allows you to show or hide the columns on the Users page. To show or hide the columns, click **Customize** and select or clear the check boxes next to the Device Type, Email, or Status. Click **Close** once you are done.

On WAVE PTX Devices page, you can only customize to show or hide the columns. The following screen shows the customization options.

Figure 43: Customization - WAVE PTX Page



To show or hide the columns, click **Customize** and select or clear the check boxes next to the Device ID, IMEI Number, Serial Number, Cell Plan, Software Version, and Software Downloaded. Click **Close** once you are done.

Chapter 6

Downloading the WAVE PTX Application

You can obtain the client from the iOS or Android App Stores. Deleting the outdated WAVE PTX Mobile Communicator is not necessary, however; to avoid confusion it is advised that users delete the outdated application unless they use it. Once installed, the new application provides the following launch icon.



NOTE: Supported LTE carriers include: AT&T, Verizon, Sprint, and T-Mobile.

When and where to use: To Download and Launch the WAVE PTX Client Application, follow these steps:

Procedure:

1. Follow the instructions provided in the email or search for WAVE PTX OnCloud Push-to-Talk in the store.
2. Download and launch the application.
3. When prompted, you must **ALLOW** the application to record audio, access the location of the device, access contacts, make, and manage phone calls, and access photos, media, files, send, and view SMS messages on your device.

WAVE PTX requires access to your Contacts to provide the capability to call them from the client. WAVE PTX requires access to your Phone to make phone calls to your Contacts and handle minimization when incoming cellular calls occur. WAVE PTX requires access to media files to transmit them via the application.

4. When prompted, do not optimize battery usage. This action interferes with background operation.
5. The End User License Agreement (EULA) page displays. To activate the PTT service on your phone, read and accept the EULA.
6. Tap **Yes** to confirm activation.
7. If prompted, enter the activation code given to you by your Customer or Operator to activate the PTT application. The activation code is sent to you via email or SMS. If you do not receive an Activation Pass-code, then contact the Customer owning this account and ask them to generate an Activation Pass-code for you.
8. The WAVE PTX PTT application contacts the server to retrieve contacts and groups (if any) before logging in. If you receive an Information notice, then see step 9. If you do not receive an Information notice, then skip to Step 10.
9. If your phone number does not exist in system, then you are prompted to create a trial account.
 - If you like to start a free trial account with you as the Customer, then click **Free Trial** and follow the prompts. You are granted a free trial license for 30 days and you can create your own Talkgroups and invite your own Users.
 - Tap **Free Trial**.
 - Enter the required information and then tap the **SIGN UP** button.
 - To invite users, enter phone numbers of the users and click the **INVITE** button. You can invite up to 10 people. They receive SMS instructions to sign up to your account as users.
 - To open the WAVE PTX Customer Portal for your account, click the **GO TO HOME DASHBOARD** button.

10. Once the WAVE PTX application launches, you are offered the chance to view the Tutorial. If you click **Skip Tutorial**, you are taken to the application main page. You can launch the tutorial anytime you wish from the menu.
11. Once the application launches, the display shows 'Available' at the top. You are now ready to begin using the new WAVE PTX Communicator.

Chapter 7

Adding a Radio System

In order to create a WAVE PTX radio system for your supported Motorola Radio System and integrate communication with Talkgroups, perform the following actions.

Prerequisites: Ensure that you connect the WAVE PTX Gateway and radio system hardware:

- For Capacity Max Hardware installation refer to [Connecting Capacity Max Hardware on page 92](#).
- [WAVE PTX Gateway on page 110](#)

Process:

1. Record the required parameters. See [Required Radio Information on page 94](#).
2. Depending on the radio system type, follow one of the procedures:
 - [Registering a Connect Plus Radio System \(Discontinued Product\) on page 95](#)
 - [Registering a Capacity Plus Radio System on page 96](#)
 - [Registering a Capacity Max Radio System on page 98](#)
 - [Registering an IPSite Radio System on page 100](#)
3. Optional: After adding a radio system, see [Adding Radio Subscribers on page 103](#)
4. Optional: After adding a radio system, see [Associating Radio System with Talkgroup on page 102](#)
5. Optional: After adding a radio system, see [Testing Radio Transmission on page 106](#)

7.1

Connecting Capacity Max Hardware

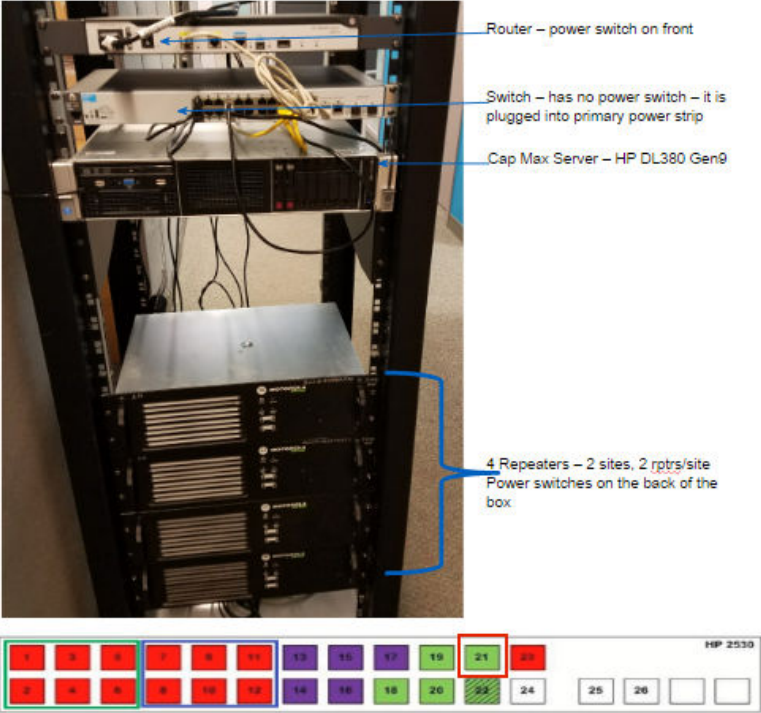
The instructions in this section are supplied as a general reference for individuals integrating with a Capacity Max radio system.

Use an Ethernet cable to connect the WAVE PTX Gateway to Switch Port 21.



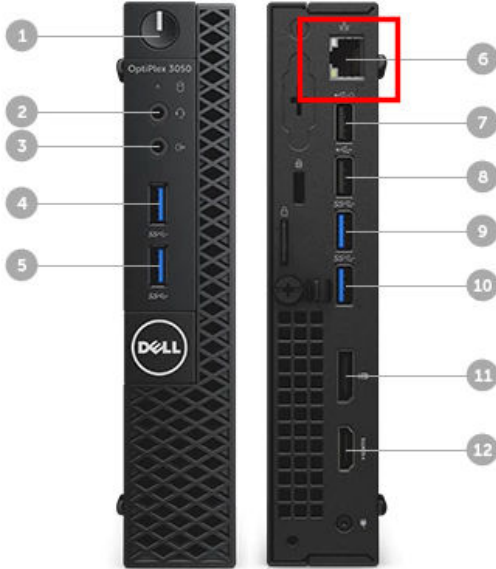
IMPORTANT: The WAVE Gateway requires Internet access to connect with the WAVE PTX system. If the radio system must be isolated, then place a secondary switch between Capacity Max and the WAVE PTX Gateway and connect the secondary switch to the Internet.

Figure 44: Capacity Max Hardware



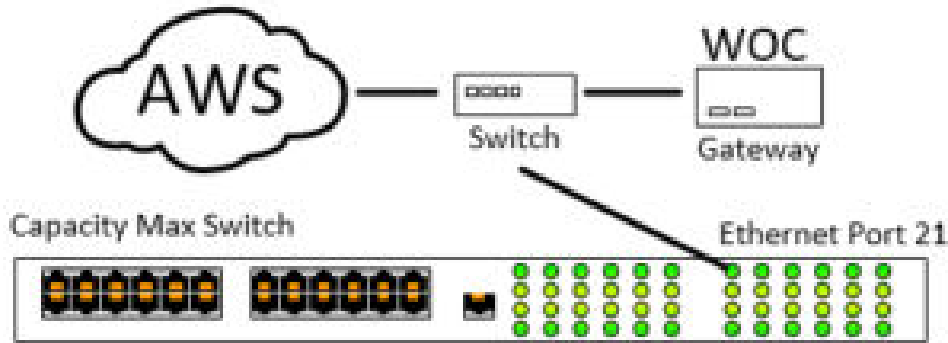
Use the Ethernet jack at the back of the WAVE PTX Gateway. Connect the Ethernet cable to Ethernet port 21 in the back of the Capacity Max Switch.

Figure 45: Optical Jack



If the Radio System must be isolated from the Internet, use an intermediate switch with an Internet connection as shown in the following image.

Figure 46: Alternate Switch-Capacity Max



7.2

Required Radio Information

Use the MOTOTRBO CPS version 2.0 or greater, repeater configuration file, and Data MNIS and DDMS tool. The tools are available in <https://myview.motorolasolutions.com/>. If you do not have access contact Motorola Solutions Support.

Use the MOTOTRBO Customer Programming Software (CPS) to copy the MOTOTRBO radio system parameters into the **WAVE PTX Gateway Connection Info** window.

From the MOTOTRBO CPS application, open the repeater configuration file to display the MOTOTRBO radio system parameters. You can find the location of the parameters in the [Table 1: Repeater Parameters in the CPS Tool on page 94](#).

Table 1: Repeater Parameters in the CPS Tool

| Parameter | CPS Location |
|----------------------------------|--|
| Purchased Features | Available on the main page. Click Configuration . |
| Device Firmware Version | Navigate to Configuration → Device Information → Firmware Version NOTE: If the firmware version lesser than R02.07.00.04, purchase a license for the Network Application Interface Voice and Network Application Interface Data. If you have multiple repeaters, they all have the same firmware version. |
| Primary IP Address | Navigate to General → Link Establishment → Network Setting → Primary IP |
| Primary UDP Port | Navigate to General → Link Establishment → Network Setting → Primary UDP Port |
| MNIS Radio ID/Gateway Peer ID | The MNIS Radio ID or Gateway Peer ID is a unique ID that does not occur in the radio system. It is used to identify the WAVE PTX Gateway to the radio system as an LE (Link Establishment) peer. Radios and repeaters all have their unique ID. The WAVE PTX Gateway cannot have an ID that is the same as other IDs in the radio system. Navigate to General → Link Establishment → Network Setting → MNIS Radio ID/Gateway Peer ID |
| MNIS Link Establishment UDP Port | In the MNIS Link Establishment UDP Port field, enter the UDP port as the gateway to the LE (Link Establishment) domain. The WAVE |

| Parameter | CPS Location |
|------------------------------|---|
| | PTX Gateway uses this port to send and receive audio and keep alive messages with the radio system. Navigate to General → Link Establishment → Network Setting → MNIS Link Establishment UDP Port |
| Gateway CAI ID | Navigate to General → Network → General Network → CAI ID |
| Gateway CAI Group Network ID | Navigate to General → Network → General Network → CAI Group Network ID |
| DDMS Server IP Address | This is only required if Network Application Interface (NAI) Data is enabled on the radio system. If your radio system does not use NAI Data, then enter 127.0.0.1 for the IP address. |
| DDMS Watcher Port | This is only required if NAI Data is enabled on the radio system. If your system does not use NAI Data, then leave this field blank. |

7.3



Registering a Connect Plus Radio System (Discontinued Product)

Procedure:

1. In the Customers page, click **Radio System**. The Radio System page opens. Initially the page is blank.
2. Click the **Large Plus** symbol in the white rectangle to add a radio system. The WAVE PTX Gateway Wizard opens.
3. In **CREATE GATEWAY**, complete the following steps:
 - a. In the **Existing Gateway** list, select an existing WAVE PTX Gateway if you have one already installed on your network. If you do not have one then you will add it in STEP 3. This step exists to allow you to reset an existing WAVE PTX Gateway and use it for Connect Plus. You cannot use the same Gateway for two radio systems.
 - b. In **Device Code**, enter the device code of your WAVE PTX Gateway hardware. This is the code you used when you configured your WAVE PTX Gateway.
 - c. In **Device Name**, enter a name for your WAVE PTX Gateway. This name is used for administrative purposes and does not appear outside the WAVE PTX portal.
Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.
 - d. Click **NEXT**. The Create Radio page opens.
4. In **CREATE RADIO**, complete the following steps:
 - a. Leave **Existing Radio** as None if you intend to define a new Radio System. If you have previously created a Radio System and want to duplicate its settings then you can select an Existing Radio system.
 - b. In the **New Radio System** Type menu, select the type of the new radio system to Connect Plus.
 - c. In **Name**, enter a name for the new Radio System. The name you enter will only appear in the WAVE PTX portal and is used for administrative purposes.



NOTE: Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

- d. In **Private Call Inactivity Timeout (ms)**, enter the value matching the associated Private Call inactivity timeout duration in the XRT 9000/9100 (discontinued product).
 - e. In **Max PTT Duration (ms)**, enter the value matching the associated PTT duration in the XRT 9000/9100.
 - f. In the **Anonymous Unit ID**, enter the anonymous unit ID of the radio system.
 - g. Click **NEXT**. The **CONNECT GATEWAY TO RADIO** page opens.
5. In **CONNECT GATEWAY TO RADIO**, complete the following steps:
-  **NOTE:** Refer to [Required Radio Information on page 94](#) for the required system parameters.
- a. In **IP Address**, enter the IP address of your XRT 9000/91000 gateway.
 - b. In **IP Port**, enter the XRT port number. The default port is 10001. This port can be located in the XRT 9000/9100 Gateway console under Settings > Site Configuration and is listed as Client TCP Port.
 - c. In **Username**, enter the user name you created in the XRT to identify the WRG to the XRT 9000/9100.
 - d. In **Password**, enter the password for the user name you created in the XRT to identify the WRG to the XRT 9000/91000.
 - e. To determine if you have NAI Voice feature available, navigate to the **Device Features** in the CPS tool for your repeater and check the **Status of Network Application Interface (NAI) Voice** and ensure the status is **Purchased**.
-  **NOTE:** NAI Voice is only required if your repeaters have not been upgraded to version R02.07.00.04 or newer. If you do not have NAI Voice or your repeaters are upgraded, then leave the values at default: Port 3000, IP Address 127.0.0.1.
6. Click **NEXT**.

Result: The **FINISH** page opens and your Radio System is ready for management. Click the **GO TO HOME DASHBOARD** button.


7.4

Registering a Capacity Plus Radio System

Procedure:

1. In the **Customers** page, click **Radio System**. The Radio System page opens. Initially the page is blank.
2. Click the **Large Plus** symbol in the white rectangle to add a radio system. The WAVE PTX Gateway Wizard opens.
3. In **CREATE GATEWAY**, complete the following steps:
 - a. In the **Existing Gateway** list, select an existing WAVE PTX gateway if you have one already installed on your network. If you do not have one then you will add it in STEP 3. This step exists to allow you to reset an existing WAVE PTX gateway and use for Capacity Plus. You cannot use the same Gateway for two radio systems.
 - b. In **Device Code**, enter the device code of your WAVE PTX Gateway hardware. This is the code you used when you configured your WAVE PTX Gateway.
 - c. In **Device Name**, enter a name for your WAVE PTX Gateway. This name is used for administrative purposes and does not appear outside the WAVE PTX Portal.

Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

- d. Click **NEXT**. The **Create Radio** page opens.
4. In **CREATE RADIO**, complete the following steps:
 - a. Leave **Existing Radio** as **None** if you intend to define a new Radio System. If you have previously created a Radio System and want to duplicate its settings then you can select an **Existing Radio system**.
 - b. In the **New Radio System Type** menu, select the type of the new radio system. For this procedure it is assumed that you have selected either **Capacity Single-Site** or **Capacity Multi-Site**.
 - c. In **Name**, enter a name for the new Radio System. The name you enter only appears in the WAVE PTX Portal and is used for administrative purposes.
 **NOTE:** Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.
 - d. Click **NEXT**.
5. If you selected **Capacity Plus Single-Site** or **Capacity Plus Multi-Site**, then in **Radio System Settings**, complete the following steps:
 - a. In the **Talk Group ID Range Start**, enter the start range of Talk Group IDs to register with the Capacity Plus radio system. All specified IDs in the range attempts to register with the radio system. WAVE PTX prevents you from creating Talk Groups outside this range.
 - b. In the **Talk Group ID Range End**, enter the end range of Talk Group IDs to register with the Capacity Plus radio system.
 - c. In the **Private Call HangTime (ms)**, enter the amount of dead air time in milliseconds required to terminate a Private Call. This value should match the Private Call Hang Timer specified in the Capacity Plus system. Each Private Call transmission between a radio and a Broadband Client resets this timer. Once the timer expires, the Private Call session is terminated.
 - d. In the **Group Call HangTime (ms)**, enter the amount of dead air time in milliseconds required to terminate a Group Call. This value should match the Group Call Hang Timer specified in the Capacity Plus system. Each Group Call transmission between a radio and a Broadband Client resets this timer. Once the timer expires, the Group Call session is terminated.
 - e. In the **Emergency Call HangTime (ms)**, Enter the amount of dead air time in milliseconds of silence required to terminate an Emergency Call. (Note: WAVE PTX does not currently support Emergency Calls, but the radio system requires this value).
 - f. In the **Private Call Inactivity Timeout (ms)**, enter the amount of dead air time in milliseconds of silence required to terminate a Private Call.
 - g. In the **Max PTT Duration (ms)**, enter the maximum transmission time in milliseconds required to terminate a Group Call for WAVE PTX clients only. When this timer is exceeded, the WAVE PTX client ceases to transmit and the user will receive an error tone.
 - h. In the **Privacy Type**, enter the Privacy Type as it appears in the Radio System. For additional information on privacy keys, see [Creating and Assigning Privacy Keys on page 107](#).
 - i. In the **WAVE PTX Subscriber Radio ID Range Start**, enter the starting range for your Broadband WAVE PTX Users.
 - j. In **WAVE PTX Subscriber Radio ID Range End**, enter the ending range for your Broadband WAVE PTX Users.
 - k. In the **Anonymous Unit ID**, enter an ID (from the range you just specified above) to represent anonymous Broadband WAVE PTX Users that will not receive a specific unit ID.
 - l. Click **NEXT**. The **CONNECT GATEWAY TO RADIO**, page opens.

6. In **CONNECT GATEWAY TO RADIO**, complete the following steps:



NOTE: Refer to [Required Radio Information on page 94](#) for the required system parameters.

- a. In the **Primary Repeater IP**, enter the Primary Repeater IP Address of your Radio System.
- b. In the **Primary Repeater UDP Port**, enter the Primary Repeater User Datagram Protocol (UDP) Port of your Radio System.
- c. In the **MNIS Radio ID**, enter an MNIS Radio ID to identify the WAVE PTX Gateway to the Radio System.

The **MNIS Radio ID** is a unique ID that does not occur in the radio system. It is used to identify the WAVE PTX Gateway to the radio system as a Link Establishment (LE) peer. Radios and repeaters all have their own unique ID. The WAVE PTX Gateway cannot have an ID that overlaps with any of the IDs in the radio system.

- d. In the **MNIS Link Establishment UDP Port** field, enter the UDP port that serves as the gateway to the LE (Link Establishment) domain.

The WAVE PTX Gateway uses this port to send and receive audio and keepalive messages with the Radio System.

- e. In the **Link Establishment Authentication Key**, enter the Authentication Key for Link Establishment.
- f. In the **CAI Network and CAI Group Network**, enter the CAI Network and CAI Group Network value from the Radio System.
- g. In the **DDMS Server IP Address**, enter the IP address of the Radio System presence notifier. This is only required if NAI Data is enabled on the Radio System. If your Radio System does not use NAI Data, then enter 127.0.0.1 for the IP address.
- h. In the **DDMS Watcher Port**, enter the receiving network port for the Capacity Plus Presence Notifier. This is only required if NAI data is enabled on your Capacity Plus Radio System. If your Capacity Plus Radio System does not use NAI data then leave this field blank.
- i. To determine if you have NAI Voice feature available, navigate to the **Device Features** in the CPS tool for your repeater and check the **Status of Network Application Interface (NAI) Voice** and ensure the status is **Purchased**.



NOTE: NAI Voice is only required if your repeaters have not been upgraded to version R02.07.00.04 or newer. If you do not have NAI Voice or your repeaters are upgraded, then leave the values at default: Port 3000, IP Address 127.0.0.1.

- j. Click **NEXT**.

Result: The **FINISH** page opens and your Radio System is ready for management. Click the **GO TO HOME DASHBOARD** button.

7.5


Registering a Capacity Max Radio System



Procedure:

1. In the Customers page, click **Radio System**. The Radio System page opens. Initially the page is blank.
2. Click the **Large Plus** symbol in the white rectangle to add a radio system. The WAVE PTX Gateway Wizard opens. The wizard walks you through the process of adding the Capacity Max radio system to the WAVE PTX Gateway.
3. In **CREATE GATEWAY**, complete the following steps:

- a. In the **Existing Gateway** list, select an existing WAVE PTX Gateway if you have one already installed on your network.
 - b. In **Device Code**, enter the device code of your WAVE PTX Gateway hardware. This is the code you used when you configured your WAVE Gateway.
 - c. In **Device Name**, enter a name for your WAVE PTX Gateway. This name is used for administrative purposes and does not appear outside the WAVE PTX portal.

Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.
 - d. Click **NEXT**. The **Create Radio** page opens.
4. In **CREATE RADIO**, complete the following steps:
- a. If you intend to define a new Radio System, leave **Existing Radio** as **None**. If you have previously created a Radio System and want to duplicate the settings, then you can select an **Existing Radio** system.
 - b. In the **New Radio System Type** menu, select the type of the new radio system as **Capacity Max**.
 - c. In **Name**, enter a name for the new Radio System. The name you enter only appears in the WAVE PTX portal and is used for administrative purposes.

 **NOTE:** Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.
 - d. Click **NEXT**.
5. In **Radio System Settings**, complete the following steps:
- a. **Cancel Emergency Alert time (ms)** parameter must be configured for the WRG to trigger Emergency Cancel for LMR-Broadband Emergency interop scenario. The emergency alarm automatically stops after **Cancel Emergency Alert Time** expires.

 **NOTE:** Cancel Emergency Alerts Time feature is applicable only for non-CapMax systems.
 - b. In the **Private Call Inactivity Timeout (ms)**, enter the amount of dead air time in milliseconds required to terminate a Private Call. This value should match the Private Call Hang Timer specified in the radio system. Each Private Call transmission between a radio and a broadband client resets this timer. Once the timer expires, the Private Call session is terminated.
 - c. In the **System ID** field, enter the Network ID from the Capacity Max interface.
 - d. In **Max PTT Duration (ms)**, enter the maximum transmission time in milliseconds required to terminate a Group Call for WAVE PTX clients only. When this timer is exceeded, the WAVE PTX client ceases to transmit and the user cannot receive an error tone.
 - e. In **Privacy Type**, enter the Privacy Type as it appears in the Radio System. For additional information on privacy keys, see [Creating and Assigning Privacy Keys on page 107](#).
6. In the **WAVE Users on Radio System** section, enter an **Anonymous Unit ID**. In the Capacity Max radio system interface, you must create a 'Device' for the Anonymous Unit. Enter the Device ID from the Capacity Max interface into the **Anonymous Unit ID** field in the WAVE PTX portal.
7. Click the **NEXT** button. The **CONNECT to GATEWAY** page opens. Complete the following steps:
-  **NOTE:** Refer to [Required Radio Information on page 94](#) for the required system parameters.
- a. In **MNIS Voice Manager IP Address**, enter the IP Address for the MNIS Voice Manager. In Capacity Max this is the VRC Gateway IP.
 - b. In **MNIS Voice Manager IP Port**, enter the Port number for the MNIS Voice Manager. In Capacity Max this is the Server TCP Port.

- c. To determine if you have NAI Voice feature available, navigate to the **Device Features** in the CPS tool for your repeater and check the **Status of Network Application Interface (NAI) Voice** and ensure the status is **Purchased**.




NOTE: NAI Voice is only required if your repeaters have not been upgraded to version R02.07.00.04 or newer. If you do not have NAI Voice or your repeaters are upgraded, then leave the values at default: Port 3000, IP Address 127.0.0.1.

8. Click **NEXT**. The FINISH page opens and your Radio System is ready for management. Click the **GO TO HOME DASHBOARD** button.


7.6

Registering an IPSite Radio System

Procedure:

1. In the Customers page, click **Radio System**. The Radio System page opens. Initially the page is blank.
2. Click the **Large Plus** symbol in the white rectangle to add a radio system. The WAVE PTX Gateway Wizard opens.
3. In **CREATE GATEWAY**, complete the following steps:
 - a. In the **Existing Gateway** list, select an existing WAVE PTX Gateway if you have one already installed on your network. If you do not have one then you will add it in STEP 3. This step exists to allow you to reset an existing WAVE PTX Gateway and use it for IPSite. You cannot use the same Gateway for two radio systems.
 - b. In **Device Code**, enter the device code of your WAVE PTX Gateway hardware. This is the code you used when you configured your WAVE PTX Gateway.
 - c. In **Device Name**, enter a name for your WAVE PTX Gateway. This name is used for administrative purposes and does not appear outside the WAVE PTX portal.
 - d. Click **NEXT**. The **CREATE RADIO** page opens.
4. In **CREATE RADIO**, complete the following steps:
 - a. Leave **Existing Radio** as **None** if you intend to define a new radio system. If you have previously created a Radio System and want to duplicate its settings then you can select an existing radio system.
 - b. From the **New Radio System Type** drop-down list, select **IPSite**.
 - c. In **Name**, enter a name for the new Radio System. The name you enter appears in the WAVE PTX portal only and is used for administrative purposes.
 **NOTE:** Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.
 - d. Click **NEXT**
5. In **Radio System Settings**, complete the following steps:
 - a. In the **TalkGroup ID Range Start**, enter the start range of TalkGroup IDs to register with the radio system. All specified IDs in the range attempts to register with the radio system. WAVE PTX prevents you from creating TalkGroups outside this range.
 - b. In the **TalkGroup ID Range End**, enter the end range of TalkGroup IDs to register with the radio system.
 - c. In the **Private Call HangTime (ms)**, enter the amount of dead air time in milliseconds required to terminate a Private Call. This value should match the Private Call Hang Timer specified in the

system. Each Private Call transmission between a radio and a Broadband Client resets this timer. Once the timer expires, the Private Call session is terminated.

- d. In the **Group Call HangTime (ms)**, enter the amount of dead air time in milliseconds required to terminate a Group Call. This value should match the Group Call Hang Timer specified in the system. Each Group Call transmission between a radio and a Broadband Client resets this timer. Once the timer expires, the Group Call session is terminated.
 - e. In the **Emergency Call HangTime (ms)**, enter the amount of dead air time in milliseconds of silence required to terminate an Emergency Call. Any Radio originated emergency alert will be dismissed on the Broadband side once this timer expires.
 - f. In the **Private Call Inactivity Timeout (ms)**, enter the amount of dead air time in milliseconds of silence required to terminate a Private Call.
 - g. In the **Max PTT Duration (ms)**, enter the maximum transmission time in milliseconds required to terminate a Group Call for WAVE PTX clients only. When the timer is exceeded, the WAVE PTX client ceases to transmit and the user will receive an error tone.
 - h. In the **Privacy Type**, enter the Privacy Type as it appears in the Radio System. For additional information on privacy keys, see [Creating and Assigning Privacy Keys on page 107](#).
 - i. In the **WAVE PTX Subscriber Radio ID Range Start**, enter the starting range for your Broadband WAVE PTX Users.
 - j. In **WAVE PTX Subscriber Radio ID Range End**, enter the ending range for your Broadband WAVE PTX Users.
 - k. In the **Anonymous Unit ID**, enter an ID (from the range you just specified above) to represent anonymous Broadband WAVE PTX Users that will not receive a specific unit ID.
 - l. From the **Slot ID** drop-down, select the ending range for your Broadband WAVE PTX Users.
 - m. Click **NEXT**. The **CONNECT GATEWAY TO RADIO**, page opens.
6. In **CONNECT GATEWAY TO RADIO**, complete the following steps:
- a. In the **Primary Repeater IP**, enter the Primary Repeater IP Address of your Radio System.
 - b. In the **Primary Repeater UDP Port**, enter the Primary Repeater UDP Port of your Radio System.
 - c. In the **MNIS Radio ID**, enter an MNIS Radio ID to identify the WAVE PTX Gateway to the Radio System. This should be a unique ID that does not occur in the Radio System or any other connected CAI devices.
 - d. In the **MNIS Link Establishment UDP Port** field, enter the UDP port that serves as the gateway to the LE (Link Establishment) domain. The WAVE PTX Gateway uses this port to send and receive audio and keepalive messages with the Radio System.
 - e. In the **Link Establishment Authentication Key**, enter the Authentication Key for Link Establishment.
 - f. In the **CAI Network**, enter the CAI Network value from the Radio System.
 - g. In the **DDMS Server IP Address**, enter the IP address of the Radio System presence notifier. This is only required if NAI Data is enabled on the Radio System. If your Radio System does not use NAI Data, then enter 127.0.0.1 for the IP address.
-  **NOTE:** If you configure the system for the private call support this field is mandatory. For group call support it is optional.
- h. To determine if you have NAI Voice feature available, navigate to the **Device Features** in the CPS tool for your repeater and check the **Status of Network Application Interface (NAI) Voice** and ensure the status is **Purchased**.

If the NAI Data License is available you can install the Data MNIS and DDMS application on a VM which should have the connectivity towards the Master Repeater as well as WAVE PTX Gateway.

- i. Optional: If you configure the system for the private call, check the configuration on the Data MNIS tool and Radio CPS tool. See [Configuring the IP Site System for the Private Call Support on page 102](#).
- j. In the **DDMS Watcher Port**, enter the receiving network port for the Presence Notifier.
This is only required if NAI data is enabled on your Radio System. If your Radio System does not use NAI data then leave this field blank.
- k. Click **NEXT**.

Result: The **FINISH** page opens and your Radio System is ready for management. Click the **GO TO HOME DASHBOARD** button.

7.6.1

Configuring the IP Site System for the Private Call Support

In order to support private call from Radio to WAVE PTX User and vice versa, an additional VM is required to install the Data MNIS and DDMS application.

Prerequisites: Ensure to determine if you have NAI Voice feature available. Navigate to the **Device Features** in the CPS tool for your repeater and check the **Status of Network Application Interface (NAI) Voice** and ensure the status is **Purchased**.

Procedure:

1. Install the Data MNIS and DDMS application on a VM that has the connectivity towards the Master Repeater as well as WAVE PTX Gateway.
The tools are available in <https://myview.motorolasolutions.com/>. If you do not have access contact Motorola Solutions Support.
2. In the **DDMS Server IP Address**, enter the IP address of the Radio System presence notifier.
3. In the **DDMS Watcher Port**, enter the receiving network port for the Presence Notifier.
4. Ensure the ARS ID on Radio is set as Data MNIS Application ID. Perform the following actions:
 - a. Open the MNIS Data Gateway Configuration Utility.
 - b. Click on the Open Folder icon and select the configuration file.
 - c. Click on General from Navigation Pane and verify the MNIS Application ID Value.
 - d. To set Application ID value in the CPS tool open the configuration file.
 - e. Navigate to **General** → **Network** → **Services** and verify the value for ARS Radio ID.

7.7

Associating Radio System with Talkgroup

Talkgroups are Broadband-only by default. You can associate any current talkgroup with any existing Radio System or you can create a new talkgroup. All transmissions on a talkgroup associated with a radio system will be shared between Broadband Users on the radio system and radio users on the associated talkgroup.



NOTE: The following procedure assumes you have already created a Radio System to associate with a talkgroup. If you have not created a Radio System then refer to [Adding a Radio System on page 92](#).

Procedure:

1. Open the **Talkgroups** page.

2. Mouse-over a talkgroup to associate with a radio system and click the **Edit** icon. The talkgroup editing page opens.
3. In the Radio System list, select the Radio System to associate with this talkgroup. The page expands to display additional fields. Enter the following information:
 - a. In **Talkgroup ID**, enter the ID of the Talkgroup as it appears in the Radio System. The Talkgroup ID controls which Talkgroup in your Motorola Radio System integrates with this Talkgroup for communication with Broadband clients.
 - b. In **Site**, select the Site for the Talkgroup or leave as **Wide** if the Talkgroup should transmit across Sites.
 - c. **Fot IPSite radio systems only:** From the **Slot ID** drop-down, select the desired value.
 - d. In **Privacy Key**, select a Privacy Key for the radio system if you are using a Privacy Type of Enhanced. If the site unencrypted then leave the setting **Clear**. If you are using a Privacy Type of **Basic** in the Radio System, then you will need to enter a Privacy Key Index value. For more information refer to [Creating and Assigning Privacy Keys on page 107](#)
4. Click the **SAVE** button.

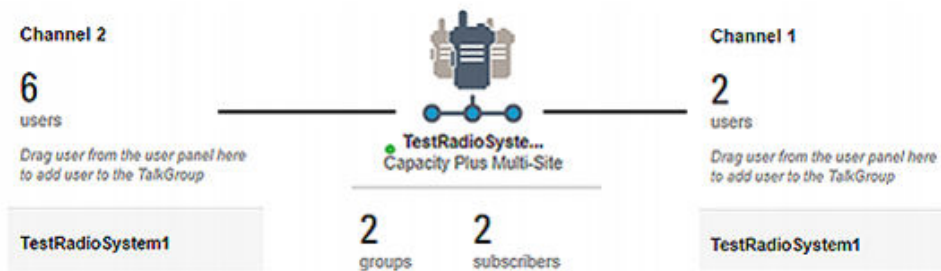
7.8

Adding Radio Subscribers

The Subscribers exist to associate a radio unit ID with a WAVE PTX Radio System. This association allows Private Calls between Broadband and Radios and also allows the User Alias (Display Name) to appear to Broadband clients when the radio unit transmits.

Radio system Subscribers do not count against your license. You can create as many as necessary to integrate a Radio System. Radio Systems are associated with Talkgroups in the talkgroup screen. Only one Radio System may be associated with a talkgroup at a time. In the following illustration, TestRadioSystem1 has been associated with Talkgroups 'Channel 1' and 'Channel 2.' When the Subscribers on TestRadioSystem1 transmit, their audio flows to the Broadband Users on both Talkgroups. Likewise, the Radio Subscribers receive the transmissions from the Talkgroups depending on the talkgroup ID set in each talkgroup.

Figure 47: Radio Transmission test



For example, talkgroup 'Channel 2' is set to talkgroup ID 22. Any radio connected to WAVE PTX through the WAVE PTX Gateway set to talkgroup 22 should hear the audio from Channel 2 Broadband Users.

Figure 48: Linking talkgroup ID to talkgroup

| | | |
|----------------|---|--|
| TalkGroup Name | <input type="text" value="Channel 2"/> | <input checked="" type="checkbox"/> Active |
| Radio System | <input type="text" value="TestRadioSystem1"/> | |
| TalkGroup ID | <input type="text" value="22"/> | |

Procedure:

1. In the main menu, click **Radio System**. The Radio Systems page opens.
2. On the Radio System, click the **Edit** button. The Radio Systems page opens.


Figure 49: Edit Radio System



3. In the Radio Subscriber section, click the **Subscribers List** link. The Subscribers page opens.
4. Click **Add Subscriber**.
5. To add a Radio Subscriber, enter the following information:

Figure 50: Add Radio Subscriber

| | |
|-------------------------------|------------------------------------|
| WAVE User* | <input type="text" value="None"/> |
| Radio Subscriber Name* | <input type="text"/> |
| Unit ID* | <input type="text"/> |
| Privacy Key* | <input type="text" value="Clear"/> |

- a. Leave **WAVE PTX User** as **None** if you are adding a radio unit.
 - b. In **Radio Subscriber Name**, enter the name of the Radio Subscriber as the name appears to WAVE PTX users during PTT, Text Reception, and Private Calls.
 **NOTE:** Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.
 - c. In **Unit ID**, enter the ID of the radio as it occurs in the connected Radio System.
 - d. **Fot IPSite radio systems only:** From the **Slot ID** drop-down, select the desired value.
 - e. In **Privacy Key**, select a Privacy Key to use with this Radio System if one has been configured.
6. To add a WAVE PTX Subscriber, first select the name of the user to add as a subscriber from the WAVE PTX user list.
 7. Modify the following fields:

- a. In **Unit ID**, enter the ID this WAVE PTX user sends to the Radio System for identification. The ID you enter must fall in the WAVE PTX Subscriber Radio ID Start/End range set in the Radio System. If you use a Unit ID outside the range, or if the Unit ID you enter is already in use, the WAVE PTX portal notifies you with an error.
 - b. Select **Allow Private Calls** to allow this WAVE PTX user to initiate or receive Private Calls with Radio Subscribers.
8. Click the **Save** button

7.8.1

Configuring Wide and Local Group Support

Procedure:

1. Open the Repeater configuration file in the CPS tool.
The tools are available in <https://myview.motorolasolutions.com/>. If you do not have access contact Motorola Solutions Support.
2. Click on the **Zone/Channel Assignment** from left side navigation panel.
3. Under **General**, select the **IP Site Connect (Repeater)** and select the desired slot from the drop-down list.
4. To achieve this in Radio configuration for the specific talkgroup assigned for the repeater, the **Repeater** time slot can be defined properly to differentiate the wide and local area group call. Perform the following actions:
 - a. Open the Radio configuration file in the CPS tool.
 - b. Click on the **Zone/Channel Assignment** from left side navigation panel.
 - c. Select the zone configured for the IP Site.
 - d. Under **Zone Items** select the **Position**.
 - e. Click the **Edit** icon.
 - f. Under **General** select the **Repeater/Time Slot** and modify the value.
For local group, call the **Site ID** should be the **Repeater Radio ID** value.

7.9

Updating the Assigned Gateway

If a radio system has a gateway assigned, you can update it to the latest available upgrade.

Procedure:

1. From the left navigation pane click **Radio System**.
The **Radio Systems** window displays. On the right-hand pane, all the assigned gateways are visible.
2. Click **Update Device** next to the gateway name that you want to update.
3. To confirm the update click **OK**.
The following message appears:
A request sent to update the configuration on the device. It will be updated as soon as it is online.
The gateway device is updated to the latest available upgrade version.

Postrequisites: To verify the update navigate to **Gateways** tab from the left-hand navigation panel, search for the gateway device and click **Edit**. The **Device Configuration** window displays. **Device Agent Version** displays the gateway device version.

7.10

Testing Radio Transmission

Procedure:

1. Ensure you have Broadband Users signed-in to WAVE PTX using a Broadband client. Make sure that transmission works correctly.
2. Using two radios on the same talkgroup transmits over the radio. The audio from the transmission must come across the other radio and the Broadband clients.
3. Transmit over the Broadband clients to ensure that client audio is being transmitted to the radios.

Chapter 8

Creating and Assigning Privacy Keys

Privacy keys are used with Radio Systems that support privacy key encryption. WAVE PTX associates Privacy Keys with Talkgroups.

The Privacy Key values you create must match the values in the radio system. Privacy Keys are only required if you are using a Privacy Key Type of Enhanced. If you are using a Privacy Key Type of Basic then you must enter a Privacy Key Index for the Talkgroups associated with the Radio System. You do not need to create a Privacy Key. The following image shows a typical Privacy Key Index entry for a talkgroup using Basic Privacy.

Figure 51: Basic Privacy Key Index



The image shows a text input field with the label "Privacy Key Index" to its left. The field contains the number "432143".

8.1

Adding a Privacy Key for Enhanced Privacy

When and where to use: To add a Privacy Key for Enhanced Privacy, follow these steps:

Procedure:

1. Edit a Radio System. The Privacy Type list appears near the bottom of the page.
2. Click **Manage Privacy Keys**. The list of **Privacy Keys** for this radio system appears.
3. Click **Add Key** and enter the following information:
 - a. In **KEY NAME**, enter a name for the Privacy Key. This is for administrative use and does not appear outside WAVE PTX.
 - b. In **KEY VALUE**, enter the value of the Privacy Key as assigned in the Radio System. Maximum 10 Digits.
 - c. In **KEY ID**, enter the ID of the Privacy Key as assigned in the Radio System. Maximum value of 255. Must be unique in this radio system.
4. Click the **Green Check Box** when completed. The new Privacy Key appears on the page.

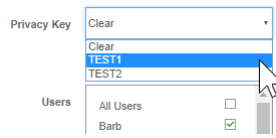
8.2

Assigning a Privacy Key to a Talkgroup

Procedure:

1. Click **Talkgroups**. The Talkgroups page opens.
2. Mouse-over a Talkgroup with a Radio System already assigned. (Broadband Only Talkgroups do not have Privacy Keys and are encrypted by default). Click the **Edit** icon.
3. In the **Privacy Key** list, select one of the Privacy Keys from the pre-created list.

Figure 52: Assigning Privacy Key to Talkgroup



4. Click the **Green Check** box when completed.

Chapter 9

Syncing to Universal Gateway (UGW) Portal

The operator can manually sync the WOC customer resources to the UGW. The UGW sync function provides a mapping operation to the UGW portal if WOC customers have a radio system configured and added new users and talkgroups resources to it. The UGW automatically on-board the users and talkgroups of the radio system.

Procedure:

1. From the portal, select the **All Customers** menu. The customer list displays.
2. Select the checkbox next to the customer whom you want to sync to the UGW portal. You can select only one customer at a time for the sync operation.
3. From the **Actions** drop-down list, select **Syn to UGW**. A **Resource Sync** start information pop-up displays.
4. Click **OK**. A sync operation success or error notification displays under **Notifications**.
 - a. Clicking the error notification displays the details of the error.
 - b. Select the **Click here** link on the error message to download the CSV file. Open the CSV file to see which resources have the mapping issue.

Chapter 10

WAVE PTX Gateway

10.1

Set Up Network for LMR Integration

The WAVE PTX Gateway requires wired network access to both the customer radio system and the WAVE PTX service running in the Amazon Web Services (AWS) Cloud. For the service to work properly, open the following ports on the Customer Network. These ports allow the WAVE PTX Gateway device to connect to WAVE PTX servers and the radio system on the local network.

Connection of the WAVE PTX Gateway to the WAVE PTX Service

To connect WAVE PTX Gateway to the WAVE PTX service, Outbound Ports are required to the internet.

Port 8883 (TCP):

Required for secure MQTT messages over TCP/UDP port to the AWS IOT Service for device management.

All customers associated URL:

a2o5gr8ddd3eaj.iot.us-west-2.amazonaws.com
2o5gr8ddd3eaj.iot.us-west-2.amazonaws.com

Port 443 (TCP):

Required for the WAVE PTX Gateway to connect to the WAVE PTX Service.

Associated URLs:

Any entry in the subdomain.

- US and Canada:
 - [.poc01.waveptx.com](https://poc01.waveptx.com)
 - [.poc01.waveoncloud.com](https://poc01.waveoncloud.com)
 - [.gw.kodiakgw.com](https://gw.kodiakgw.com)
 - [.prod-voice.waveptx.com](https://prod-voice.waveptx.com)
 - [.us-west-2-kodiakvoice-prod-001.waveptx.com](https://us-west-2-kodiakvoice-prod-001.waveptx.com)
 - [.us-west-2-kodiakvoice-prod-001.waveoncloud.com](https://us-west-2-kodiakvoice-prod-001.waveoncloud.com)

All customers:

s3-us-west-2.amazonaws.com
956b302mzf.execute-api.us-west-2.amazonaws.com

Connection of the WAVE PTX Gateway to the Radio System

To connect Radio System from the WAVE PTX Gateway, network connectivity is required.

Port (Primary Repeater Port) UDP – OUTBOUND)

Port UDP is the port the primary repeater. It is used for the link establishment and must be opened from the WAVE PTX Gateway to the radio system. This is configurable to each radio system.

Port (VRC Port) TCP and UDP – INBOUND and OUTBOUND)

This is the port on the VRC for authentication and voice. It is required to be opened up for communication from WAVE PTX Gateway to the radio system. This is configurable for the Capacity Max radio system.

Port 50100 UDP – INBOUND (Gateway Link Establishment Port)

The port is used by the repeaters to communicate with the WOCG and must be opened inbound from the radio system to the WOCG. This port is specified as part of the configuration of the gateway.

Connection of the Mobile and Web Communicators

Network connectivity required to connect to the Mobile and Web Communicators (if they are being used within the customer network).

Port 443 (TCP):

Required for WAVE PTX App and Web Communicators to connect to the servers from anywhere.

Port 4000 to 4999 (TCP, UDP):

Required for WAVE PTX App to connect to the voice servers from anywhere.

10.2

WAVE PTX Gateway Setup

This section provides instructions for the initial setup and configuration of the WAVE PTX Gateway hardware required to integrate supported radio systems. This section is identical to the instructions received in the box with your WAVE PTX Gateway and is provided as a copy for troubleshooting purposes.


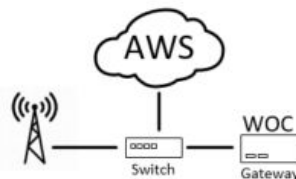
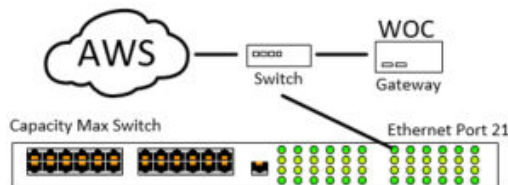
 **NOTE:** The WAVE PTX Gateway requires an Internet connection. You can isolate the Radio System by placing a switch between the Gateway and the Radio system.


Figure 53: Placing a Switch Between the Gateway and the Radio System



For Capacity Max systems, ensure that the WAVE PTX Gateway is directly connected to the radio system hardware.

Figure 54: Connection of WAVE PTX Gateway to Capacity Max Radio System Hardware



 **NOTE:** If the switch is already connected to the Internet, then the intermediate switch is unnecessary.


10.2.1

Upgrade Radio Repeaters (Optional)

You may run an older version of the repeater firmware if the radio system includes an active NAI voice license.

The upgrading details for radio repeaters are as follows:

- Repeater firmware is available on Motorola Online.
- Firmware upgrade is performed through the **Device** → **Update** option in CPS.

 **NOTE:** Radio Systems are sold through a Dealer network and it is the Dealer's responsibility to upgrade and maintain the system. If you require an upgrade, contact your Dealer. Repeater upgrade required without NAI voice license.

10.2.2

Connecting to the WAVE PTX Gateway

When and where to use:

Procedure:

1. Unpack the WAVE PTX Gateway hardware.
2. Plug the Ethernet (LAN) cable into the back of the Gateway and plug the other end into an active Ethernet jack. This connection must be Internet-routable and able to reach <https://aws.amazon.com/>.
3. Power on the WAVE PTX Gateway.
4. The WAVE Gateway comes equipped with a Wi-Fi connection for initial configuration. Log in to a PC with Wi-Fi capability. Ensure Wi-Fi is turned on. Click the Wireless icon in the lower right corner.

A list of available connections appears.

5. Search for the following Wi-Fi SSID (Service Set Identifier):
Wi-Fi SSID: WOCG-%SERIAL NO%
6. Connect to the Wi-Fi SSID using *MotoGateway* as the Password.
7. Open a web browser on the PC and enter <http://192.168.137.1/>
8. If prompted for a Username and Password use *admin/MotoGateway*.

You have the option to change this after log in.



NOTE: If you forget your password please contact support.

The WAVE PTX Gateway main interface opens in the web browser.

9. Record the Gateway Device Code and the Machine Name.

You need the values to associate the WAVE PTX Gateway with your radio system. Ensure that you store the device code and the Machine Name in a safe location.

Figure 55: Device Code

The screenshot shows the WAVE PTX Gateway web interface. At the top, the 'Device Code' is displayed as 'FAWMFWNA'. Below this, there are two main sections: 'Network Health Status' and 'System Information'.

| Description | Status | Last Successful |
|----------------------------|--------|------------------------|
| Internet Accessible | ✓ | 12/14/2023 10:43:40 AM |
| Local Network Accessible | ✓ | 12/14/2023 10:43:40 AM |
| Device Agent Connected | ✓ | 12/14/2023 6:44:12 PM |
| Network Card Configuration | ✓ | 12/14/2023 10:43:40 AM |

| Software | |
|--------------------------------|---------------------|
| Software Versions | |
| - Helix Firmware Version | 617 |
| - WAVE OnCloud Gateway Service | deviceagent@3.0.0-5 |

| Hardware | |
|-----------------|----------------|
| Machine Name | WGPRD-WGGCSLTY |
| Service Tag | MXL32839PK |
| Drive Encrypted | Yes |

© 2023 - WAVE OnCloud Gateway Device

10. If there is a red cross sign next to the **Network Card Configuration**, click the **Network Card Configuration**.

The Change IP Address page opens.

Figure 56: Change IP Address- Network Card Configuration

Change IP Address

Static IP Address DHCP IP Address

DHCP IP Address Info

IP Address : 10.100.10.118
Subnet Mask : 255.255.255.0
Default Gateway : 10.100.10.5
Primary Dns : 10.100.10.6
Secondary Dns : 10.100.30.6

Save Cancel

© 2017 - WAVE OnCloud Gateway Device

11. By default, the WAVE PTX Gateway attempts to obtain a DHCP IP Address from your local network. Optionally, if you need to configure a Static IP Address, click **Static IP Address** and set the following options:

Figure 57: Change IP Address-Static IP

Change IP Address

Static IP Address DHCP IP Address

Static Ip Address Info

IP Address
IP Address of the Network Card
(10.100.10.118)

Subnet Mask
Subnet Mask of the Network
Card
(255.255.255.0)

Default Gateway
Default Gateway's IP Address
(10.100.10.5)

Primary Dns
Primary DNS's IP Address
(10.100.10.6)

Secondary Dns
Secondary DNS's IP Address, if
needed
(10.100.30.6)

Save Cancel

© 2017 - WAVE OnCloud Gateway Device

12. Click the **Save** button.

10.3

WAVE PTX Gateway Specifications

The following list identifies the minimum specifications for the WAVE PTX Gateway Hardware:

Standard Hardware:

HP Prodesk

Minimum Requirements:

- CPU: Intel i5-9500T (12th Gen Intel(R) Core(TM) i5-12500T 2.00 GHz)
- RAM: 8GB DDR4
- HDD: 256GB SSD (120GB)
- OS: Windows 11

10.4

Creating a WAVE PTX Gateway

When and where to use: To create a WAVE PTX gateway specification, follow these steps:

Procedure:

1. On the right side of the screen, click the create a new Gateway **Plus** icon. The Gateway Configuration screen opens.
2. In the **Device Code**, enter the device code you recorded when you configured your WAVE PTX Gateway hardware.
3. In the **Device Name**, enter a name for the Gateway.



NOTE: Use unique, pronunciation-friendly names with alphanumeric characters for contacts and talkgroups. Avoid using special characters ! # ? and abbreviations.

This name is for administrative purposes and does not appear outside of WAVE PTX.

4. Click **CREATE**.

The newly created Gateway appears under the Gateways section on the right side of the page.

Depending on the type of the gateway, the properties may differ.

10.5



Updating Gateways

You can update the firmware version, device agent version, and logging level of gateway devices.

Procedure:

1. From the left-hand navigation panel click **Gateways**.
2. Search for the gateways you want to update.

3. Perform one of the following actions:

| If... | Then... |
|--|--|
| <p>If you want to update one gateway device,</p> | <p>perform the following actions:</p> <ol style="list-style-type: none"> a. Click on the device name. The Device Information window appears. b. In Device Configuration section, click the Update Device button. The Update Device Properties window appears. c. From the Firmware Version drop-down, select the desired firmware version. d. From the Device Agent Version drop-down, select the desired device version. e. From the Logging Level drop-down, select one of the following: <ul style="list-style-type: none"> • Do Not Update • Low • Medium • High <p>The Logging Level drop-down may not be displayed depending on your configuration.</p> f. Click Update. |
| <p>If you want to update two or more devices simultaneously,</p> | <p>perform the following actions:</p> <ol style="list-style-type: none"> a. Select the check boxes next to the names of all the gateway devices that you want to update. <p> NOTE: You can simultaneously update the same device types only.</p> b. In the right-top corner click Actions → Update Configuration The Update Device Properties window appears. c. From the Firmware Version drop-down, select the desired firmware version. d. From the Device Agent Version drop-down, select the desired device version. e. Click Update. <p> NOTE: If you try to update different device types simultaneously, the following error message appears: The device agent versions are different for each device type. Please select only one device type to update the configuration.</p> |

Postrequisites: To verify the update navigate to **Gateways** tab from the left-hand navigation panel, search for the gateway device and click **Edit**. The **Device Configuration** window displays. **Device Agent Version** displays the gateway device version.

Appendix A

Accessing the XRT 9000/9100 Gateway

In order to configure users and access to the XRT (discontinued product) for the WAVE PTX Gateway, access the XRT Gateway. This section explains how to use a PC to access your XRT. Once you accessed the XRT, the next section explains what changes are required and where.



NOTE: Microsoft .NET Framework Requirement: A PC can (and frequently does) have multiple versions of Microsoft .NET Framework. MOTOTRBO Connect Plus XRT 9000/9100 Configuration Tool software for Connect Plus System Release 1.3 (or later) requires the PC to have .NET Framework version 4.0. To see what versions are on your PC, check Control Panel > Add or Remove Programs.

Procedure:

1. To access the MOTOTRBO Connect Plus XRT 9000/9100 Gateway, install the MOTOTRBO Connect Plus XRT 9000/9100 Configuration Tool (discontinued product). Download the MOTOTRBO Connect Plus XRT 9000/9100 Configuration Tool Software.
2. To install the software on a windows PC, run the executable file. To complete the installation, follow all prompts.
3. From the **Start** menu, select **All Programs** → **Motorola Solutions** and click **MOTOTRBO Connect Plus XRT 9000/9100 Configuration Tool**.
4. On the **Connect** menu, click **Socket** if you are connecting remotely or **Serial** if you are connecting over a direct serial cable connection to the XRT.
5. Enter the Host IP address to your XRT 9000/9100 Gateway. Leave the **Port** field blank if you do not know the exact port to use. Port 4445 is the standard default port.
6. If using a Serial connection, enter Com 1 for the **Port Name**, and set the Baud Rate to 57600.
7. Enter the **Password**. The default password is admin. The password can be changed using the **Change Password** screen (**Site Control** → **Change Password**). The console connection timer appears.

Once the connection timer completes, the Connect menu changes to disconnect, and you are now connected to the XRT 9000/9100 Gateway.

A.1

Connect Plus (Single-Site and Multi-Site) Radio Systems

Following are the limitations and requirements for the connecting Connect Plus radio systems (discontinued product):

- **A maximum of 30 simultaneous calls are allowed on the XRT 9000 (discontinued product).**

The XRT 9000 allows a maximum of 30 concurrent LMR calls, talkgroup calls, or Private Calls with WAVE PTX clients. When a WAVE user attempts to transmit over a Talk Group or initiate a Private Call, WAVE PTX requests one of 30 connection resources on the XRT 9000. Once transmission ceases, the resource is freed, and can be requested by a different Private Call or talkgroup. Broadband-to-broadband calls do not consume any of the 30 call capacity.
- **A maximum of 50 simultaneous calls are allowed on the XRT 9100.**

The XRT 9100 allows a maximum of 50 concurrent LMR calls, talkgroup calls, or Private Calls with WAVE PTX clients. When a user attempts to transmit over a talkgroup or initiate a Private Call, WAVE PTX requests one of 50 connection resources on the XRT 9100. Once transmission ceases, the resource is freed, and can be requested by a different Private Call or talkgroup. Broadband-to-broadband calls do not consume any of the 50 call capacity.

- An IP connection to an XRT 9000/9100 is required.