WAVE PTX
Release 11.2
Distributor

WAVE PTX Portal User Guide

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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.

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

- Before reloading software
- To confirm troubleshooting results and analysis before taking action

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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

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Document History

Version	Description	Date
MN009036A01-001	Initial Distributor version	February 2022

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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.

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**
  Mackenzie 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. 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, and to create the large talkgroups, the customers should have permission. 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. 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. 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 Add Users on page 19
2. Create Talkgroups. Refer to Creating a Talkgroup on page 61
3. Associate Users and Talkgroups. Refer to Associating Users to Talkgroups on page 20
4. Install the WAVE PTX Mobile Communicator Clients. Refer to Installing WAVE PTX Clients on page 20
5. Sign In to WAVE PTX. Refer to Signing In to WAVE Portal on page 21
6. Test Transmission. Refer to Testing Transmission on page 21

1.4.1
Add Users

To add users (Tablet, Mobile, Dispatch, and MOTOTRBO) refer to Adding a Mobile, Tablet, or WAVE PTX Dispatch User on page 50 and Adding a MOTOTRBO User on page 51.

1.4.2
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.
5. You can choose the type of talkgroup when you creating talkgroup. Select one of the following Talkgroup type:
   - **Standard**: A Standard Talkgroup can be used by anyone.
   - **Broadcast**: A Broadcast Talkgroup can be assigned to any user but only a Broadcaster assigned to that Talkgroup can transmit. Non-Broadcast Users assigned to a Broadcast Talkgroup can listen only.
   - **Dispatcher**: A Dispatcher Talkgroup must be assigned to a Dispatch User. Dispatch Users communicate via the WAVE PTX Dispatch application which runs in a browser.
6. 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.

The new talkgroup appears on the page.

1.4.3

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 61 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.

1.4.4

Installing WAVE PTX Clients

When and where to use: To install WAVE PTX Clients, follow these steps:

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.

1.4.5

Signing In to WAVE Portal

Depending on your service provider, you are presented with the log in ID and password to access the WAVE PTX portal.

When and where to use: Do the following to sign in to the WAVE PTX portal.

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 displays.

4 Enter your sign in credentials and click **SIGN IN**.

1.4.6

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.

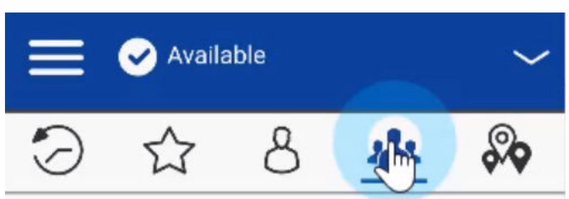
When and where to use: To test the transmission, follow these steps:

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 includes 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

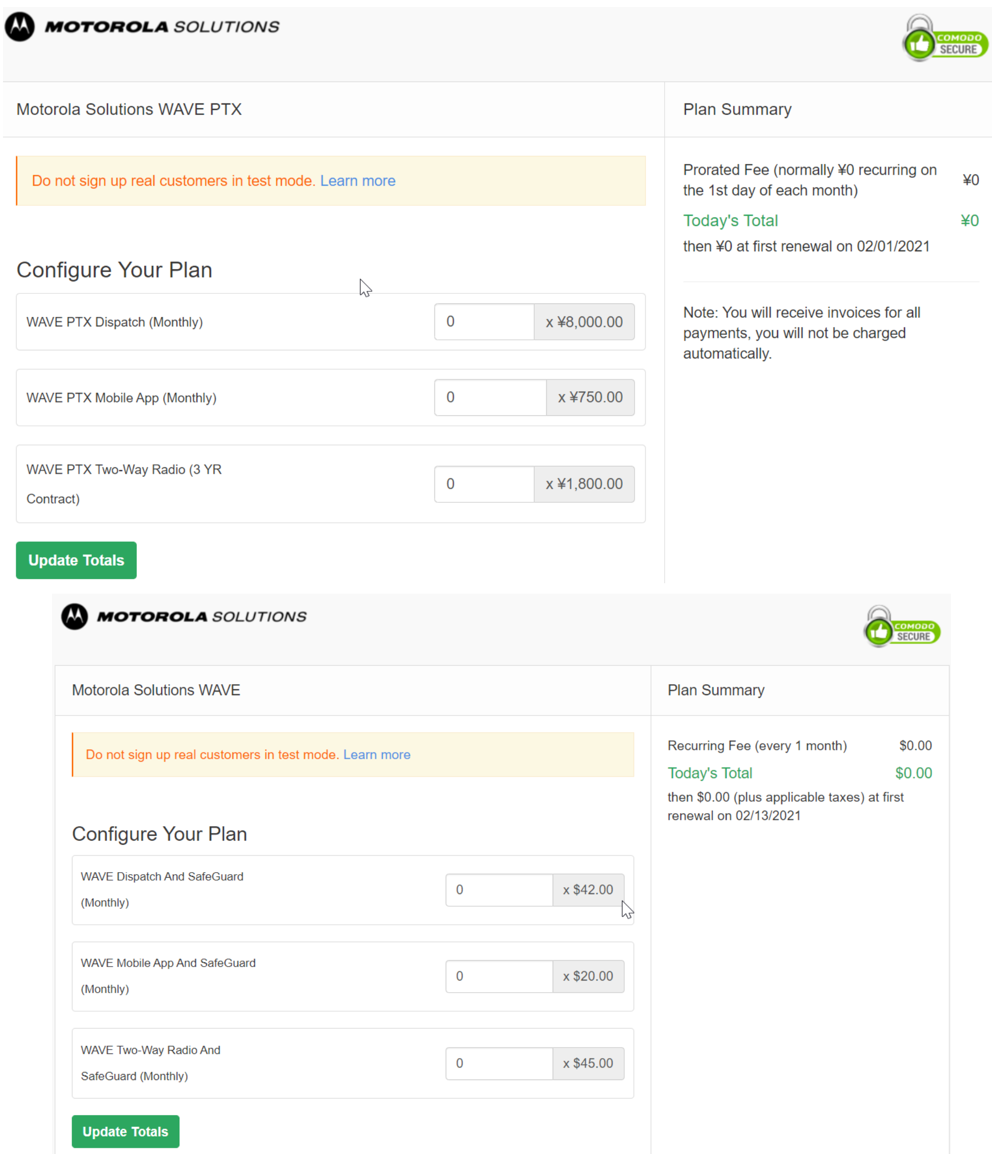
Upgrading to a Paid Subscription

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.

Figure 2: Configure Plan- Upgrading to paid Subscription



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 your 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 require. 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.

When and where to use: To add User Licenses to your subscription, follow these steps:

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**.

Figure 3: Add Licenses (Except North America)

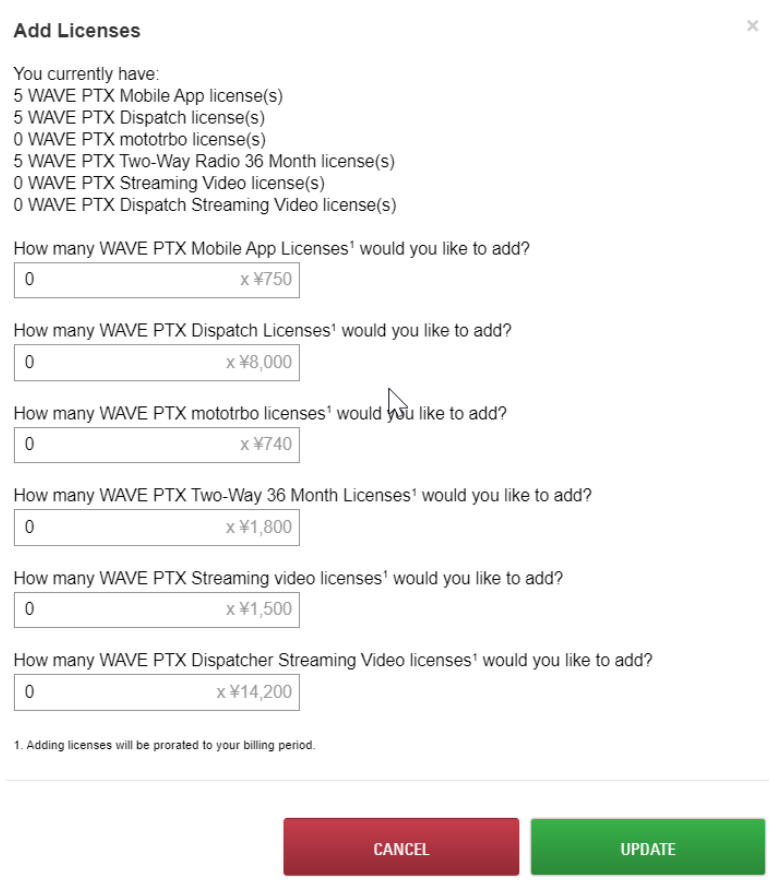
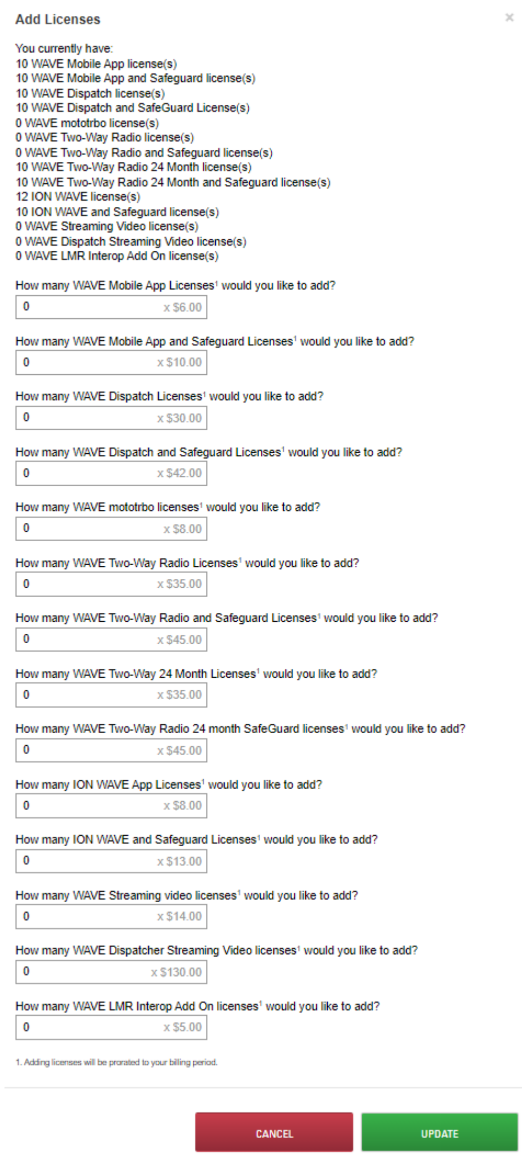


Figure 4: Add Licenses (US and Canada)



5 Once you enter the numbers click **Update**.

6 The new plan and extra licenses are activated immediately.

1.5.4

Canceling Subscriptions and Licenses

When and where to use: To cancel subscriptions to your customer account, follow these steps:

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

When and where to use: To update the billing information of your transactions, follow these steps:

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.

Chapter 2

Rental Business

WAVE PTX services can be purchased with or without radio integration and rented to Partners or Customers. The Rental Business lets the MSI Distributors, Partners, and Customers use the MSI WAVE PTX offerings on a rental basis. The rental Business is available only for Asia, Australia, New Zealand, Europe, UK, Japan, and Columbia. If you are from any other region, please skip this chapter. If you are a Rental Customer, you can buy the Users/Devices from the Distributors or Partners on a Rental Basis. If you are a Rental Distributor, you can Rent Out the purchased licenses/devices to Customers directly or with the help of Rental Partners. Rental partners will act as a primary point of contact if the Rental partner is involved.

2.1 Adding Rental Distributor

When and where to use: To add rental distributors to the portal, do the following:

Procedure:

1. On the Operator portal, click the **Distributors** from the menu.
2. Click **ADD RENTAL DISTRIBUTOR**.
3. Enter the information in the fields shown.
4. If needed, select the **Send Welcome Email** check box to send an email to the distributor.
5. Click **Next**.
6. Review the details and click **Save**. The distributor name shows in the list on the Distributors work area.

   You can search for a distributor by their name from the search area.

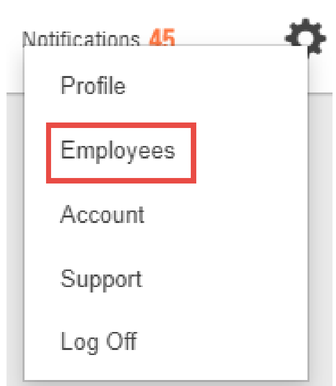
2.2 Adding a Distributor Employee

When and where to use: To add distributor employee, follow these steps:

Procedure:

1. From the **Distributor** portal, click the **Settings.**

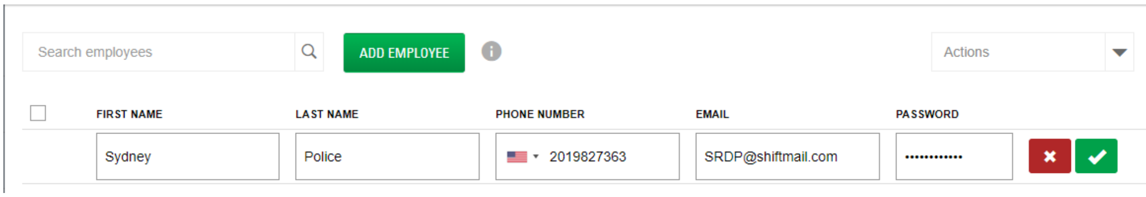
   Figure 5: Distributor Employee- Settings



2 Select **Employees**.

3 Click **Add Employee**.

Figure 6: Adding Distributor Employee



4 Enter the first and last name of the distributor employee name in the fields.

5 Select the country code and enter the phone number of the distributor in the Phone Number.

6 Enter the email ID of the distributor employee.

7 Enter password for the distributor to sign in to the distributor portal.

8 To create a distributor employee account, click the **Tick** icon.

2.3

Editing Distributor Employee

Once you have created a Distributor employee, you can edit the name, email ID, and can change the login password of the employee.

When and where to use: To edit the Distributor employee details, follow these steps:

Procedure:

1 Once you log in as Distributor, select **Employee** from the **Settings**.

2 The list of available employees displays.

3 Click the name of the Distributor employee.

4 Edit the details and click **SAVE**.

2.4

Adding Rental Partner

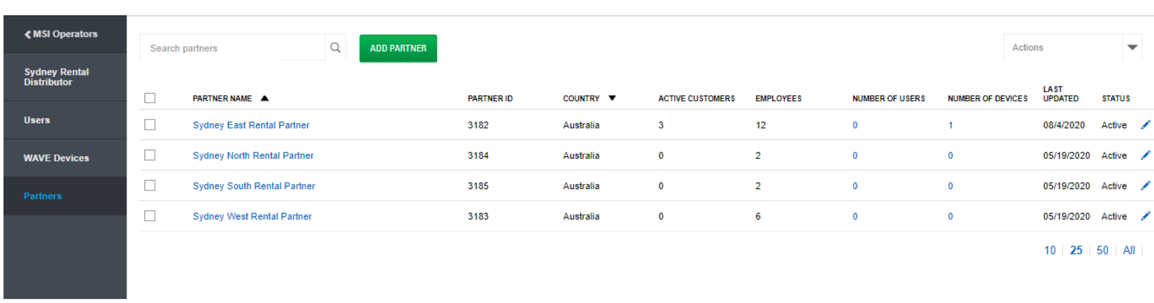
A Distributor or distributor employee can add Partners.

When and where to use: To add partners to the distributor, do the following:

Procedure:

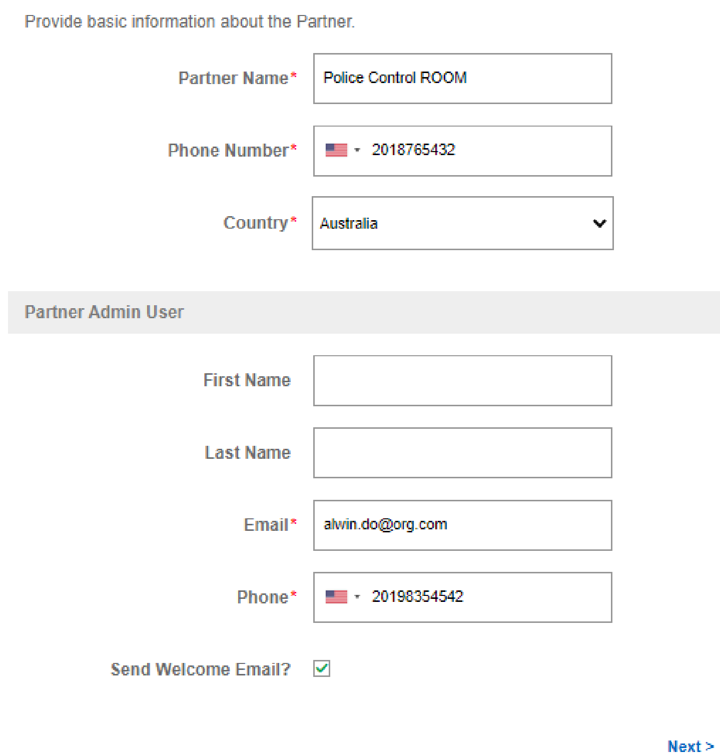
1 From your distributor home page, click **Partners** from the menu.

Figure 7: Adding Rental Partner



2 From the Partners work area, click the **ADD PARTNER** button.

Figure 8: Add Basic Information- Rental Partner



3. Enter the basic information of the partner in the fields given.
4. If you want to send a welcome email to partner, then select the **Send Welcome Email** check box.
5. Click **Next**.
6. Verify the details and click **SAVE**.
7. The partner name shows in list in the Partners work area.

2.5 Actions Available on Partners Work Area

Distributor employee can activate, deactivate, and delete a partner from the Partners work area. Distributor can also edit the name and phone number of the individual Partner by using the **Edit** icon next to the **Status** column. Only an Operator and Distributor employee can perform these operations on the Partner.

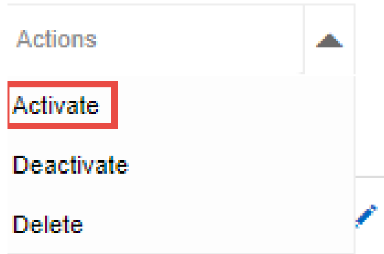
2.5.1 Activating Partners

When and where to use: To activate Partner, follow these steps:

Procedure:

1. From the **Partners** menu, select the check boxes next to the name of the partners.
2. From the **Actions** drop down, select **Activate**. An activation confirmation message displays.

Activate Partners



3 Do one of the following:
   - Click **OK** to continue activation.
   - Click **Cancel** to cancel the action.

2.5.2
Deactivating Partners

When and where to use: To deactivate Partner, follow these steps:

Procedure:

1 From the **Partners** menu, select the check boxes next to the name of the partners.
2 From the **Actions** drop down, select **Deactivate**. A deactivation confirmation message displays.
3 Do one of the following:
   - Click **OK** to continue activation.
   - Click **Cancel** to cancel the action.

2.5.3
Deleting Partners

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

Procedure:

1 From the **Partners** menu, select the check boxes next to the name of the partners.
2 From the **Actions** drop down, select **Delete**. A delete confirmation message displays.
3 Do one of the following:
   - Click **OK** to continue the deletion.
   - Click **Cancel** to cancel the action.

2.6
Activating or Deactivating Rental Distributor

You can activate or deactivate the distributor from the Distributor portal for the PTT services.

When and where to use: To activate or deactivate the PTT services for the distributor, do the following:

Procedure:

1 From the Distributor work area, select the distributors to whom you want to activate or deactivate the services.

2 From the **Actions** drop down, choose **Activate** or **Deactivate**. A confirmation window displays.

Figure 9: Activate or Deactivate Distributor Account

3 Do one of the following:

- Click **OK** to continue for activation.
- To cancel the action, click **CANCEL**.

2.7 Subscriptions Management- Rental Distributor

When you create a Rental Distributor account, the account does not have any subscription or licenses for the PTT communication. Add a subscription to start the services for your account.

2.7.1 Adding Subscriptions and Licenses

When and where to use: To add subscriptions and licenses to your distributor account, follow these steps:

Procedure:

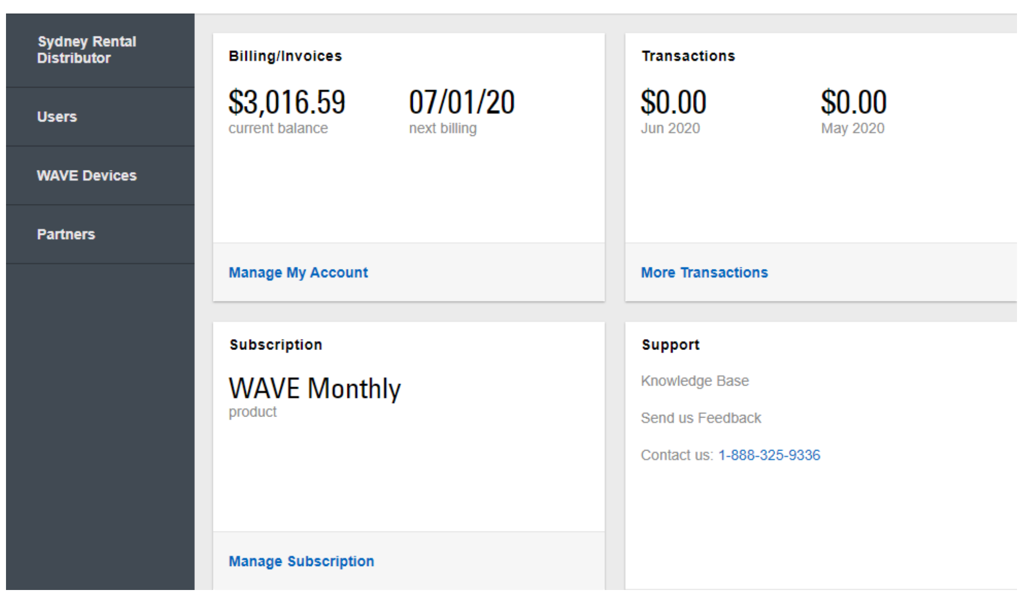
1 Sign in to your distributor account with credentials.

2 A Distributor main page displays. Click the **Settings** icon in the header.

3 From the **Settings** drop down, select **Account**.

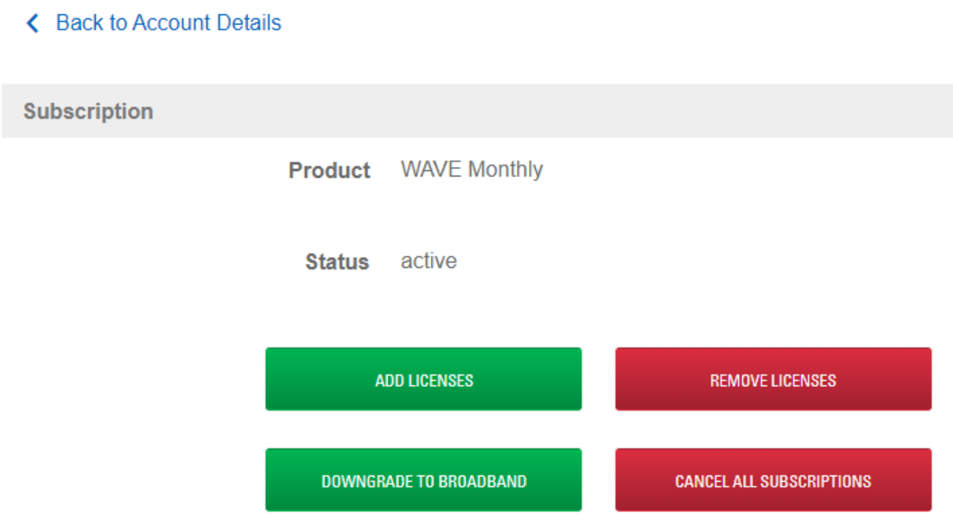
4 Click **Manage Subscription**.

Figure 10: Manage Subscription



5 To add the licenses that you want, click **Add Licenses**.

Figure 11: Subscriptions and Licenses



6. You can click **UPGRADE TO CRITICAL COMMUNICATIONS** to upgrade the subscription.
7. The new subscription details show on the Distributor home page.
8. Clicking the **More Transactions** on the Distributor home page shows the transaction history of the account.
9. To view the subscription details and remaining balance of your account, click **Manage My Account**.

2.7.2
Canceling Subscriptions and Licenses

When and where to use: To cancel subscriptions to your customer account, follow these steps:

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**.

Chapter 3

Partner Navigation

When a Partner or Partner Employee signs in to WAVE PTX they are presented with the Partner screen. The left-screen navigation shows the following options:

The ‘Partner’ in this case is employee that the Distributor manages. The Partner screen shows Users, WAVE PTX devices, and Customers menu. Click the respective menu to view the list of Users, WAVE PTX Devices, and Customers.

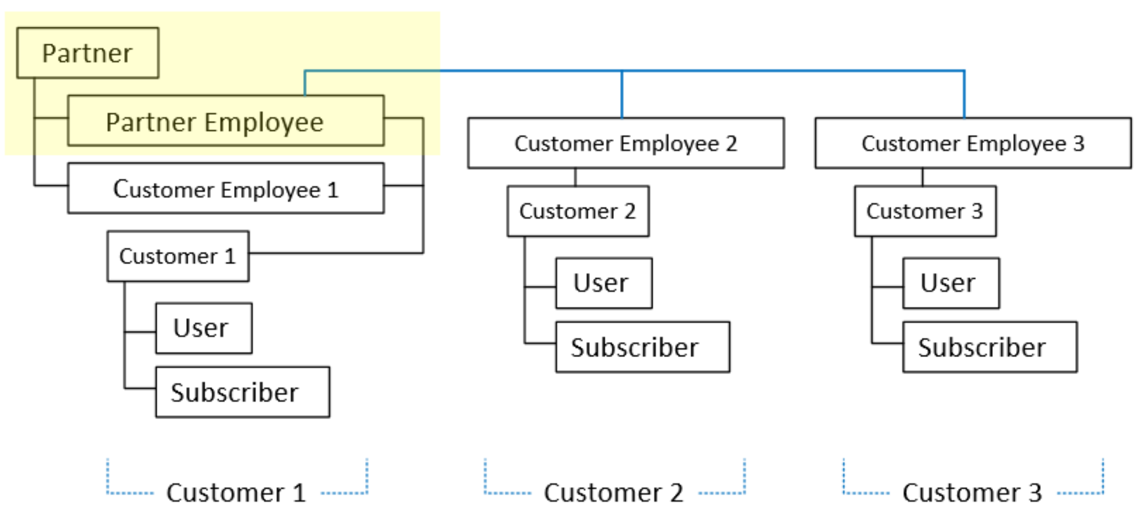
Rental Partners cannot create Users and WAVE PTX Devices. Distributors create Users and WAVE PTX Devices and assigns them to the Partners or to Customers. When in a Customer screen, Partners and Partner Employees see a Partner link at the top of their menu. Clicking the link takes the user back to the Partner Home page.

The main purpose of a Partner is to create Customers, Employees, and assign Users to the Customers. When a Partner creates a Customer, they are automatically added to that Customer as an Employee with an Employee Customer Support role. This functionality allows the Partner to act as an Employee of the Customer account initially, but it is the ‘Employee’ account that allows the Partner to do this action. It is not the Partner account. Once the Partner Employee account is removed from a Customer, the Partner cannot access to the Customer. If you are a Partner, ensure that you create and assign Employees to a Customer before removing your own Employee account from that Customer.

3.1 About Partner Functionality

Partners are the creators and managers of Customer accounts. Depending on the roles assigned, Partners and Partner Employees can perform the specific operations.

Figure 12: Partner Functionality (Normal Flow)



Partners are the creators and managers of Customer Accounts and hence only Partners and Partner Employees can perform the assigned to them.

Understanding Your Customers

As a Partner, you create and manage your own WAVE PTX Customers or create and assign Partner Employees, assigning partners with the authority to create and manage your Customers.

Only Partners or Partner Employees Customers can add or delete. Customer Employees can modify the Customer they are assigned to, but cannot add, delete, or otherwise modify any other Customer.

3.2 Adding Rental Partner

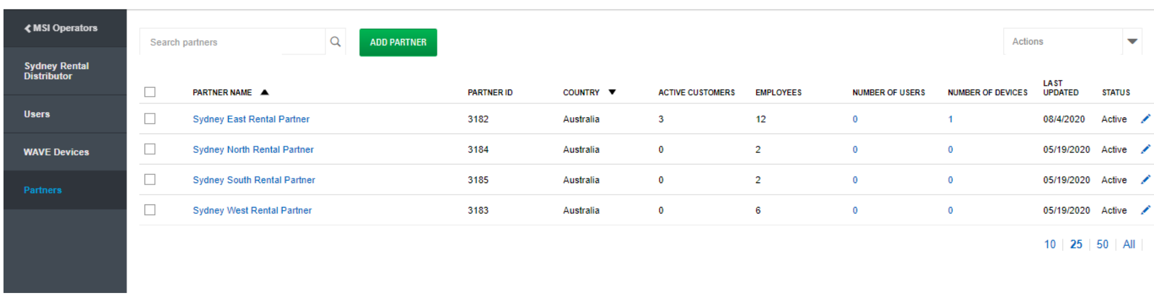
A Distributor or distributor employee can add Partners.

When and where to use: To add partners to the distributor, do the following:

Procedure:

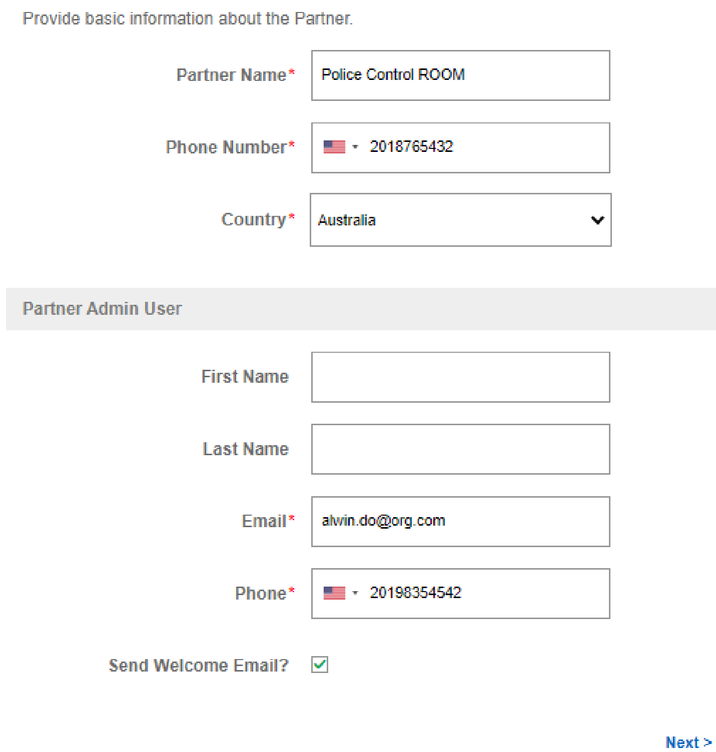
1. From your distributor home page, click **Partners** from the menu.

Figure 13: Adding Rental Partner



2. From the Partners work area, click the **ADD PARTNER** button.

Figure 14: Add Basic Information- Rental Partner



3 Enter the basic information of the partner in the fields given.

4 If you want to send a welcome email to partner, then select the **Send Welcome Email** check box.

5 Click **Next**.

6 Verify the details and click **SAVE**.

7 The partner name shows in list in the Partners work area.

3.3 Adding Partners

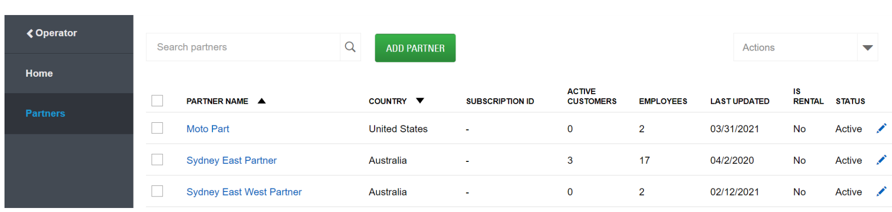
A Distributor or distributor employee can add Partners.

When and where to use: To add partners to the distributor, do the following:

Procedure:

1 From your distributor list, select a distributor. The Distributor page displays.

Figure 15: Adding Partner



2 Click the **Partners** menu.

3 From the **Partners** work area, click the **ADD PARTNER** button.

4 Enter the basic information of the partner in the fields given.

5 If you want to keep the partner inactive, then select the **Active** check box.

6 Click **Submit**.

7 The partner name shows in list in the Partners work area.

3.4
Partner Employee Navigation

Partner Employees may be assigned to multiple Customers and have the ability to switch between any of the assigned Customer accounts to manage them. When a Partner Employees signs-in they are presented with the same page as a Partner. Partner Employees are created at the Partner level. For instructions on creating a Partner Employees see Creating a Partner Employee. Partner Employees may navigate between the Customer accounts they are assigned to in order to manage individual Customers. Use the following procedure to switch between Customers to edit different Customers.

When and where to use: To navigate between Customers, follow these steps:

Procedure:

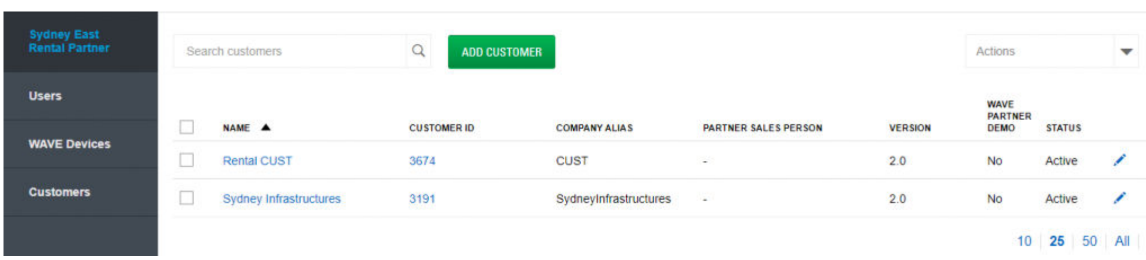
1 In the main menu, click **Partner**.

NOTE: Only Partners and Partner Employees have the Partner link.

2 Click **Customers**.

3 In the **Customer** screen, click the customer to manage. The Home page for the selected Customer opens.

Figure 16: Partner Employee Navigation



3.5
Creating Broadband trial by Partner for Customer

Broadband trial service allows you to use the broadband service for trial.

When and where to use: To create trial broadband service, follow these steps:

Procedure:

1 Create a customer, which generate a new Broadband Only Trial. Refer to Adding a Customer on page 40

2 Click the **Gear** icon and select **Account**.

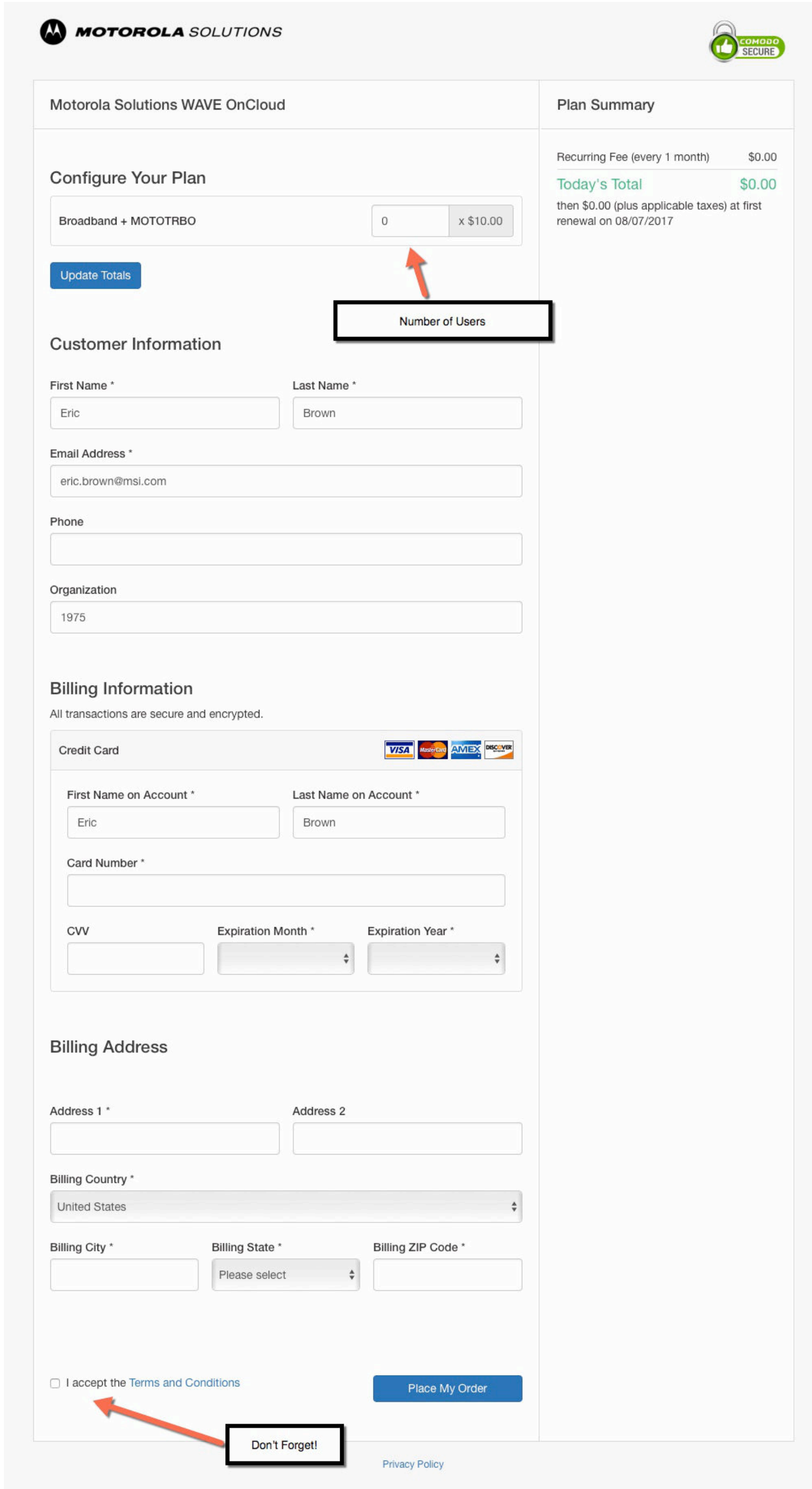
3 Click the **Upgrade** button from the account management screen.

4 On the Account Page, click **Manage Subscription**.

5 Click **Upgrade Plan**.

6 A pricing and product page displays.

Figure 17: Pricing and Product page



7 Select the appropriate plan. A billing information page displays.

8 Make sure that you enter a value for the number of users, that is the people using the mobile and web communicators.

9 Enter all data.

10 Accept the terms and conditions.

11 Click **Place My Order**.

3.6
Changing a Monthly Subscription to Yearly

When and where to use: To change your monthly subscription to yearly, follow these steps:

Procedure:

1 Log in as a Partner managing an account and open the Customer account to convert.

2 Add a Customer Employee (not a Partner Employee) to the account.

3 Cancel the monthly subscription.

NOTE: If you cancel subscription the account will stop working immediately. Do not cancel the subscription until you are ready to buy the yearly subscription.

4 Make sure to remove Demo account from the account (as a Partner) if it was set to Demo account.

5 Log in as an Customer Employee (not a Partner Employee).

6 When the tiles appear to buy a subscription, select **Yearly** and proceed with the subscription buying process.

3.7
Viewing an Invoice

For Partners and Partner Employees. Use the following procedure if you need to provide a Customer with an invoice.

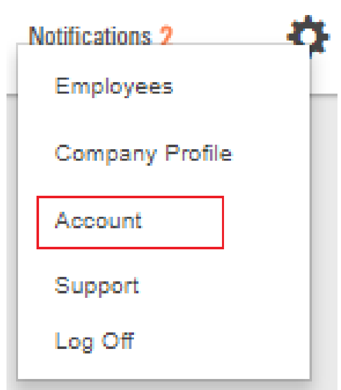
When and where to use: To view a Customer invoice, follow these steps:

Procedure:

1 In the portal, open the customer account.

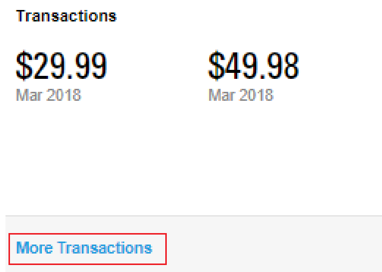
2 Click **Settings > Account**.

Figure 18: Account Settings



3 Under Transactions, click **More Transactions**.

Figure 19: More Transactions



4 Click **View Statements**.

5 Do one of the following.

- Click **View** to see the statement.
- Click **Download as PDF** if you need to provide the statement.

Chapter 4

Manage Customers

Employees of the Operator, Distributor, and Partner can manage the Customers. Only customers that are associated to the respective Operator, Distributor, and Partner can perform these functions. Customers include Users, Subscribers, Talkgroups, Customer Employees, TLKs, EVOLVEs, and Radio Systems. Each Customer is an individual grouping of these components and isolated by design. A customer cannot be shared across Customers, ensuring that there is no potential for erroneous cross-communication.

For US and Canada regions, the partners or customers have option for mix and match (both collaboration and safeguard package) at the same time. That is, partners or customer can select the type of package (Collaboration or Safeguard) for the user at the time of user registration and anytime during the usage.

4.1

Adding a Customer

Customers may be added by a Partner or an Partner Employee. When you add a Customer it is Active by default. In general, Partners will add Customers after they have been notified that a new Customer has signed up and selected them as a Partner.

When and where to use: To add a new Customer follow these steps:

Procedure:

1. In the **Partner** portal page, click **Customer.**
2. Click the **ADD CUSTOMER** button.
3. Optionally, provide the email addresses for sales team members. This allows WAVE PTX accounts for sales promotions.
4. Provide WAVE PTX with the most up to date information about the Customer.
   a. In **COMPANY NAME**, enter a name for this Customer.
   b. In **COMPANY ALIAS**, enter an alphanumeric identifier for your Customer. This is used for Partners with Portal Access to log in to the Portal.
   c. In **Phone**, enter the phone number of the primary Customer. This is used for contact information about WAVE PTX.
   d. In **Country**, select the country for the customer. This relates to billing information.
5. In the **Customer Admin Use**r section, create a Customer Admin User. This is same as a Customer Employee. The Customer Admin User is the default Administrator for this account and capable of editing Users, Talkgroups, and Radio Systems via the WAVE PTX Portal.
   a. In **First Name**, enter the first name of the Customer User Admin.
   b. In **Last Name**, enter the last name of the Customer User Admin.
   c. In **Email**, enter the email address of the Customer User Admin.
   d. In **Phone**, enter the phone number of the Customer User Admin.
6. Determine the greetings and access for the Customer.
   a. Select **Send Welcome Email** if you want the user to receive an email invitation to their new WAVE PTX account with instructions for setting up a password and accessing their Customer account.

b Click and add the information for **Add Technical Contact** if you want to add an individual for the customer to contact in case of questions.

c Click **NEXT**.

7 In the **SUBSCRIPTION** section, specify the details of the new customer.

a In **Number of Talk Groups**, specify the number of Talkgroups allowed for this account.

b In **Number of Licenses**, specify the number of User Licenses. This controls how many Broadband Users may simultaneously log in.

c In **Radio System Type**, select the type of Radio System this account will integrate with. Leave the selection as None if this is a Broadband-Only account.

8 Click **NEXT**. On the **REVIEW** page, verify the information you have provided and then click the **SAVE** button.

9 On the **Finish** page, choose the subscription type.

4.2
Adding a Customer Employee

Customer Employees are created and added at the same time. Customer Employees are only assigned to one Customer. When you create a Customer Employee you are automatically assigning them to the Customer Account you are currently signed-in to.

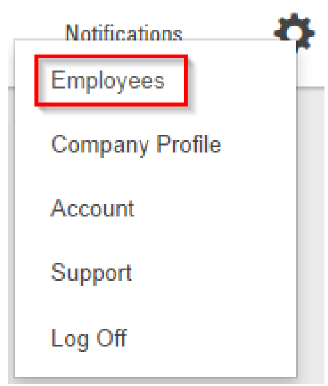
When and where to use: To add a Customer Employee, follow these steps:

Procedure:

1 Make sure that you are in a Customer page. If you are a Partner, click **Customers** and then click the name of the customer account to add the employee.

NOTE: If you have signed-in to WAVE as a Customer Employee, then you are already in the Customer account and you can skip this step.

Figure 20: Customer Employee- Settings



2 Click **Settings** and then click **Employees.**

NOTE: Your account appears as an Employee. Do not delete your account unless you have added another valid Employee. You cannot edit Customers unless you are assigned to the Customer as an Employee with an Admin Role.

3 Click **Add Employee**. The add employee fields appear.

a In the **FIRST NAME**, enter the first name of the new employee.

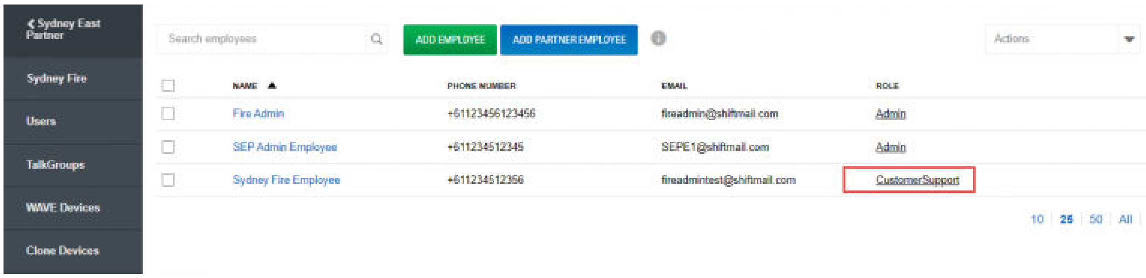
b In the **LAST NAME**, enter the last name of the new employee.

c In **PHONE NUMBER**, enter the best contact number for the new employee.

   d. In **EMAIL**, enter the contact email address for the new employee.
   e. In **PASSWORD**, enter an initial password for the new employee.
   f. Click the **Green Check** button.

4. The new employee appears with the default **Customer Support** role.

   Figure 21: Added Customer Employee



5. If you want to set the employee role to something other than Customer Support, then click the **Customer Support** link.

   Employees can have multiple roles.

4.3
Editing a Customer

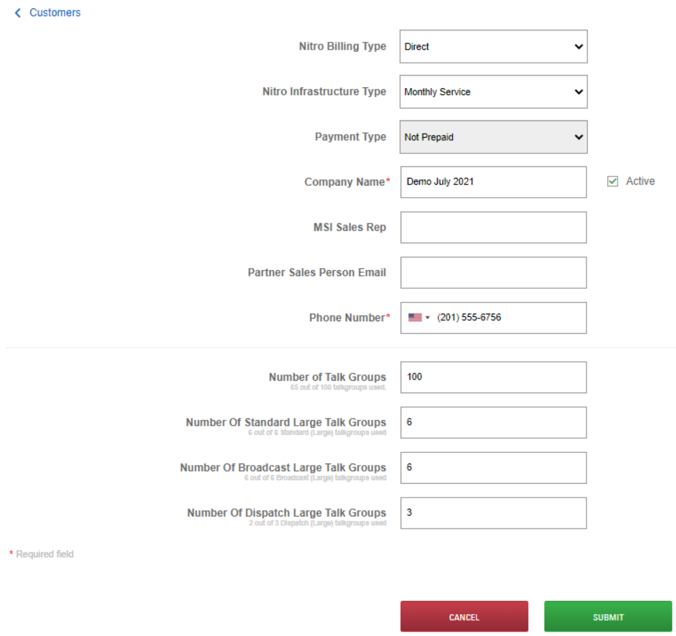
Editing a Customer allows you to modify the fields associated with that Customer except the Customer Alias. Additionally, you can add an MSI Number when editing a Customer. Customers may be modified by a Partner or Partner Employee. Customer Employees cannot modify their own Customer.

When and where to use: To edit a Customer, follow these steps:

Procedure:

1. In the Partner or Partner Administrator portal page, click **Customer**. The list of all existing customers assigned to your account appears.
2. Under the **STATUS** field, click the **Pen** icon next to the customer to edit. The customer editing screen opens.
3. In the customer editing screen, modify data as necessary.

Figure 22: Editing Customer



4 Click the **SUBMIT** button when you are done editing. Changes are active immediately.

4.4
Deleting a Customer

Deleting a Customer removes all Talkgroups, Users, Radio Systems, and Customer Employees associated with that Customer. Only a Partner can delete a Customer.

IMPORTANT: Deleted Customers cannot be restored. Ensure you want to delete a Customer. This action cannot be reversed. Alternatively you can deactivate a Customer.
Once deleted, Users currently online will be signed-out and will be unable to communicate. Ensure the Customer is aware of this prior to deletion. Radio systems will no longer be able to communicate with Broadband Users.

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

Procedure:

1 Click **Customers** to open the Customer page.

2 Select the customers to delete.

NOTE: The check box next to COMPANY NAME selects all Customers visible on the page.

3 In the **Actions** menu, click **Delete.**

The Customers and all associated Users, Talkgroups, Radio Systems, and Customer Employees are deleted. Partner Employees are not affected but are no longer associated with the deleted Customer.

4.5
Associating Partner Employee to Customer

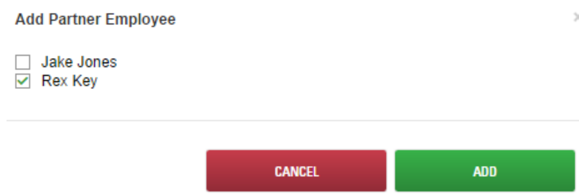
A partner can assign one of his employees to a customer account so that the employee can monitor the customer account and operational aspects of customer account. Whenever the partner wants to assign a partner employee to the customer account, that partner employee must be assigned as a customer employee under the Customer Employee page.

When and where to use: To add a Partner Employee, follow these steps:

Procedure:

1. Sign in to the WAVE PTX Portal as a Partner.
2. In any customer account, click **Employees**.
3. Click **Add Partner Employee** to choose a Partner Employee to assign to this customer account
4. From the pop-up selection of Partner Employees, select the Partner Employee to add and then click the **Add** button.

   Figure 23: Associate Partner Employee to Customer

   The selected Partner Employee appears on the Employees page and can now sign in and edit the current Customer.

4.6

Partner Signing Up a Customer

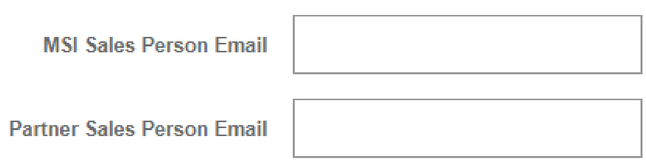
The partner needs to sign up a customer to use the portal. A sign in link is sent to the customer for proceed with the sign in steps.

When and where to use: To sign up a new customer, follow these steps:

Procedure:

1. Log in to www.waveoncloud.com
2. From the home page, click **Add Customer**.
3. To add the customer, enter all the details. For instructions to add the customer, refer to Adding a Customer on page 40
4. Do one of the following:

   Figure 24: Add Email Address- Customer Sign up

   - If you are an MSI sales person or you are a partner who is working with an MSI sales person, enter their contact email address.
   - If you are a partner sales person, enter your email address.
5. Once you fill all the fields, click **SAVE**.

4.7
Inviting Customer to Activate Account

Procedure:

1. Log in as a Partner or Partner Employee.
2. To open the account, click a customer account.
3. Click **Settings > Employees**.
4. Select an employee.
5. From the **Actions** menu, click **Send Welcome Email**.

4.8
Deactivating a Customer

Deactivating a Customer prevents all Users of that Customer from signing in and deactivates radio integration. Deactivating does not delete the Customer, maintaining all Customer information for reactivation later.

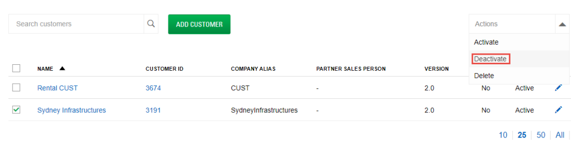
IMPORTANT: Once deactivated Users currently online are signed-out and cannot communicate. Ensure that the Customer is aware of this action before deactivation.

When and where to use: To deactivate a Customer, follow these steps:

Procedure:

1. In the Partner or Partner Employee portal page, click **Customer**.
2. A list of all existing customers assigned to your account appears.
3. Select the check box to the left of the customer to deactivate.

   Figure 25: Deactivating Customer

4. In the **Actions** menu, click **Deactivate**.

4.9
Reactivating a Customer

Reactivated Customers are immediately able to resume all previous functionality. Only Assigned Partners may reactivate a Customer.

When and where to use: To reactivate a Customer, follow these steps:

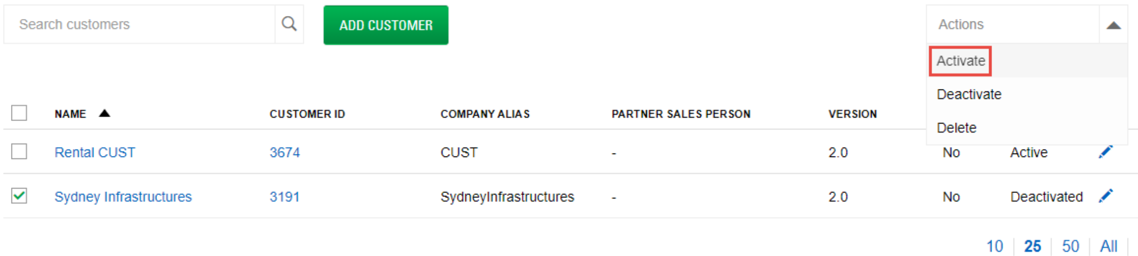
Procedure:

1. In the Partner portal page, click **Customer**.

   A list of all existing customers assigned to your account appear.

2. Under the STATUS column, identify the disabled accounts.
3. Use the check box to the left to select a disabled customer account to reactivate.
4. In the Actions menu, click **Activate**.

Figure 26: Reactivate A Customer



5 To confirm the activation, click the **OK** button. The reactivated account now appears with a Status of **Active.**

4.10
Renting out Users or WAVE PTX Devices to the Customer

A Rental Partners can rent out the Users and Devices to the Customer that the Rental Distributor assigns to the Partner. The OWNER column displays the Partner ID of the partner. The ASSOCIATED COLUMN displays Self if the Users and Devices not rented out to any customer. The following procedure is to rent out the Users to the Customer. To rent out the WAVE PTX Devices, follow the same procedure as for Users.

When and where to use: To rent out the Users to the customer, follow these steps:

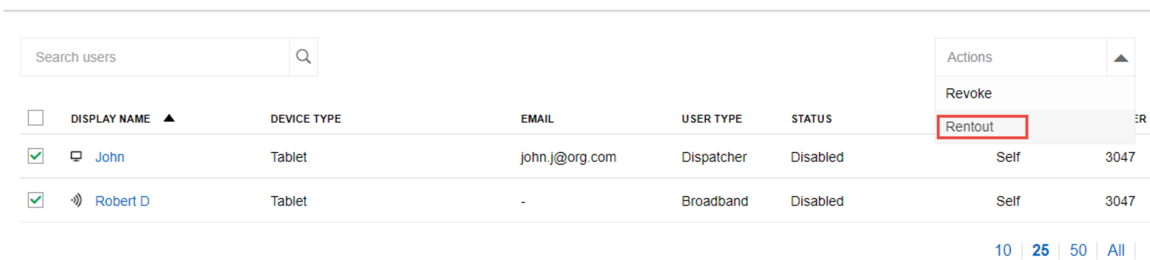
Procedure:

1 From the Partner home page, select the **Users** menu.

2 Select the check box next to the users that you want to rent out.

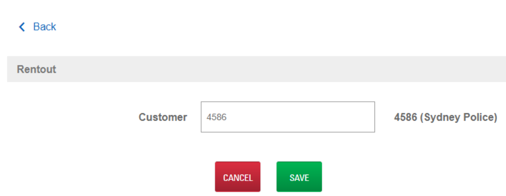
3 From the **Actions** drop-down, select **Rentout**.

Figure 27: Rentout Users or WAVE PTX Devices to Customer



4 Enter the Customer ID to which you want to rent out the users.

Figure 28: Customer ID- Rentout to Customer



5 Click **SAVE**.

6 Click **OK** to the message that displays.

7 The ASSOCIATED TO column shows the ID to which the users are rented out.

4.11
Revoking Users or WAVE PTX Devices from the Customer

Rental Partners can revoke the Users and WAVE PTX Devices that are rented out to the Customer. Rental Partner cannot revoke the Users or WAVE PTX Devices that Distributor directly rents out to the Customer and can only revoke WAVE PTX Devices that Partner rents out. Once revoked, the Users and WAVE PTX Devices associated to the Partner and the ASSOCIATED TO column shows Self. The following procedure is to revoke the WAVE PTX Devices. To revoke the Users from the WAVE PTX Devices menu, follow the same procedure.

When and where to use: To revoke Users from the Customer, follow these steps:

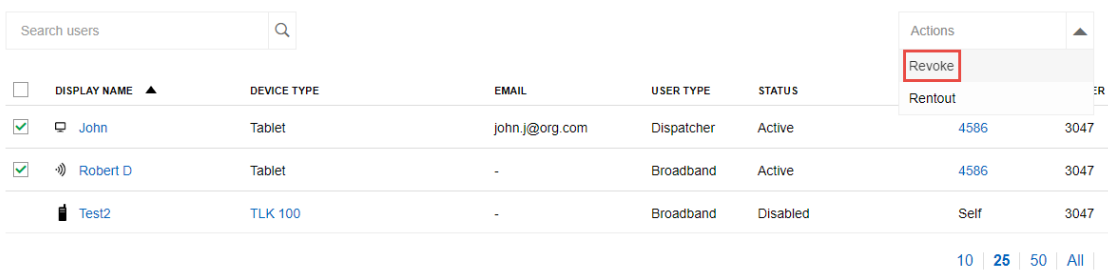
Procedure:

1 From the Partner home page, select the **Users** menu.

2 Select the check box next to the users that you want to revoke.

3 In the **Actions** menu, click **Revoke**.

Figure 29: Revoke User



4 Select **OK** to the message that displays.

4.12
Renting out Users or WAVE PTX Devices to the Partner or Customer

Rental Distributors can rent out the Users and Devices that are purchased by him to the Rental Partner or Rental Customer.

There are two ways the rental distributor can rentout the users and Devices to the end customer:

1 The rental distributor can associate the Users and Devices to the Rental Partner, then the Rental Partner can rent out these Users and Devices to the customer.

2 Rental Distributor can directly rent out the users and devices to the Customer. The following procedure is to rent out the Users to the Rental Partner or Rental Customer.

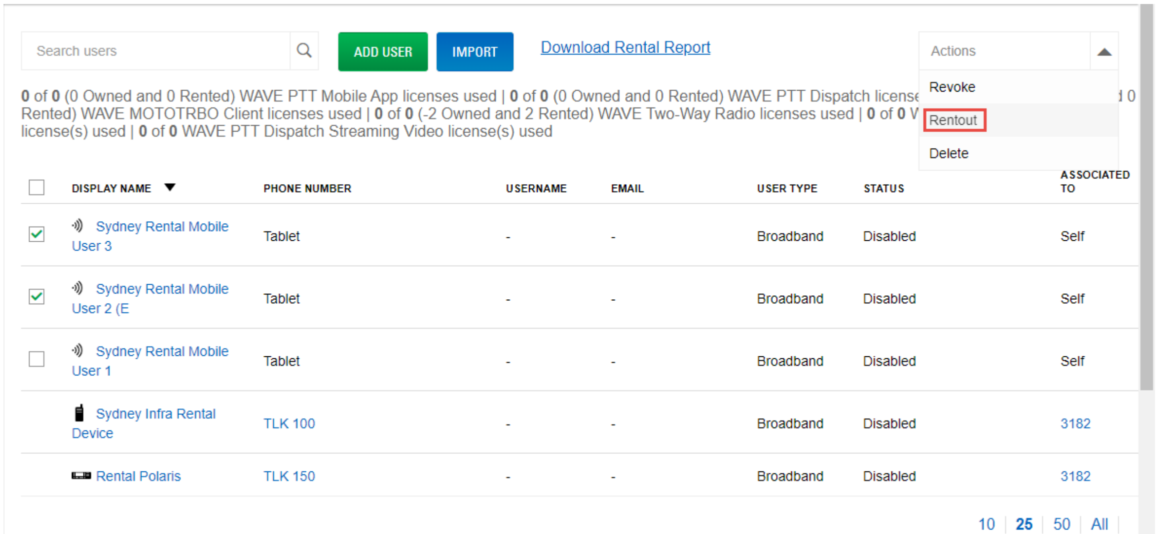
When and where to use: This procedure is used to rent out users and devices to the rental partner or Rental Customers.

Procedure:

1 From the **Rental Distributor** home page, select the **Users** menu.

2 Select the check box next to the users that you want to rent out.

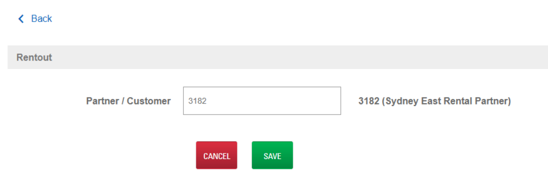
Figure 30: Rentout User and WAVE PTX Devices to Partner or Customer



3 From the **Actions** drop down, select **Rentout**.

4 Do one of the following:

Figure 31: Customer or Partner ID



5 Click **SAVE**.

6 Click **OK** to the message that displays.

The ASSOCIATED TO column shows the ID to which the users are rented out.

4.13 Revoking Users or WAVE PTX Devices from the Partner or Customer

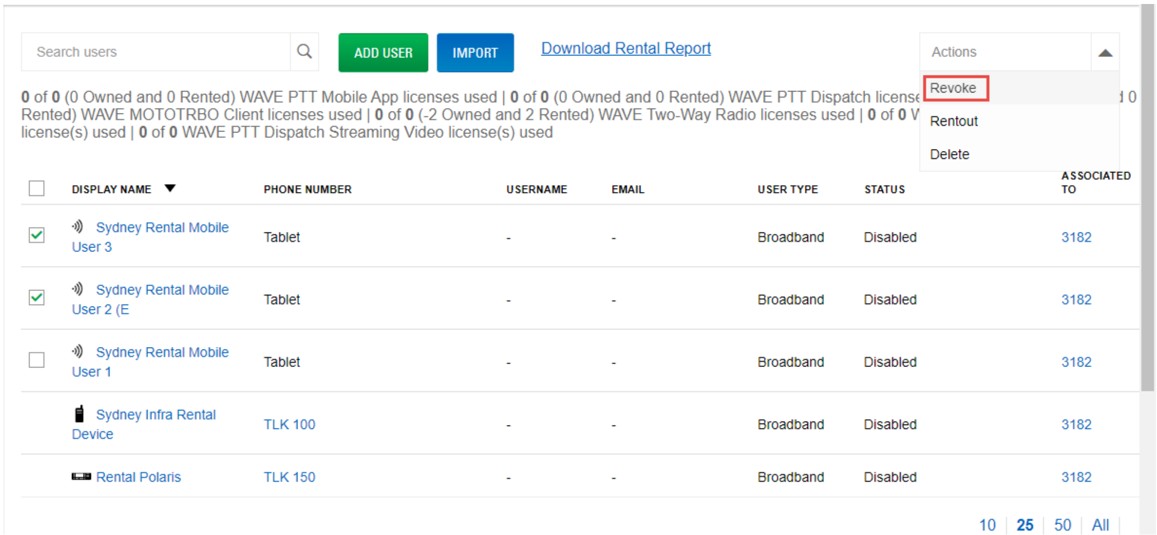
Distributor can revoke the Users and WAVE PTX Devices that are rented out to the Rental Partner and Rental Customers. Once revoked, the Users and WAVE PTX Devices associated to the distributor and the ASSOCIATED TO column shows Self.

When and where to use: To revoke Users from the Partner or Customer, follow these steps:

Procedure:

1 From the Distributor home page, select the Users menu.

Figure 32: Revoking Users or WAVE PTX Devices from the Partner or Customer



2 Select the check box next to the users that you want to revoke.

3 Select **OK** to the message that displays.

To revoke the WAVE PTX Devices, follow the same procedure as for the Users from the WAVE PTX Devices menu.

4 Note: The Rental Distributor can also revoke the users and devices by navigating to the Users Page on Partners /Customer account .

Chapter 5

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.

5.1

Adding a Mobile, Tablet, or WAVE PTX Dispatch User

You can add users manually one at a time or you can add multiple users via 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 51
- **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.

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).

5.2

Adding a MOTOTRBO User

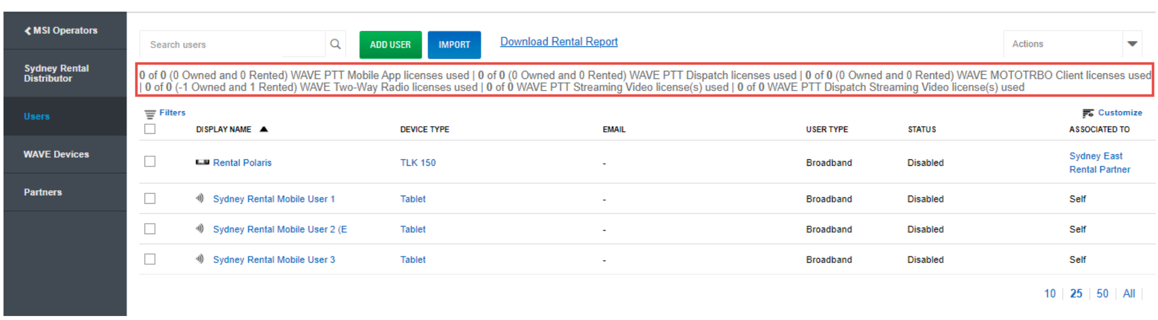
You can add users manually one at a time or you can add multiple users via a CSV file.

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 33: 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.

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.

5.3
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.

5.4
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.

5.5
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.

5.6
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.

5.7
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:

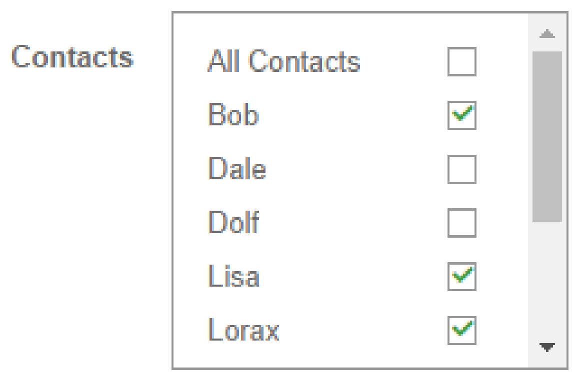
Procedure:

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 34: Adding Contacts to User



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

5.8
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.

5.9
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 old 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.

When and where to use: To generate an activation code, follow these steps:

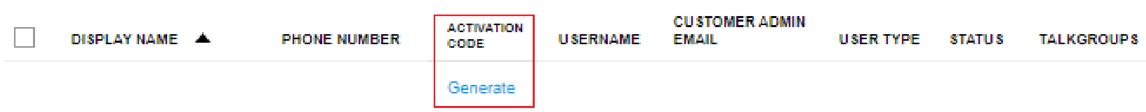
Procedure:

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 35: Generate Activation Code



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.

5.10
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:

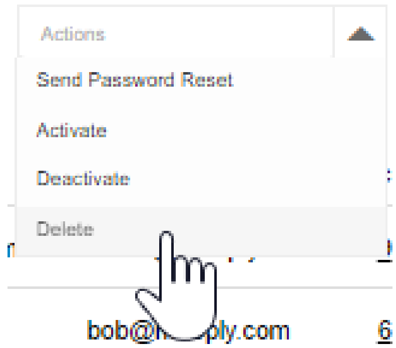
1 Click the **Users** button. The Users page appears with a list of available users (if any).

   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 36: 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.

5.11
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.

5.12
Deactivating Users

Deactivating Users prevents them from signing in to WAVE PTX but does not remove them from the database allowing you to reactivate them later. Deactivated (Disabled) WAVE PTX Users are immediately signed-out of their WAVE PTX clients. They cannot sign back in until the account is reactivated.

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

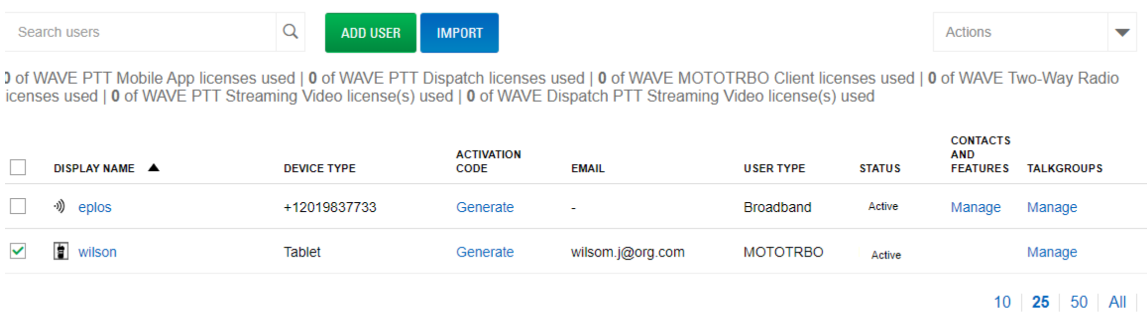
Procedure:

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

   NOTE: By default the first 25 Users appears 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 that you select only affect the Users appearing on the page.

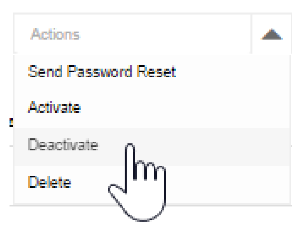
2. In the left column next to the user, click the check box to select the users to deactivate. You may select any user appearing on the page. Click the check box next to Display Name to select all visible users. In the following image, only Wilson is selected:

   Figure 37: Selected User for Deactivation



3. Once you have selected one or more users, the **Actions** menu appears at the top of the page. In the **Actions** menu, click **Deactivate**.

   Figure 38: Deactivate User



4. Click **OK** to confirm the deactivation.

5.13

Reactivating Users

When and where to use: To reactivate disabled users, follow these steps:

Procedure:

1. Select the disabled users to reactivate in the Users page.
2. In the **Actions** menu, click **Activate.**
3. Click the **OK** button to confirm the activation.

   The selected users return to Active status and may once again sign in to WAVE PTX through the WAVE PTX clients.

5.14
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 via the WAVE 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.

5.15
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.

5.16
Uploading Users with a CSV file

The Import feature of the WAVE 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 included 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 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.

5.17
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.
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.

5.18
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
A Standard Talkgroup may be used by anyone.

Broadcast
A Broadcast Talkgroup may be assigned to any user but only a Broadcaster assigned to that Talkgroup may transmit. Non Broadcast Users assigned to a Broadcast Talkgroup can listen only.

Dispatch
A Dispatcher Talkgroup must be assigned to a Dispatcher User. Dispatcher Users communicate via the WAVE Dispatch application which runs through a browser. For more information see Associate Dispatchers and Users to Talkgroups on page 98.

5.18.1
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.
5. You can choose the type of talkgroup when you creating talkgroup. Select one of the following Talkgroup type:
   - **Standard**: A Standard Talkgroup can be used by anyone.
   - **Broadcast**: A Broadcast Talkgroup can be assigned to any user but only a Broadcaster assigned to that Talkgroup can transmit. Non-Broadcast Users assigned to a Broadcast Talkgroup can listen only.
   - **Dispatcher**: A Dispatcher Talkgroup must be assigned to a Dispatch User. Dispatch Users communicate via the WAVE PTX Dispatch application which runs in a browser.
6. 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.

The new talkgroup appears on the page.

5.18.2
Importing Talkgroups

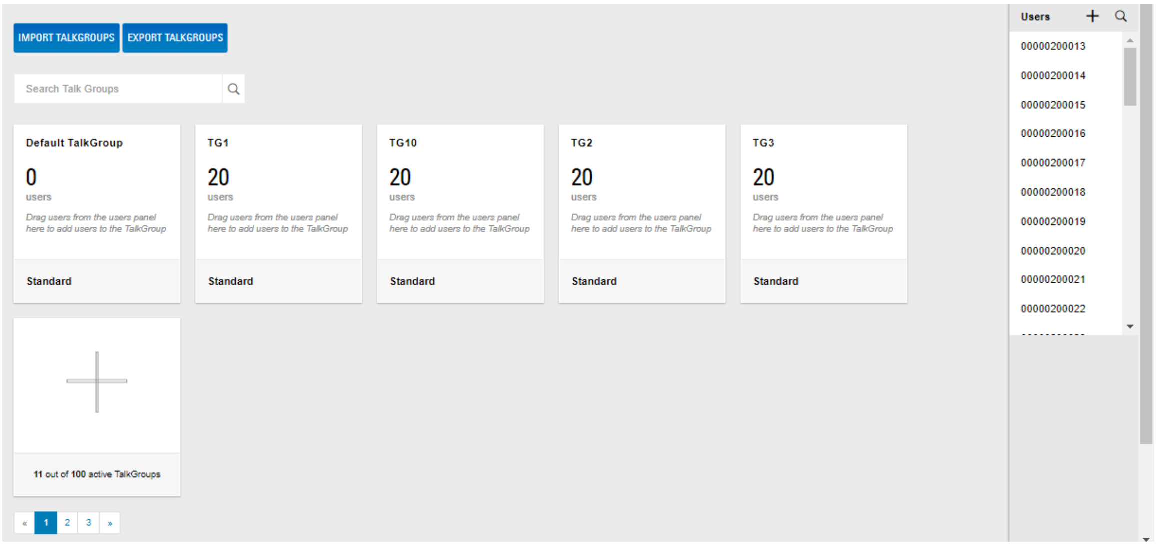
You can import talkgroups from a pre-configured excel sheet with all the details of the talkgroups. You must fill the details in the excel sheet as per the template available in the Import talkgroups window. Rental Customer supports up to 96 channels for the talkgroup positioning.

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

Procedure:

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

Figure 39: Importing Talkgroups

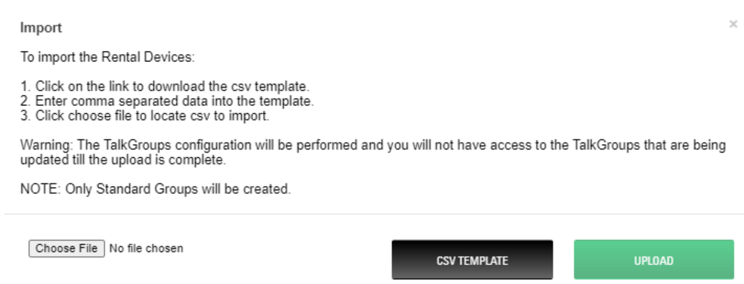


2 Click **IMPORT TALKGROUPS**. An **Import** window displays.

3 Click **CSV TEMPLATE** to download the CSV template.

4 Fill the details in the excel sheet downloaded on your local configured download folder.

Figure 40: Choose File- Import Talkgroups



5 Click **Choose File** in the **Import** window.

6 Click the **UPLOAD** to import the talkgroups.

5.18.3 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:

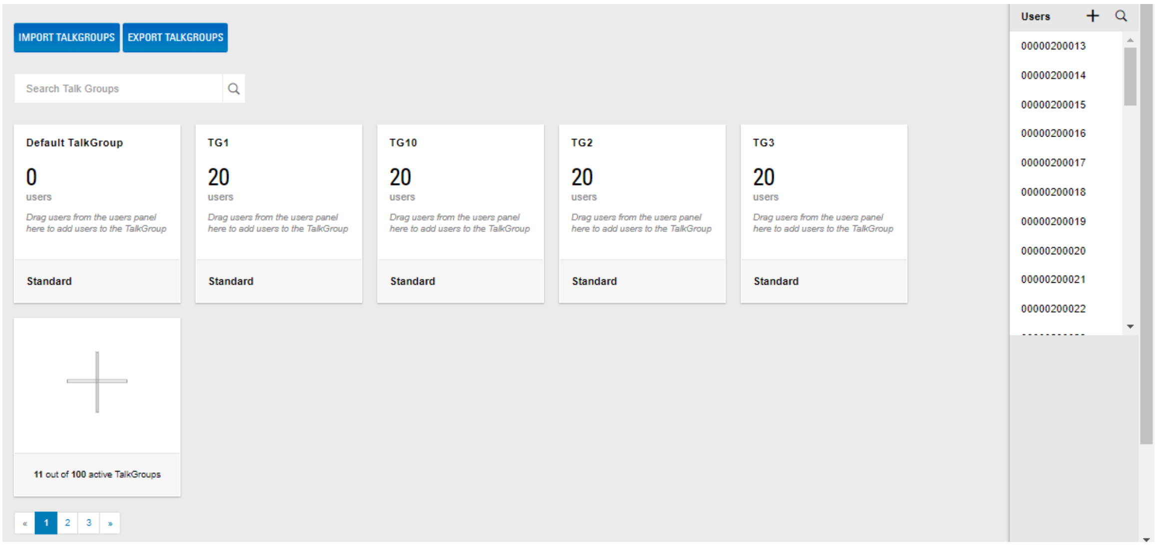
Procedure:

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 41: Export Talkgroups



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

5.18.4

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 client displays that client has no Talkgroups available and the User remains signed in. Radio Subscribers removed from a Talkgroup continues to receive and transmit with other radio units, but cannot receive or transmit to Broadband clients.

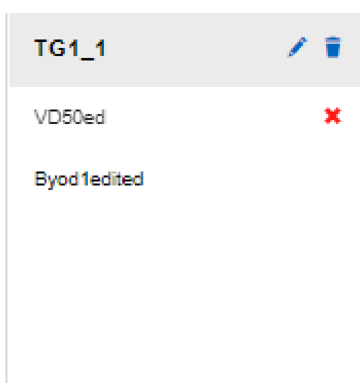
When and where to use: To remove a single User from a Talkgroup one at a time, follow these steps:

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 42: 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.

5.18.5
Removing Multiple Users from a Talkgroup

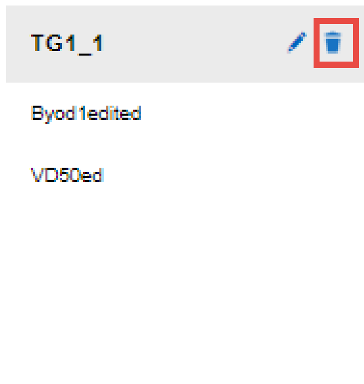
When and where to use: To remove multiple Users from a Talkgroup, follow these steps:

Procedure:

1 Click **Talkgroups**.

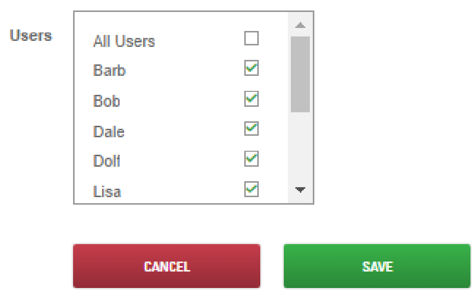
2 In the Talkgroups screen, mouse-over an existing Talkgroup and click the **Edit** icon. The editing page for the Talkgroup opens.

Figure 43: 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 44: Select Users to Remove



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

5.18.6
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:

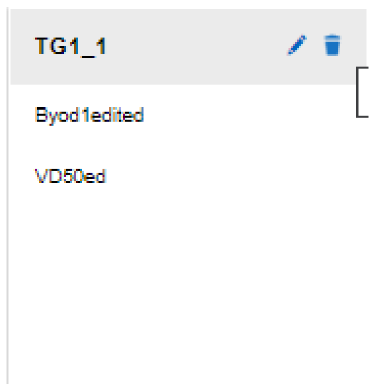
Procedure:

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 45: Deleting a Talkgroup

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

   The Talkgroup is removed from the Talkgroups page and deleted.

5.19

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 6

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 Manually Adding a WAVE PTX Device on page 75

6.1

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

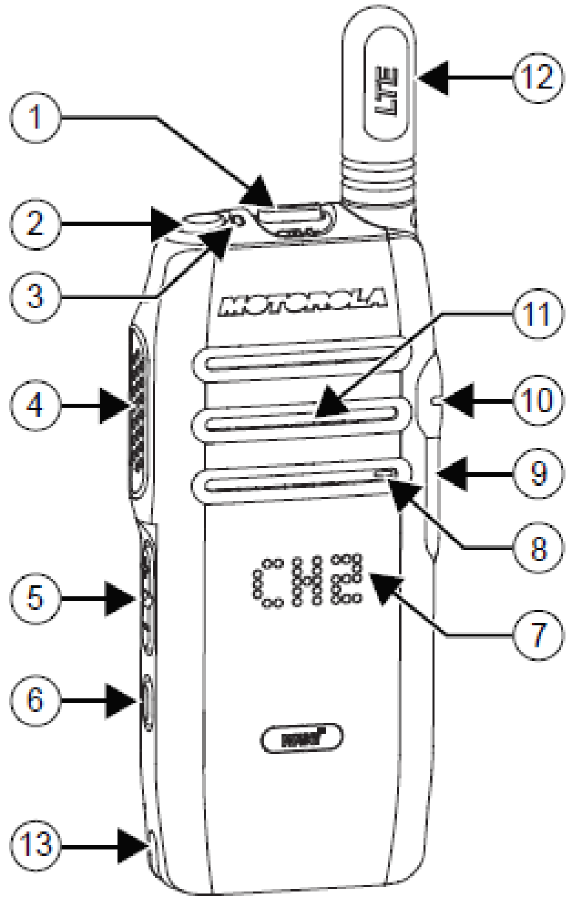
WAVE PTX Devices Ports

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)

6.2 Using a WAVE PTX Device

Figure 46: 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

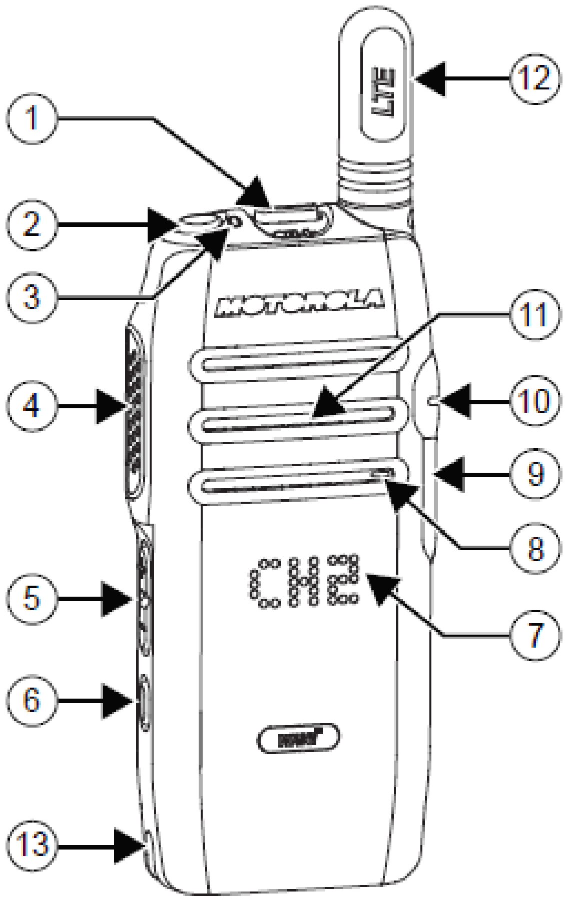
13 Charging Contacts

6.2.1
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 47: TLK100



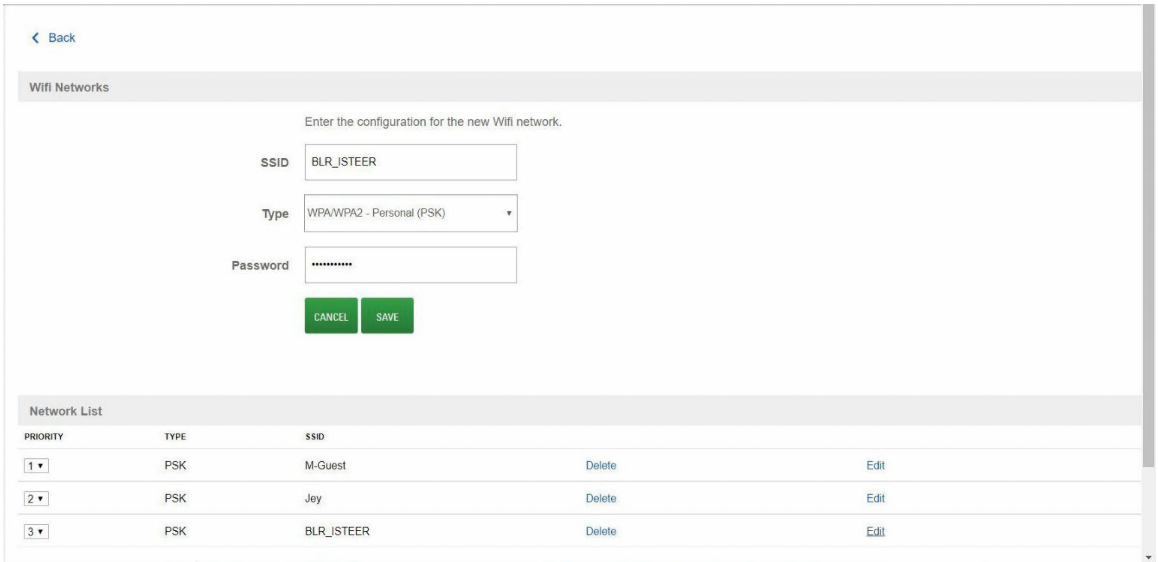
6.2.2
Configuring the Wi-Fi

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 48: 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 TLK 100 device Wi-Fi.

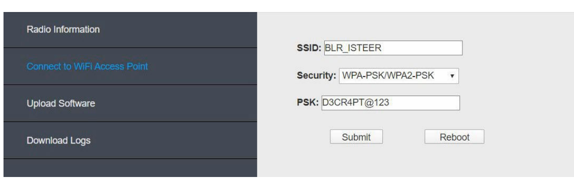
8 Enter the last eight digits of device serial number as password.

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 49: Verify Configured Wi-Fi



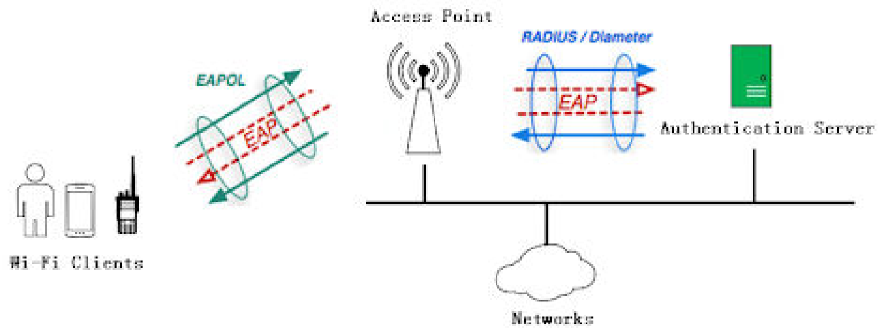
12 Click **OK** on the message that displays.

13 Reboot the device and tap the power button three times to show the Wi-Fi connection.

6.2.3 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 50: 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.

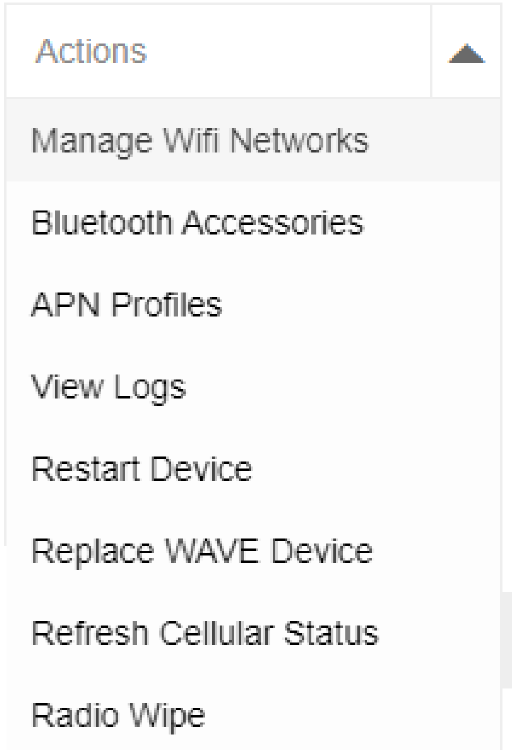
For this configuration of the Wi-Fi, a certificate management server is necessary which is based on Simple Certificate Enrollment Protocol (SCEP) to handle Certificate Enrollment, Renewal and Rollover. The radio automatically renews the certificate before they expire. The configurations set up in the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

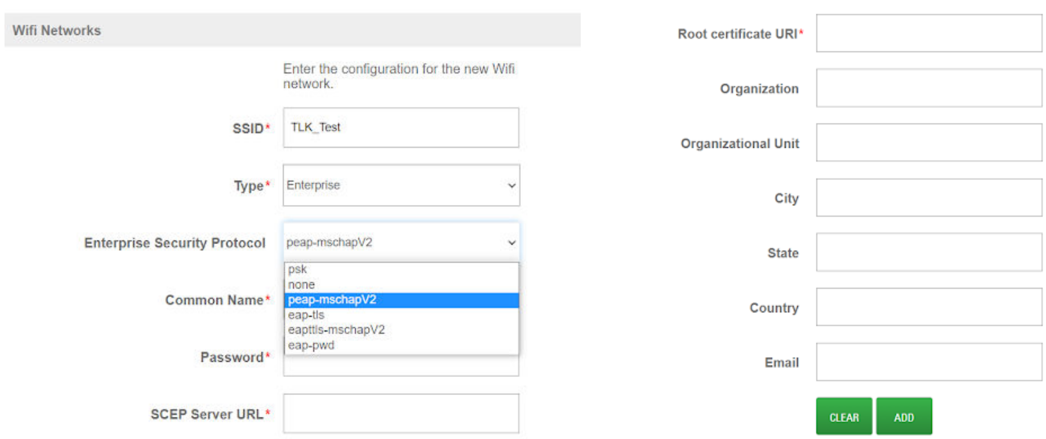
Figure 51: Actions Drop-down



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 52: Configuration for Wi-Fi Network



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.

6.2.4
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.

6.2.4.1
Changing Talkgroups

The TLK 100 supports a list of Talkgroups from WAVE. Use the Channel Rocker to select the Talkgroups on the TLK 100 device display.

6.2.5
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 TLK 100 returns to Talkgroup call mode.

6.2.6

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

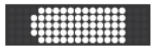
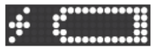
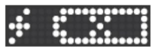
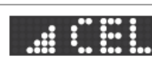
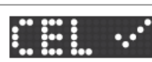
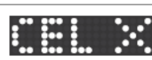
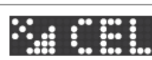
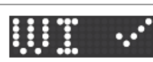
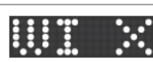
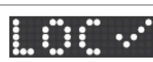
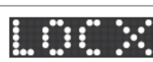
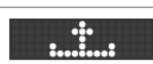
Procedure:

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.

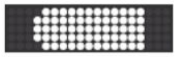
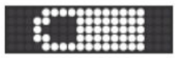
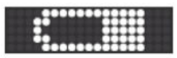
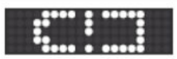
6.2.7
Understanding Status Indicators

Figure 53: 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]

6.2.8 Understanding Battery Indicators

Figure 54: Understanding Battery Indicator

Icon	LED Indication	Voice Announcement	Description
	Solid green	Battery high	80%–100% capacity
	Solid amber	Battery medium	60%–80% capacity
	Solid amber	Battery medium	25%–60% capacity
	Blinking red	Battery low	5%–25% capacity
	Blinking red	Battery low	Less than 5% capacity

6.3 Manually Adding a WAVE PTX Device

When and where to use: To manually add a WAVE PTX Device, follow these steps:

Procedure:

1. 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 S/N numbers.

Figure 55: 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.

2. Log in to WAVE PTX using your Customer account credentials.
3. In the left navigation frame, click the **WAVE PTX Devices** menu.
4. The WAVE PTX Devices page opens displaying all registered WAVE PTX Devices. Initially, this page is empty.
5. Click the **Register Device** button.
6. The WAVE PTX Devices Registration Wizard opens.

7 In the IMEI field, enter the IMEI value of the WAVE device to register.

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

9 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.

10 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.

11 The page displays the details entered and type supported on the device.

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

13 Click **NEXT**.

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

15 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.

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

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

18 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.

19 Click **NEXT**.

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

6.4 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.

6.4.1 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.

6.4.2
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 displays for the device in the Display name field.
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.

6.4.3
Changing Nitro Data Plan

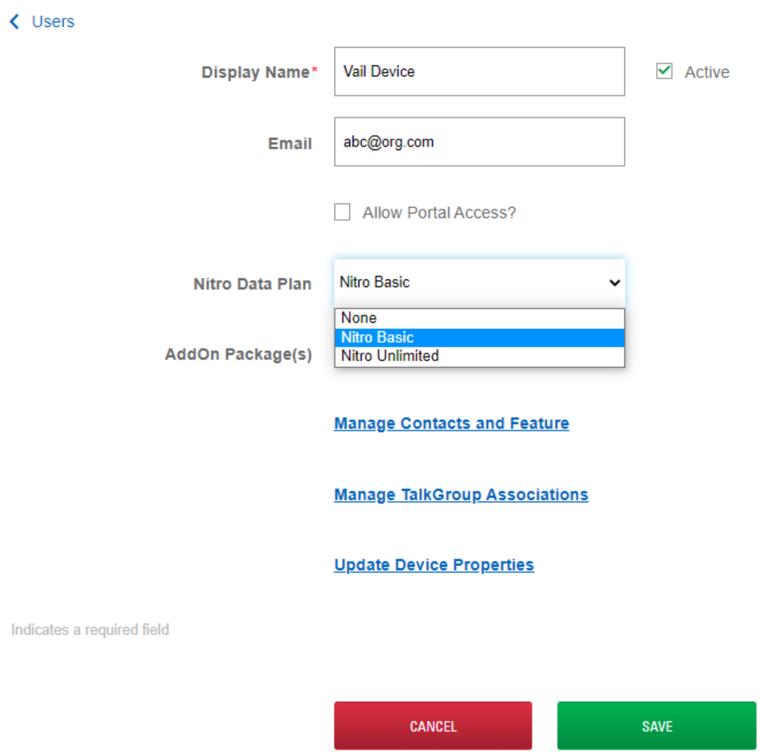
You can change the Nitro Data plan of the EVOLVE devices anytime when using the devices. The plan changes show in the User details, Subscription, and Transactions pages of the EVOLVE devices.

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 56: Changing Nitro Data Plan



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

3 Click **Save**.

6.4.4
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.

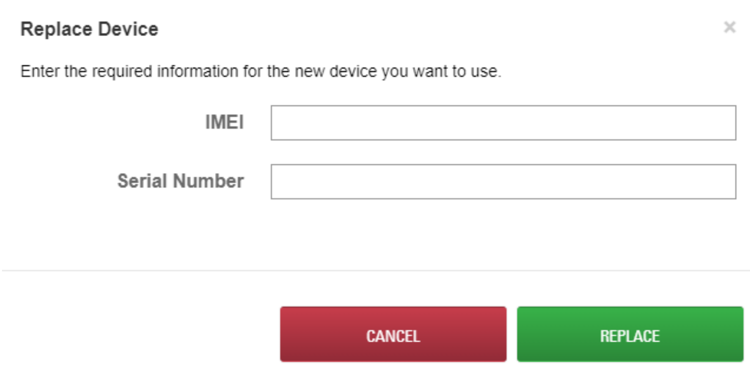
When and where to use:
To replace the EVOLVE device, follow these steps:

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 57: Replacing an EVOLVE Device



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

6.4.5 Editing an EVOLVE Device

Once you have added an EVOLVE device to the WAVE 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 activation code that the user needs to enter on their 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 wifi, 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.

6.5
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.

6.5.1
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:

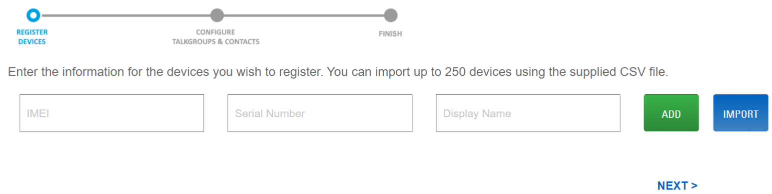
1. Log in to WAVE PTX portal using your Customer account credentials.
2. In the left navigation frame, the Users menu option is now available.
3. Click the **Users** menu. The Users page opens displaying all registered users. Initially, this page is empty.

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 58: Adding Ion Device



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.

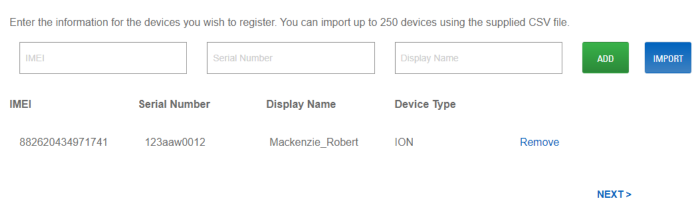
NOTE: The device IMEI can be obtained from device **Settings** > **About device**. Serial number can be obtained from **Settings** > **About device** > **Model**.

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 59: Added Ion Device



10 The page displays the details entered and type supported on the device.

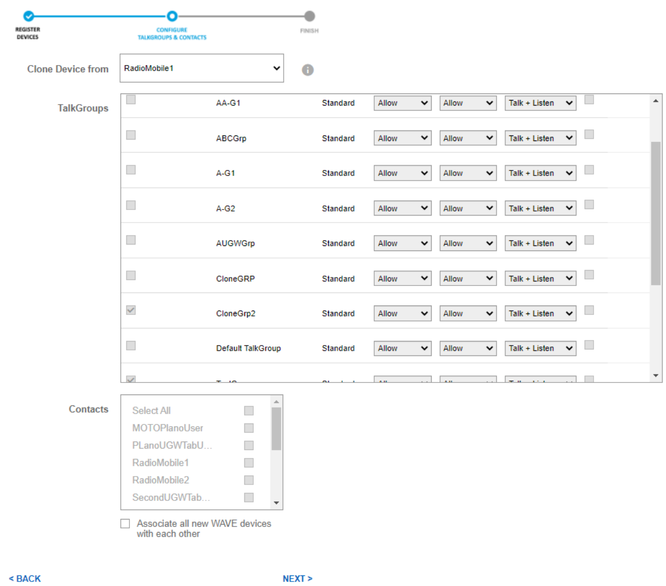
11 Click **Remove** if you want to delete the entered details and add another device.

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 configures these zones and priority from the Manage (Central Admin tool) under the Users menu option.

Figure 60: Configure Talkgroups and Contacts



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.

6.5.2
Associate an Ion device to Radio System

To associate a Radio System to an Ion device, refer to Add a Radio System on page 112

6.5.3
Clone an Ion Device

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

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.

6.5.3.1
Cloning an Ion

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.

6.6
Cloning a WAVE PTX Device

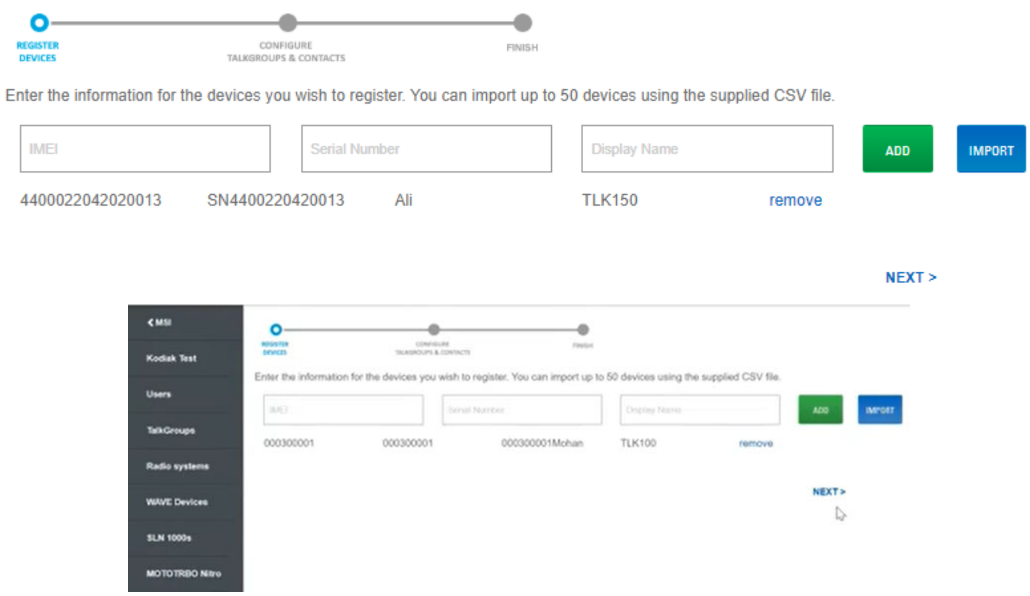
Cloning, at the time of device registration, allows you to copy the details from an existing registered WAVE PTX device. All configuration details of the template device are copied to a new device. The “Cloning Device from” field is only visible when you have already registered a minimum of two WAVE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

When and where to use:
To clone a device from the template, follow these steps:

Procedure:

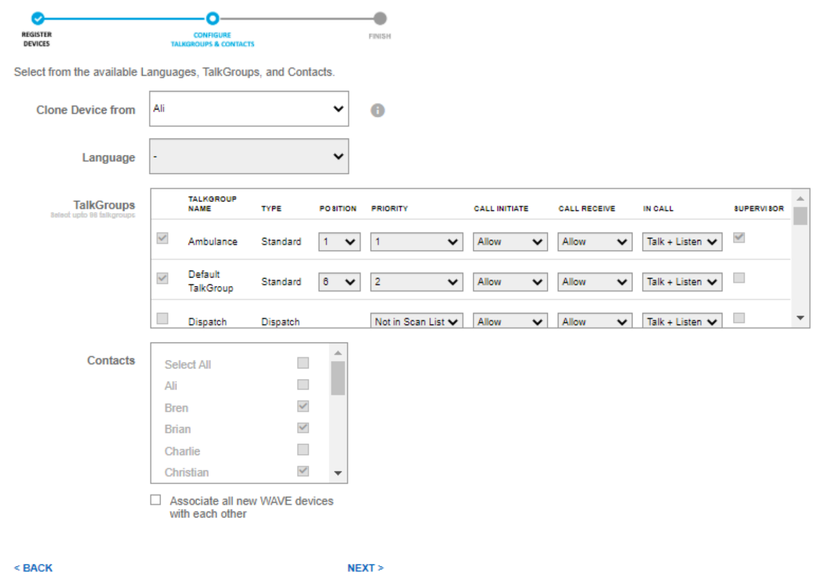
1 After you add a device in the Register Device page, Click **NEXT**.

Figure 61: Adding WAVE PTX Device



2 From the Clone Device from drop-down, select the template device 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 62: Configure Talkgroups and Contacts



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.

c Click **Next**

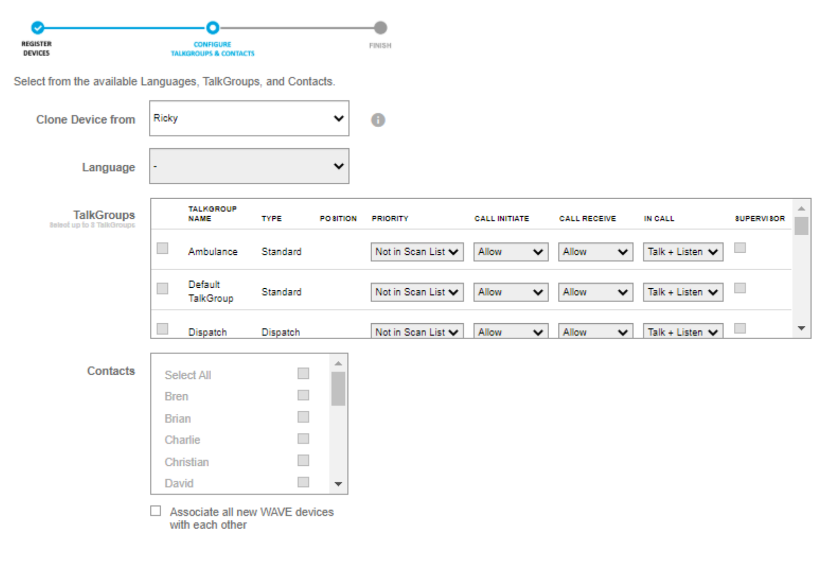
d Review the details and click **Submit**. A confirmation message displays.

e Click **OK**.

f Click **View My Devices** to go to the device list.

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

Figure 63: Configure Talkgroups and Contacts



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.
c. Click **Next**.
d. Review the details and click **Submit**. A confirmation message displays.

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

e. Click **OK**.
f. Click **View My Devices** to go to the device list.

6.7

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.

6.8

Actions Available for WAVE PTX Devices

WAVE PTX Portal admin can do following actions on WAVE PTX Devices from the Customer page.

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

Procedure:

1. Log in to the WAVE PTX Portal with your Customer 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. 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 set a Bluetooth name and pin for the devices for connecting with the network
   - **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.
- **Enable 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 that deleting the WAVE PTX Devices also removes the license from the account.

6.9
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.

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.
4. The Device Information page for the selected WAVE PTX opens. Click the gray heading areas to switch between Device Info and Settings.
5. Device Information options include the following:
   - **Device Type**
     Displays the device type that is TLK 100 or TLK 150.
   - **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**
  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.
- **Hardware ID**
- **Radio Alias**
  It is the alternate name of the radio device.

6 Settings options include the following:

- **Language**
  Set the language to display on the device.
- **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 will become 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 8 alphanumeric of the radio device serial number.
- **Voice Announcements**
  Toggles the reception of Voice Announcements by the WAVE PTX 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.
- **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 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.
- **Auto PowerDown Timer**
  When ignition sense is configured, Auto PowerDown is the time in minutes to power-off the WAVE PTX after the vehicle’s ignition is turned off. This helps delivery vehicles and other users who frequently turn off the ignition but want to keep the WAVE PTX running.
- **PowerOn Configuration**
  Set PowerOn Configuration to “Power Button or Ignition” when the WAVE PTX is wired for ignition sense.

7 Menu Visibility options include the following:

- **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.
- **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.
- **Speaker**
  Toggles the speaker of the WAVE PTX to on or off.

8. 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.
9. 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.

6.10 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 Devices user to edit.

> **NOTE:** WAVE PTX Devices users are marked with a small radio icon. Radio units have a larger radio icon and Broadband units use a WAVE PTX icon.

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.

Email
Enter the email address of this user for the mail communications.

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
In Contacts, select the Contacts that this WAVE PTX Devices user can Privately Call.

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.

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

6.11

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.

When and where to use: To import WAVE PTX Devices from a spreadsheet, follow these steps:

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 TLK 100/TLK 150** button.

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 using Microsoft Excel.

7 Edit the file to add the IMEI, Serial Number, and Display Name for all the WAVE PTX devices you wish to register.

   a 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 S/N numbers.

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

   b In the IMEI field, enter the IMEI value of the WAVE PTX Devices to register.

   c In the Serial Number field, enter the S/N of the WAVE PTX Devices to register.

   d 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.

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

6.12
Managing Talkgroups

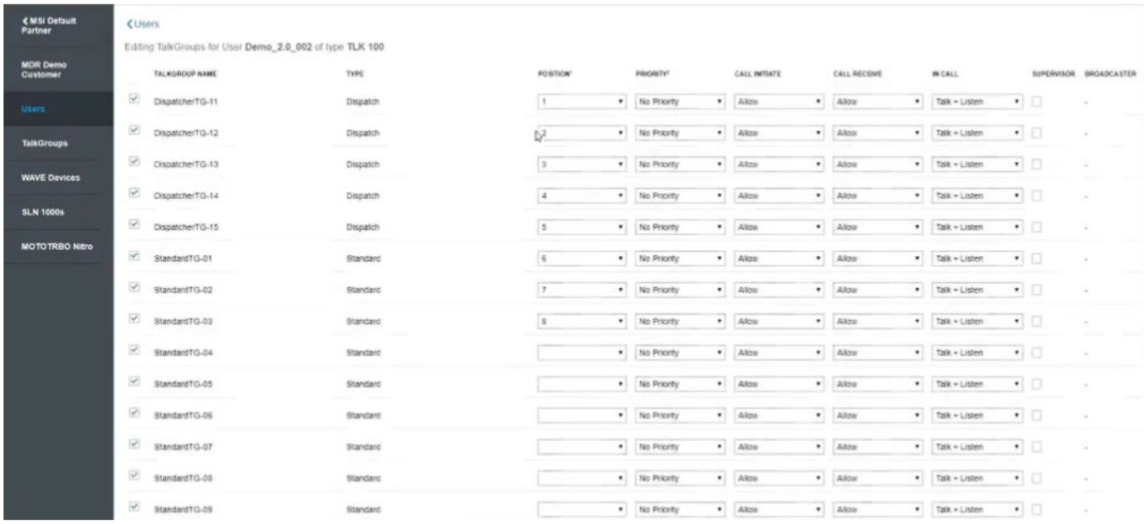
You can manage the talkgroup for the 2.0 and 3.0 software devices from the WOC portal. Depending on the software version, you can either configure the talkgroups from the Talkgroups or Contacts and Features under the **Users** menu.

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 64: Manage Talkgroups Configurations

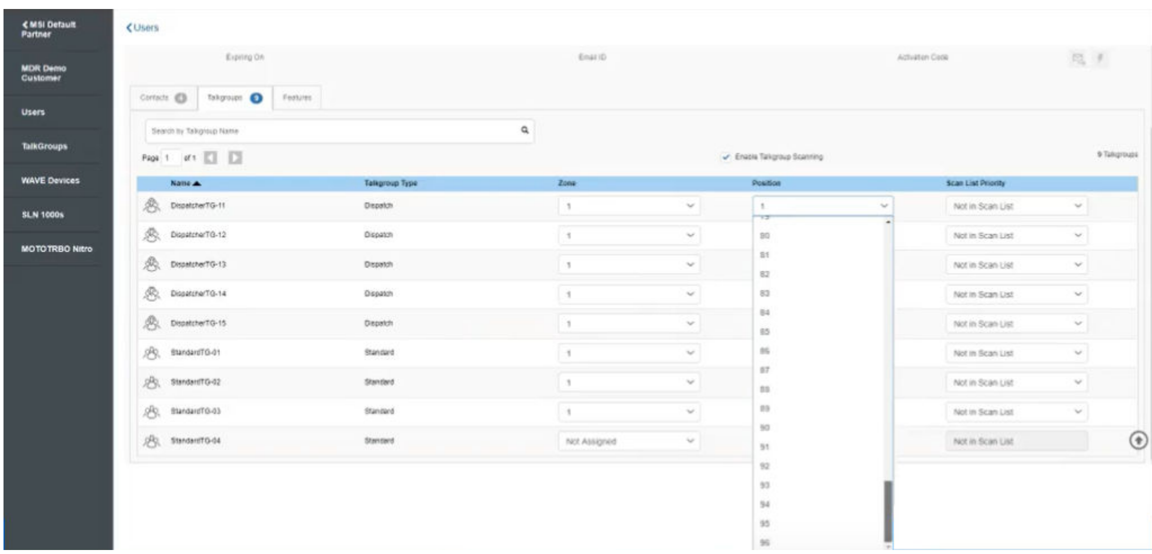


a From the **Users** menu, click **Manage** in the Talkgroup column.

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 65: Manage Talkgroups Configurations



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.

6.13

Cloning Devices – Post Device Registration

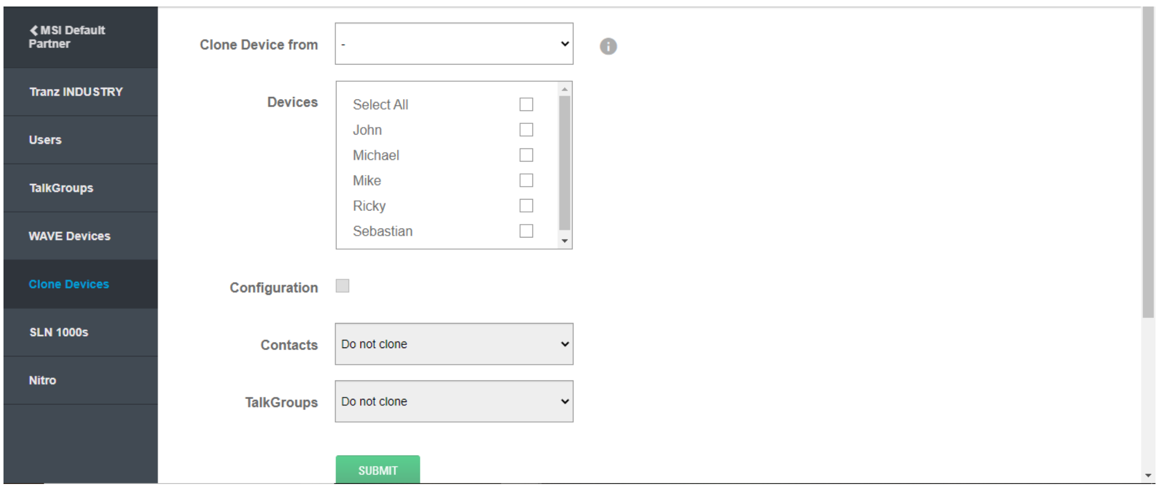
The previous device cloning procedure is applicable only at the time of registering a new device. The Post Registration Cloning, allows you to copy the contacts, talkgroups, or configuration (device parameters) after the device registration. You can copy the configuration details of the source device without selecting the contacts and talkgroups or can copy only the contacts and talkgroups to the cloning device without selecting the source device. The source device in the following is the device from which you want to copy the details. The following procedure is applicable for TLK 100, TLK 150, EVOLVE, and SLN1000 devices.

When and where to use: To copy the details from a source device post-registration, follow these steps:

Procedure:

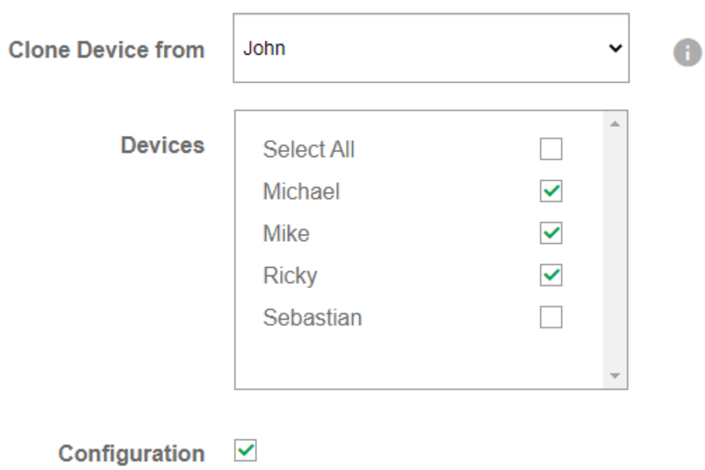
1. From the Customer menu, click **Clone Devices.**
2. From the Clone Device from the drop-down, select the source device from which you want to copy the details.

   Figure 66: Cloning Home Page

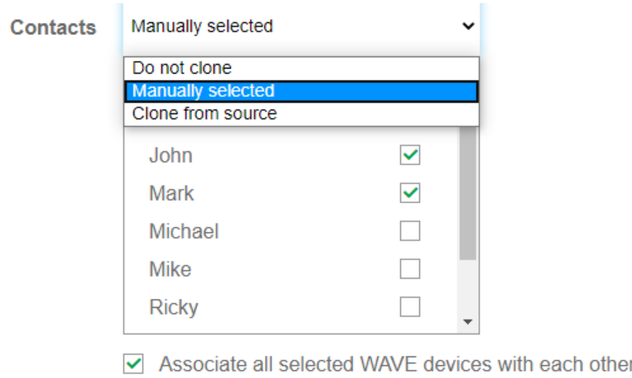
3. From the Devices, select the check boxes next to the devices to which you want to copy the details

   Figure 67: Clone Devices and Configurations

4. If you want to copy the device parameters from the source device, then select the **Configuration** check box.

Figure 68: Clone Contacts



5 From the Contacts drop-down, do one of the following:

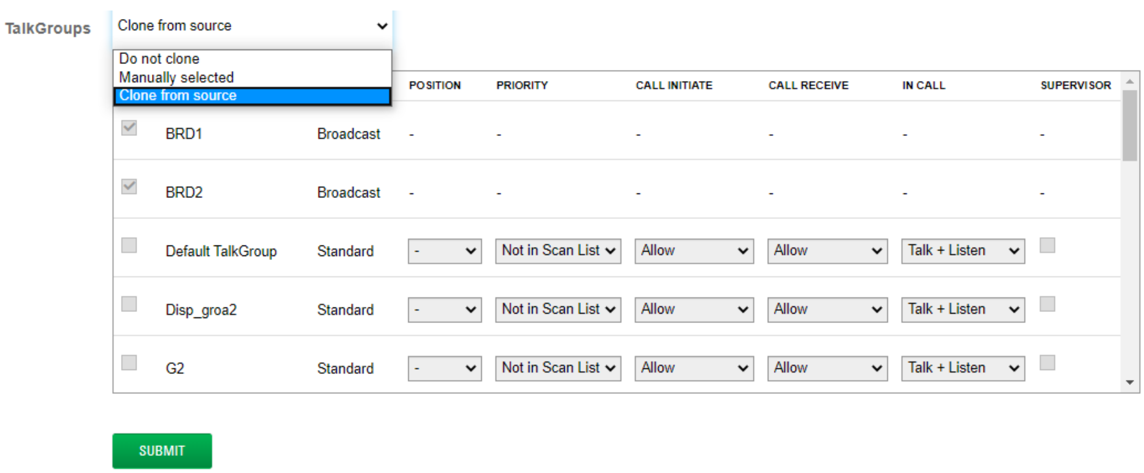
   a If you do not want to copy the contacts to the clone device, then select **Do not clone**.

   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 from the Clone Device from.

6 If you want to link all the selected WAVE PTX devices with each other, then select the **Associate all selected WAVE PTX devices with each other** check box.

Figure 69: Clone Talkgroups



7 From the Talkgroups drop-down, do one of the following:

   a If you do not want copy the talkgroups to the clone device then 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 from the Clone Device from.

8 Click **OK** to the confirmation message that displays.

9 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 92 to view and manage the talkgroups for the WAVE PTX 2.0 and 3.0 devices.

Chapter 7

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.

7.1

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.

7.2

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.

7.3

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.

7.4
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.

7.5
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.

7.6
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.

7.7
Associate Dispatchers and Users to Talkgroups

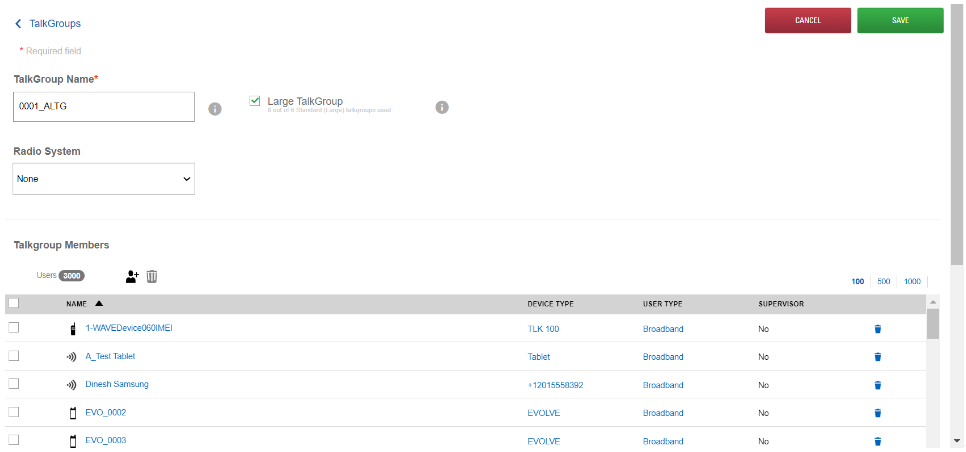
Once you create Dispatch talkgroups, you must associate the talkgroups to the Dispatch to which you want to use the talkgroups for communication.

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 70: Associate Users to Talkgroup



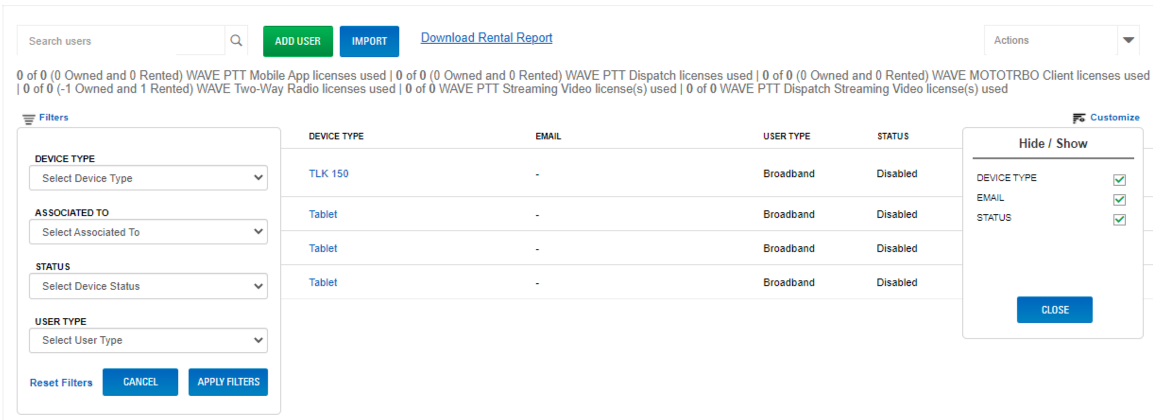
3 You must have at least one Dispatcher in a Dispatchers Talkgroups. A talkgroup must have minimum two users assigned to the talkgroup.

Chapter 8

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 71: 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.

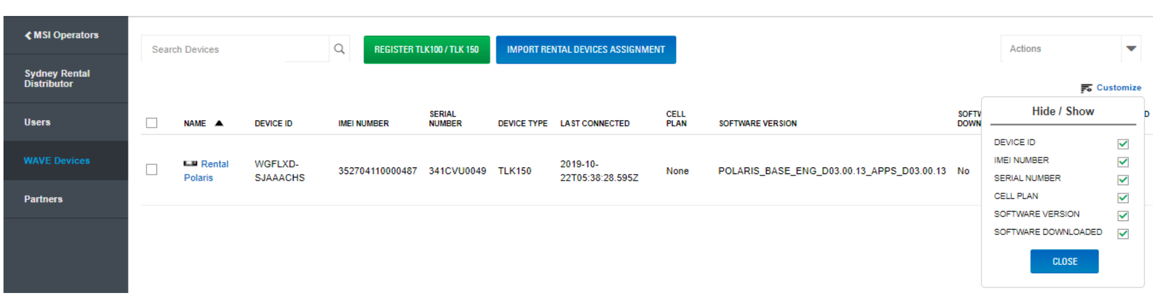
User Type
Allows you to select and view the user type that is, Broadband, Dispatcher, or MOTOTRBO.

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 72: 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 9

Downloading the WAVE PTX Application

You can obtain the client from the iOS or Android App Stores. Deleting the old WAVE PTX Mobile Communicator is not necessary, however; to avoid confusion it is advised that users delete the old 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 10

Radio Integration – Quick Start

The instructions in this section assume that you have already connected the WAVE PTX Gateway hardware. If you have not done so, then see the WAVE PTX Gateway Setup on page 132 topic. The instructions in this section also assume that you have already followed the Broadband Quick Start section to establish Customers, Users, and Talkgroups. If you have not done so, then see the Quick Start – Broadband topic.

If you are using Capacity Plus Single-Site or Capacity Plus Multi-Site, then open the codeplug for your repeater and record the required parameters using the table below. You can use this information later when configuring the WAVE PTX Gateway:

Parameter	Setting
Master IP Address	
Master UDP Port	
Gateway LE ID	
Gateway LE Port	
Authentication Key	
Gateway CAI ID	
Gateway CAI Individual Network	
Gateway CAI Group Network ID	
DDMS Server IP Address	
DDMS Watcher Port	

10.1

Obtain the Required Radio Information

If you are using Capacity Plus Single-Site or Capacity Plus Multi-Site then open the code plug for your repeater and record the required parameters using the following table. You can use following information later when configuring the WAVE PTX Gateway:

Table 1: Repeater Parameters

Parameter	Setting
Master IP Address	
Master UDP Port	
Gateway LE ID	
Gateway LE Port	
Authentication Key	
Gateway CAI ID	
Gateway CAI Individual Network	

Parameter	Setting
Gateway CAI Group Network ID	
DDMS Server IP Address	
DDMS Watcher Port	

NOTE: If you are using a Capacity Plus system, refer to Capacity Plus Radio System Parameters on page 119 for tips on locating the required parameters.

10.2
Registering a Capacity Plus Radio System

If you are integrating with a Capacity Plus Single-Site or Multi-Site Radio System, use the following instructions.

IMPORTANT: This procedure is specific to Capacity Plus Single-Site and Capacity Plus Multi-Site. If you are creating a Capacity Max Radio System, then refer to Creating a Capacity Max Radio System on page 121

When and where to use: To register a Capacity Plus Radio System, follow these steps:

Procedure:

1. In the Customers page, click **Radio System**. The Radio System page opens. Initially the page is be blank.
2. Click the **Large Plus** symbol in the white rectangle to add a radio system. The WAVE PTX Gateway Wizard opens.
3. Enter the following information:
   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.
   d. Click **NEXT**. The Create Radio page opens.
4. 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.
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.

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.

6 Click **NEXT**. The **Connect to Gateway** page opens. Complete the following steps.

a In the **Master Repeater IP**, enter the Master Repeater IP Address of your Radio System.

b In the **Master Repeater UDP Port**, enter the Master 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.

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.

7 Click **NEXT**. The **CONFIGURE TALKGROUPS** page opens. Optionally, select existing Talkgroups to associate with this Radio System or create new Talkgroups to associate with this Radio System.

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

10.3

Creating a Capacity Max Radio System

When and where to use: To integrate WAVE PTX with the Radio System, create a Capacity Max radio system on the WAVE PTX side as follows:

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 Enter the following information:

  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.

  d Click **NEXT**. The Create Radio page opens.

4 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**.

5 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.

6 Complete the following instructions.

  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.
7. 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.
8. Click the **NEXT** button. The CONNECT to GATEWAY page opens. Complete the following steps:
   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.
9. Click **NEXT**. The CONFIGURE TALKGROUPS page opens. Optionally, select existing Talkgroups to associate with this Radio System or create new Talkgroups to associate with this Radio System. You can also do this later. Refer to Associating a Radio System with a Talkgroup on page 125 page for instructions.
10. Click **NEXT**. The CONFIGURE USERS page opens. Optionally, select existing Users to associate with this Radio System or create new Users to associate with this Radio System. Users that you select or create on this page associates with the Radio System. You need to provide users with a Unit ID.
   a In the Capacity Max system, you must create a new Device for each Subscriber in the WAVE PTX System. If you do not, then Radio Units cannot initiate Private Calls with Broadband WAVE PTX Users.
   b Create a 'Console' Device for each WAVE PTX Subscriber. Use the Device ID for each Device to enter the Unit ID for each WAVE PTX Subscriber that is capable of making Private Calls with Capacity Max Radio Units.
11. Click **NEXT**. The FINISH page opens and your Radio System is ready for management. Click the **GO TO HOME DASHBOARD** button.

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.

   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.

10.5 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.

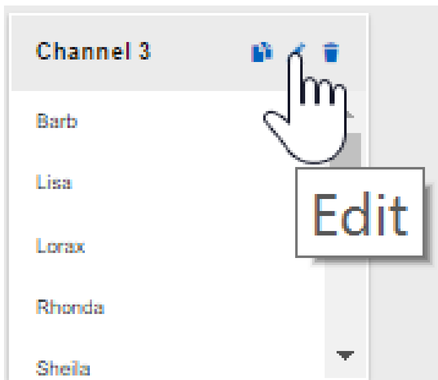
NOTE: The following procedure assumes you have already created a Radio System to associate with a talkgroup. If you have not created a Radio System then refer to Add a Radio System on page 112

When and where to use: To associate a Radio System with a talkgroup, follow these steps:

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.

   Figure 73: Edit Talkgroup

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. 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 123
4. Click the **SAVE** button.

10.6 Creating Radio Subscribers

When and where to use: To create Radio subscribers, follow these steps:

Procedure:

Hover over the radio system to add Subscriber to and then click the green check mark to edit the radio system.

10.7
Associating Talkgroups with a Radio Gateway

When and where to use: To associate talkgroups with a Radio System, follow these steps:

Procedure:

1. In a **Radio System** box, click **Associate a Gateway**. The Gateway Connection Info box appears. The Gateway Connection Info box will differ depending on the radio system you selected.
2. If you selected **Capacity Max** as your radio system then complete the following information. If you selected a different radio system, then skip to 3 in this procedure.
   a. In the **MNIS Voice Manager IP Address**, enter the IP Address for the MNIS Voice Manager.
   b. In the **MNIS Voice Manager IP Port**, enter the port for the MNIS Voice Manager.
   c. Click **CREATE** an go to step step 4.
3. If you selected **Capacity Plus Single-Site** or **Capacity Plus Multi-Site**, then complete the following information. If you selected a different radio system then go to 4 in this procedure.
   a. In the **Master IP**, enter the Master IP address of your radio system.
   b. In the **Master UDP Port**, enter the Master 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**, 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 **CAI Group Network**, enter the CAI Group Network value from the radio system.
   h. 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.
   i. In the **DDMS Watcher Port**, enter the receiving network port for the LCP/Cap Plus presence notifier. This is only required if NAI Data is enabled on the radio system. If your LCP/Cap Plus system does not use NAI Data, then leave this field blank.
   j. Click **CREATE**.
4. Click the **Associate a Gateway** box.
5. In the **Select a gateway list**, select a Gateway from those you created earlier in Step 3: Create a WAVE PTX Gateway.
6. Click the **Green Check** icon. The selected Gateway is now associated with the Radio System.

10.8
Testing Radio Transmission

When and where to use:

To test the radio transmission, follow these steps:

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 11

Add a Radio System

There are several steps to adding a radio system.

First obtain a WAVE PTX Gateway. You can do so by subscribing to WAVE PTX with radio integration. You are asked to select a Partner during sign-up. The Partner contacts you and schedule a date and time to come to your location and install the WAVE PTX Gateway. The instructions for installing the Gateway are located in the Set Up Network for LMR Integration on page 131 topic. In general, your Partner handles installation for you.

After setting up your WAVE PTX Hardware, set up your Broadband clients first. The instructions for quickly setting up Talkgroups and Users for your WAVE PTX account can be found in the Quick Start – Broadband topic.

Once you have the Broadband communication set up and working, follow the instructions in the Radio Integration – Quick Start on page 104 topic to create a WAVE PTX radio system for your supported Motorola Radio System and integrate communication with Talkgroups.

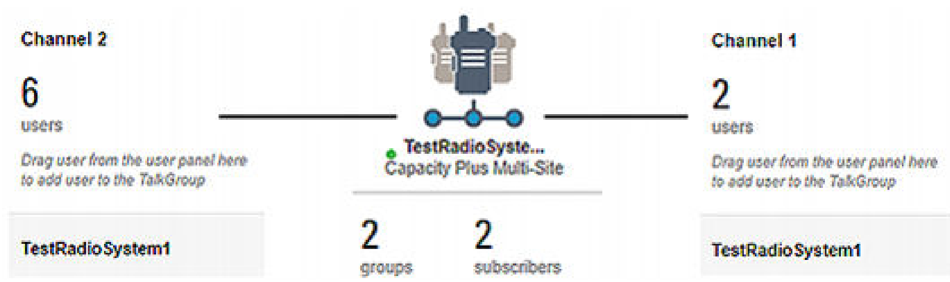
After, completing these instructions you have a working WAVE PTX system. Once completed, you can add or modify Talkgroups, Subscribers, Users, or add more radio systems.

Chapter 12

Adding Radio Subscribers

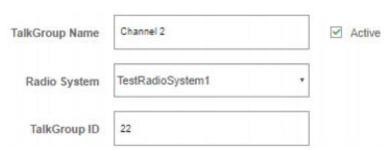
The Subscribers exist to associate a radio unit ID with a WAVE PTX Radio System. This association allows Private Calls between Broadband and Radios and also allows the User Alias (Display Name) to appear to Broadband clients when the radio unit transmits.
Radio system Subscribers do not count against 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 74: 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 75: Linking talkgroup ID to talkgroup

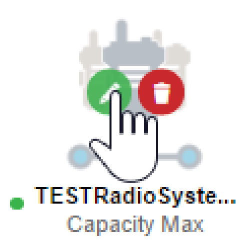


When and where to use:
To add a Radio Subscriber, follow these steps:

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.

   Edit Radio System

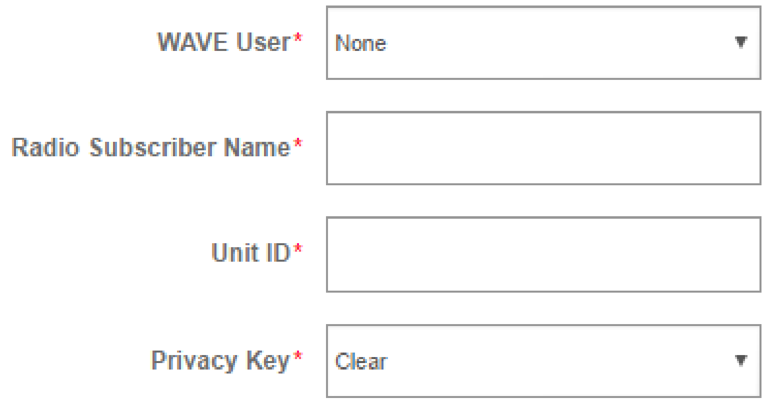


3 In the Radio Subscriber section, click the **Subscribers List** link. The Subscribers page opens.

4 Click **Add Subscriber**.

5 To add a Radio Subscriber, enter the following information:

Figure 76: Add Radio Subscriber



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.

c In **Unit ID**, enter the ID of the radio as it occurs in the connected Radio System.

d 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

Chapter 13

Accessing the XRT 9000/9100 Gateway

In order to configure users and access to the XRT 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. To access the MOTOTRBO Connect Plus XRT 9000/9100 Gateway, install the MOTOTRBO Connect Plus XRT 9000/9100 Configuration Tool. You can obtain this tool from Motorola. Run the MOTOTRBO Connect Plus XRT 9000/9100 Configuration Tool application through the Start menu on a PC connected to the same network as the XRT 9000/9100. Select Start, choose All Programs, then Motorola Solutions, and then select MOTOTRBO Connect Plus XRT 9000 (or XRT 9100) Configuration Tool.

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.

When and where to use: To access the XRT 9000/9100 Gateway console, follow these steps:

Procedure:

1. Download the MOTOTRBO Connect Plus XRT 9000/9100 Configuration Tool Software from Motorola Online. To install the software on a windows PC, run the executable file. To complete the installation, follow all prompts.
2. From the **Start** menu, select All Programs > Motorola Solutions and then click **MOTOTRBO Connect Plus XRT 9000/9100 Configuration Tool**.
3. 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.
4. 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.
5. If using a Serial connection, enter Com 1 for the **Port Name**, and set the Baud Rate to 57600.
6. 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.

Chapter 14

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

Following are the limitations and requirements for the connecting Capacity Plus radio Systems:

- **A maximum of 30 simultaneous calls are allowed on the XRT 9000.**

  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.

Chapter 15

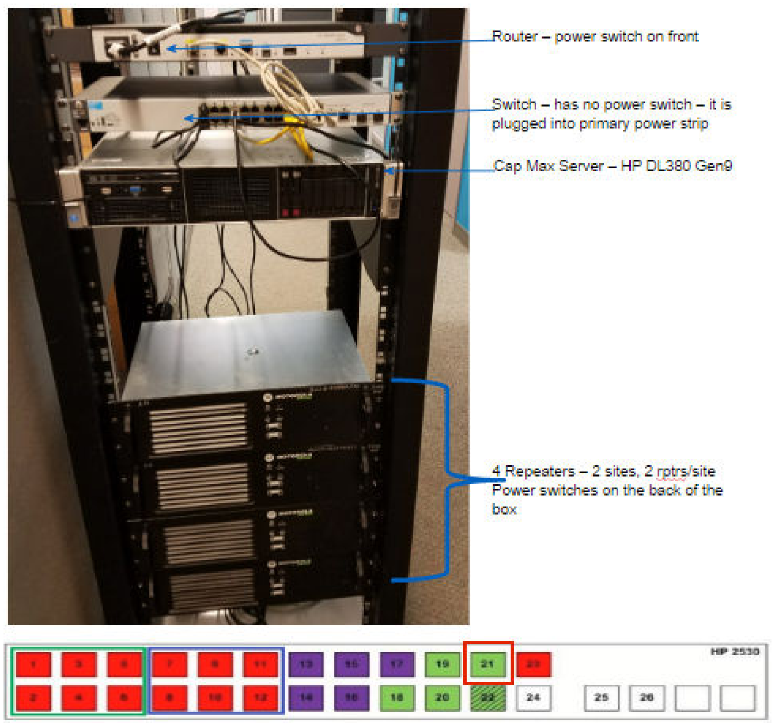
Connecting Capacity Max Hardware

NOTE:
The instructions in this section are identical to the procedural instructions in Creating a Capacity Max Radio System on page 121 and 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.

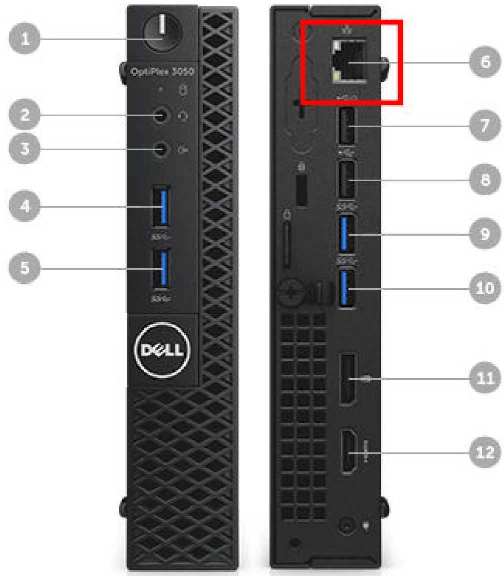
IMPORTANT: The WAVE Gateway requires Internet access to connect with the WAVE PTX system. If the radio system must be isolated, then place a secondary switch between Capacity Max and the WAVE PTX Gateway and connect the secondary switch to the Internet.

Figure 77: Capacity Max Hardware



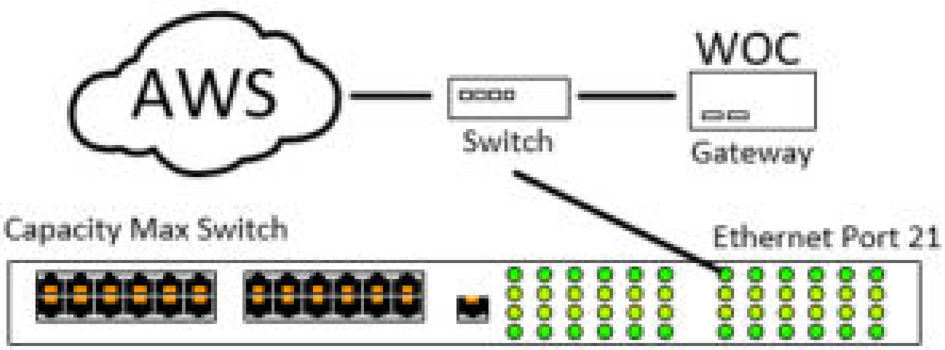
Use the Ethernet jack at the back of the WAVE PTX Gateway. Connect the Ethernet cable to Ethernet port 21 in the back of the Capacity Max Switch.

Figure 78: 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 79: Alternate Switch-Capacity Max



Create Capacity Max Radio system. Refer to Integrating a Capacity Plus Radio System with WAVE PTX on page 128

Chapter 16

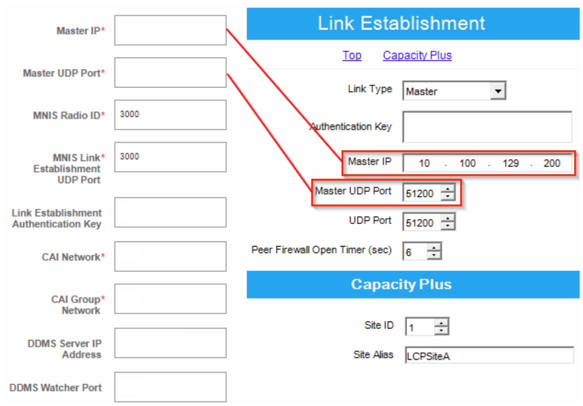
Capacity Plus Radio System Parameters

The following images map the WAVE PTX MNIS Gateway Connection Info parameter on the left with the radio system parameter on the right. Use these images to identify the values required when configuring the WAVE PTX gateway.

Master IP and Master UDP Port

Click Link Establishment in the CPS tool for your repeater or XPR.

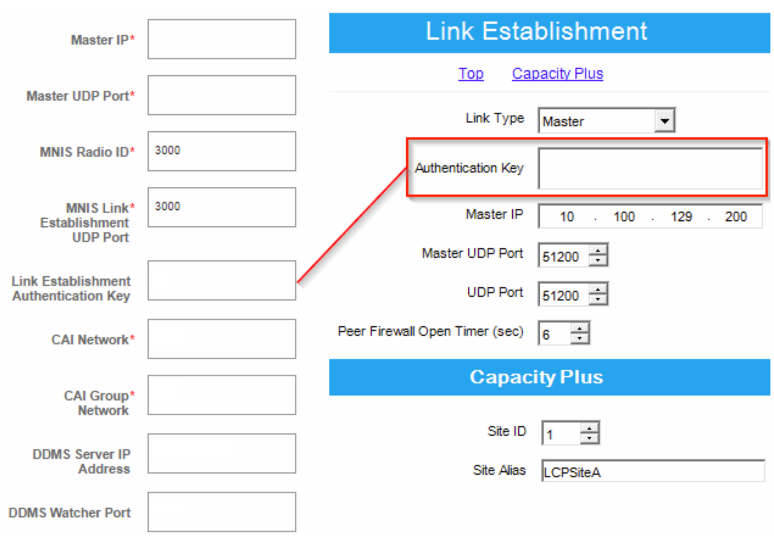
Figure 80: Link Establishment



Link Establishment Authentication Key

Click Link Establishment in the CPS tool for your repeater or XPR.

Figure 81: Authentication Key



MNIS Radio ID

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 an LE (Link Establishment) peer. Radios and repeaters all of their own unique ID. The WAVE PTX Gateway cannot have an ID that overlaps with any of the IDs in the radio system.

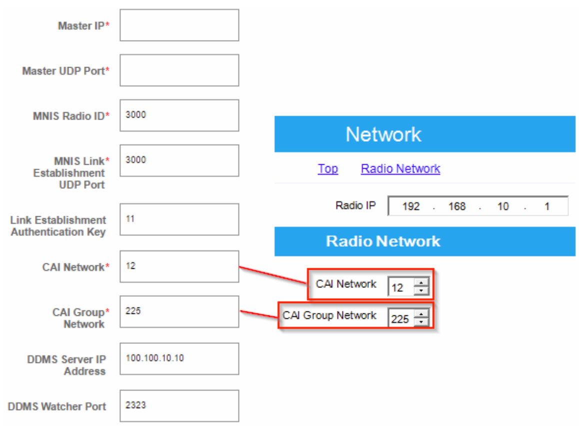
MNIS Link Establishment UDP Port

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 keep alive messages with the radio system.

CAI Network and CAI Group Network

Select Network in the CPS tool to view the Radio Network page for your repeater or XPR device.

Figure 82: CAI Network



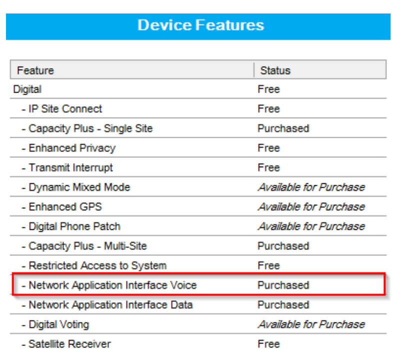
DDMS Server IP Address and DDMS Watcher Port

In the **DDMS Server IP Address** field, 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.

In the **DDMS Watch Port** field, enter the receiving network port for the LCP/Cap Plus presence notifier. This is only required if NAI Data is enabled on the radio system. If your LCP/Cap Plus system does not use NAI Data, then leave this field blank.

To determine if you have NAI Voice, look in under Device Features in the codeplug for your XPR or repeater and check the Status of Network Application Interface Voice to ensure it reads Purchased.

Figure 83: Device Features



Device Features

Feature	Status
Digital	Free
- IP Site Connect	Free
- Capacity Plus - Single Site	Purchased
- Enhanced Privacy	Free
- Transmit Interrupt	Free
- Dynamic Mixed Mode	*Available for Purchase*
- Enhanced GPS	*Available for Purchase*
- Digital Phone Patch	*Available for Purchase*
- Capacity Plus - Multi-Site	Purchased
- Restricted Access to System	Free
- Network Application Interface Voice	Purchased
- Network Application Interface Data	Purchased
- Digital Voting	*Available for Purchase*
- Satellite Receiver	Free

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.

Chapter 17

Creating a Capacity Max Radio System

When and where to use: To integrate WAVE PTX with the Radio System, create a Capacity Max radio system on the WAVE PTX side as follows:

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. Enter the following information:
   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.
   d. Click **NEXT**. The Create Radio page opens.
4. 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**.
5. 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.
6. Complete the following instructions.
   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.

7. 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.
8. Click the **NEXT** button. The CONNECT to GATEWAY page opens. Complete the following steps:
   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.
9. Click **NEXT**. The CONFIGURE TALKGROUPS page opens. Optionally, select existing Talkgroups to associate with this Radio System or create new Talkgroups to associate with this Radio System. You can also do this later. Refer to Associating a Radio System with a Talkgroup on page 125 page for instructions.
10. Click **NEXT**. The CONFIGURE USERS page opens. Optionally, select existing Users to associate with this Radio System or create new Users to associate with this Radio System. Users that you select or create on this page associates with the Radio System. You need to provide users with a Unit ID.
    a. In the Capacity Max system, you must create a new Device for each Subscriber in the WAVE PTX System. If you do not, then Radio Units cannot initiate Private Calls with Broadband WAVE PTX Users.
    b. Create a 'Console' Device for each WAVE PTX Subscriber. Use the Device ID for each Device to enter the Unit ID for each WAVE PTX Subscriber that is capable of making Private Calls with Capacity Max Radio Units.
11. Click **NEXT**. The FINISH page opens and your Radio System is ready for management. Click the **GO TO HOME DASHBOARD** button.

Chapter 18

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 84: Basic Privacy Key Index

18.1
Adding a Privacy Key for Enhanced Privacy

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

Procedure:

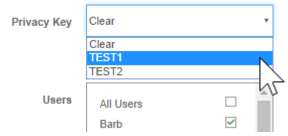
1. Edit a Radio System. The Privacy Type list appears near the bottom of the page.
2. Click **Manage Privacy Keys**. The list of **Privacy Keys** for this radio system appears.
3. Click **Add Key** and enter the following information:
   a. In **KEY NAME**, enter a name for the Privacy Key. This is for 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.

18.2
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 85: Assigning Privacy Key to Talkgroup



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

Chapter 19

Associating a Radio System with a 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 Add a Radio System on page 112

When and where to use: To associate a Radio System with a Talkgroup, follow these steps:

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. The Talkgroup ID controls which Talkgroup in your Motorola Radio System integrates with this Talkgroup for communication with Broadband clients.
   c. 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 123
4. Click the **SAVE** button.

Chapter 20

Integrating a Connect Plus Radio System with WAVE PTX

When and where to use: To integrate a Connect Plus Radio System with WAVE PTX, follow these steps:

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.
   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.
   d. In **Private Call Inactivity Timeout (ms)**, enter the value matching the associated Private Call inactivity timeout duration in the XRT 9000/9100.
   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**
5. In CONNECT GATEWAY TO RADIO, complete the following steps:
   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 Click **NEXT**. The FINISH page opens and your Radio System is ready for management. Click the **GO TO HOME DASHBOARD** button.

Chapter 21

Integrating a Capacity Plus Radio System with WAVE PTX

If you are integrating with a Capacity Plus Single-Site or Multi-Site Radio System, use the instructions below.

When and where to use: To register a Capacity Plus Radio System, follow these steps:

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. Enter the following information:
   - **a** In the **Existing Gateway** list, if you have one already installed on your network then select an existing WAVE PTX Gateway.
   - **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. 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.
5. If you selected **Capacity Plus Single-Site** or **Capacity Plus Multi-Site**, then in **Radio System Settings**, complete the following steps.
   - **a** In **Talkgroup ID Range Start**, enter the start range of Talkgroup 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 Talkgroups outside this range.
   - **b** In **Talk Group ID Range End**, enter the end range of Talkgroup IDs to register with the Capacity Plus radio system.
   - **c** In **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 **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 **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 **Private Call Inactivity Timeout (ms)**, enter the amount of dead air time in milliseconds of silence required to terminate a Private Call.
- **g** 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 will receive an error tone.
- **h** In **Privacy Type**, select the type of privacy. You can select Clear, Basic, Enhanced, or Symmetric.
- **i** In **WAVE PTX Subscriber Radio ID Range Start**, enter the starting range for your Broadband WAVE PTX Users.
- **j** In **WAVE Subscriber Radio ID Range End**, enter the ending range for your Broadband WAVE PTX Users.
- **k** In **Anonymous Unit ID**, enter an ID (from the range you just specified above) to represent anonymous Broadband WAVE PTX Users that does not receive a specific unit ID.

6 Click **NEXT**. The Connect to Gateway page opens. Complete the following steps.

- **a** In **Master Repeater IP**, enter the Master Repeater IP Address of your Radio System.
- **b** In **Master Repeater UDP Port**, enter the Master Repeater UDP Port of your Radio System.
- **c** In **MNIS Radio ID**, enter an MNIS Radio ID to identify the WAVE PTX Gateway to the Radio System. This must be a unique ID that does not occur in the Radio System or any other connected CAI devices.
- **d** In **MNIS Link Establishment UDP Port**, enter the UDP port that serves as the gateway to the LE (Link Establishment) domain. The WAVE Gateway uses this port to send and receive audio and keep alive messages with the Radio System.
- **e** In **Link Establishment Authentication Key**, enter the authentication key for link establishment.
- **f** CAI Network, enter the CAI Network value from the Radio System.
- **g** In the **DDMS Server IP Address field**, 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 **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.

7 Click **NEXT**. The CONFIGURE TALKGROUPS page opens. Optionally, select existing talkgroups to associate with this Radio System or create new talkgroups to associate with this Radio System.

8 Click **NEXT**. The CONFIGURE USERS page opens. Optionally, select existing users to associate with this Radio System or create new users to associate with this Radio System. Users you select or create on this page are associated with the Radio System. An Unit ID page displays.

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

Chapter 22

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 23

WAVE PTX Gateway

23.1

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 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 internet.

- **Port 25021 (TCP):**

  Required by the WAVE PTX Gateway to connect to the WAVE voice services.

  Associated URLs:

  - **US Customers:**
    prod-voic-Level1SN-RLYHIGBZHINF-677834108.us-west-2.elb.amazonaws.com
  - **UK Customers:**

    eu-west-2-Level1SN-HI5WVP0JHJDG-43811873.eu-west-2.elb.amazonaws.com
- **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
- **Port 443 (TCP):**

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

  Associated URLs:

  - Any entry in the ***.poc01.waveptx.com** subdomain.
  - **US Customers**

    prod-voice.waveptx.com
  - **UK Customers**

    eu-west-2-prod-voice-001.waveptx.com
  - **All customers**

    s3-us-west-2.amazonaws.com

    956b302mzf.execute-api.us-west-2.amazonaws.com
- **Port 8089 (TCP):**

  Required for Splunk to update log level configuration.
- **Port 9997 (TCP):**

  Required for Splunk to send device logs.

Connection of the WAVE PTX Gateway to the Radio System

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

- **Port (Master Repeater Port) UDP – outbound)**

  Port UDP is the port the master repeater is using for Link Establishment and needs to be opened from the WOCG to the radio system. This is unique to each radio system.

- **Port 50100 UDP – inbound (Gateway Link Establishment Port)**

  Port 50100 UDP is the port that is used by the repeaters to communicate with the WOCG and need to 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 Mobile client (android, iOS etc.) and Web Communicators to connect to the servers from anywhere.

- **Port 4502 (TCP):**

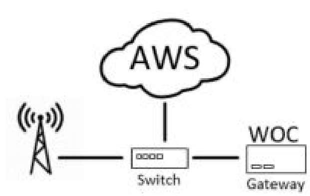
  Required for WAVE PTX Mobile client (android, iOS etc.) to connect to the voice servers from anywhere

23.2
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.

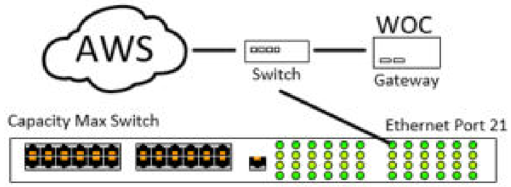
NOTE: The WAVE PTX Gateway requires an Internet connection. It does not function without an Internet connection. If you want, you can isolate the Radio System by placing a switch between the Gateway and the Radio system (as shown in the diagrams below).

Figure 86: 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 Capacity Max radio system hardware.

Figure 87: Connection of WAVE PTX Gateway to Capacity Max Radio System Hardware



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

General Network Requirements

To function with a Radio System, the WAVE PTX Gateway requires wired network access to both the customer's radio system and the WAVE PTX service running in the Cloud. In order for the service to work properly, the following ports need to be opened OUTBOUND on the Customer Network. The following ports allow the WAVE PTX Gateway device to connect to WAVE PTX servers and the radio system on the local network.

The following ports and associated URL must be opened OUT/IN BOUND only. If you have questions about the URL, used for a port, then contact support for further instructions.

- **Port 25021 (TCP):**
  Required by the WAVE PTX Gateway to connect to the WAVE PTX voice services.
- **Port 8883 (TCP):**
  Required for secure MQTT messages over TCP/UDP port to the AWS IOT Service for device management.
  - **All customers associated URL:**
    2o5gr8ddd3eaj.iot.us-west-2.amazonaws.com
- **Port 443 (TCP):**
  Required for the WAVE PTX Gateway to connect to the WAVE PTX Service. Following are the associated URLs:
  - Any entry in the ***.poc01.waveptx.com** sub domain.
  - **US Customers**
    us-west-2-kodiakvoice-prod-001.waveptx.com
  - **EMEA Customers**
    us-west-2-kodiakvoice-emea-001.waveptx.com
  - **Japan Customers**
    us-west-2-kodiakvoice-prodjp-001.waveptx.com
  - **All customers**
    s3-us-west-2.amazonaws.com

    956b302mzf.execute-api.us-west-2.amazonaws.com
- **Port 8089 (TCP):**
  Required for Splunk to update log level configuration.

  All customers associated URL:

  ec2-34-208-135-228.us-west-2.compute.amazonaws.com
- **Port 9997 (TCP):**
  Required for Splunk to send device logs.

  All customers associated URL:

  splunk-index01.waveptx.com

splunk-index02.waveptx.com

splunk-index03.waveptx.com

WAVE PTX Gateway Network Requirements

- **Port (Master Repeater Port) UDP – OUTBOUND)**
  Port UDP is the port the master repeater is using for Link Establishment and needs to be opened from the WAVE PTX Gateway to the radio system. This is unique to each radio system.
- **Port 50100 UDP – INBOUND (Gateway Link Establishment Port)**
  Port 50100 UDP is the port that is used by the repeaters to communicate with the WAVE PTX Gateway and need to be opened inbound from the radio system to the WAVE PTX Gateway.

Broadband Client Requirements

- **Port 443 (TCP):**
  Required for WAVE PTX Mobile client (android, iOS etc.) and Web Communicators to connect to the servers from anywhere.
- **Port 4502 (TCP):**
  Required for WAVE PTX Mobile client (android, iOS etc.) to connect to the voice servers from anywhere.

Bandwidth Requirements
The network needs to at least 1 Mbps dedicated to the WAVE PTX Gateway.

23.2.1
Upgrade Radio Repeaters

Skip this procedure if you have already upgraded your radio repeaters to version R02.07.00.04. Additionally, you may run an older version of the repeater firmware if the radio system includes an active NAI Voice license.

Following are the upgrading details for radio repeaters:

- Repeater firmware is available on Motorola Online and is version R02.07.00.04.
- 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.

23.2.2
Connecting to the WAVE PTX Gateway

When and where to use: Follow these steps to connect to the WAVE PTX gateway:

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. Search for the following Wi-Fi SSID (Service Set Identifier):

Wi-Fi SSID: WOCG-%SERIAL NO%

Wi-Fi Password: MotoGateway

5 Connect to the Wi-Fi SSID using *MotoGateway* as the Password.

6 Open a web browser on the PC and enter http://192.168.137.1/ (For HP Prodesk 400 Gateway hardware).

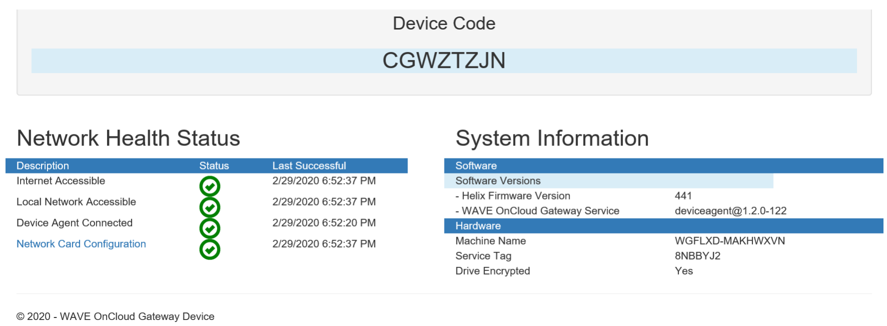
7 If prompted for a Username and Password use *admin*/*MotoGateway.* You have the option to change this after log in.

NOTE: If you forget your password please contact support.

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

Record the Gateway Device Code now. You need this code to associate the WAVE PTX Gateway with your radio system. Ensure that you store the code in a safe location.

Figure 88: Device Code

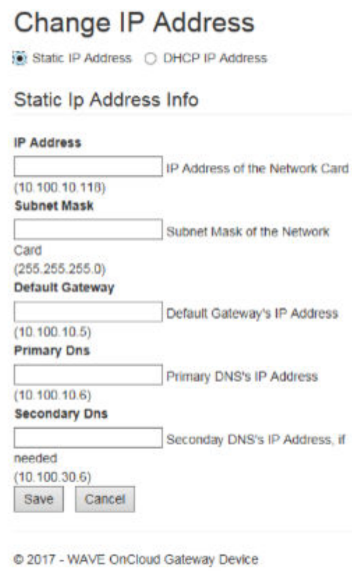


9 If you see a red X thru network card configuration, click the link- **Network Card Configuration**. The Change IP Address page opens.

Figure 89: Change IP Address- Network Card Configuration

10 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 90: Change IP Address- Static IP



11 Click the **Save** button when you are done.

Postrequisites:
To proceed with the rest of Broadband and Radio Configuration and Setup see: Quick Start – Broadband. You will need the Broadband steps to configure WAVE PTX for testing. After that you will proceed to Quick Start – Radio Integration to complete radio setup.

23.3
WAVE PTX Gateway Specs

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

Standard Hardware: HP Prodesk 400 G5

Minimum Requirements:

- CPU: Intel i5-9500T
- RAM: 8GB DDR4
- HHD: 256GB SSD
- OS: Windows 10 Enterprise (IOT)

Machine physical specs: Mini