TRBOnet
Option Board

Configuration Guide

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Contents

1 Introduction

The software is designed to work with both TRBOnet and Motorola's generic option boards. You can easily configure safety-related alarms such as Man Down or No Movement, use the Store and Forward technique for GPS data or even Geofencing alarms specific to this particular radio. It works seamlessly with TRBOnet Enterprise or Plus, but it can also run in the standalone mode.

1.1 Features and Benefits

- Frequent Location Updates
- Efficient Channel Usage
- Fast iBeacon Detection
- Geofencing
- GPS Store and Forward
- Seamless Tracking
- Battery Status
- Voice Recording (for Motorola GOB only)
- GeoRoaming

1.2 Supported Option Boards

- Generic option board (GOB) by Motorola (the memory capacity is 8 MB)
- Swift option board by Neocom (has a slot for an extended memory card with the capacity of up to 32 GB)

1.3 Supported Radio Systems

- IP Site Connect
- Capacity Plus (Capacity Plus Single Site)
- Linked Capacity Plus (Capacity Plus Multi Site)
- Capacity MAX

2 Configuring Option Board

This section describes how to configure the option board with TRBOnet Swift CPS.

Notes: Make sure the Option Board capability is enabled on the radio channels (*MOTOTRBO CPS* > *Channels* > *Zone*> *Channel* > *Option Board*).

In addition, make sure that the Enhanced GNSS feature is disabled on the radio channels.

2.1 Preparing Option Board

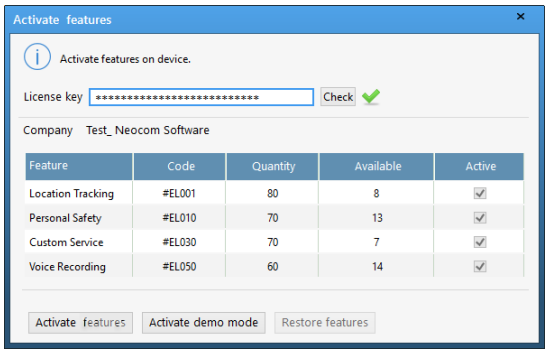
- Connect a radio unit equipped with a Swift option board to the PC using a USB port.
- Run TRBOnet Swift CPS.
- Expand the **Connection** menu and click **USB**.
- On the toolbar, click **Device > Update Firmware**.
- In the **Update to** column, select the latest version and click **Update**.

2.2 Configuring Option Board

- Run TRBOnet Swift CPS.
- Click the **Read** button on the toolbar.

2.2.1 Activating Features

- In the left pane, click **Device > License Information**.
- In the right pane, click **Activate features**.



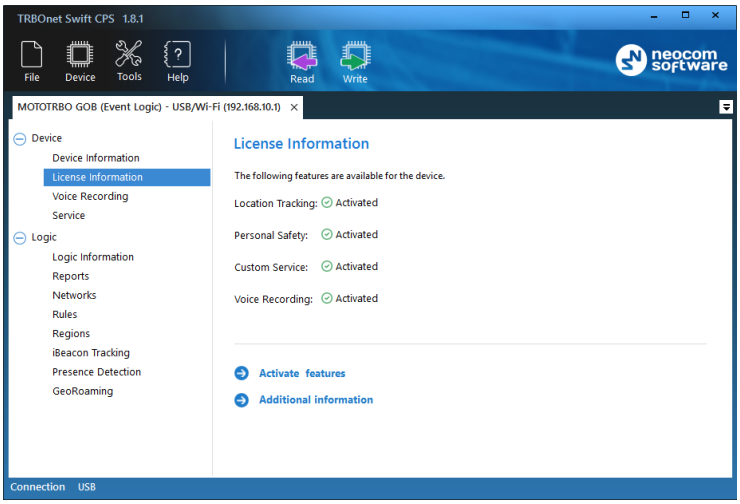
- In the **Activate features** window, enter the license key and click **Check**.

Notes: To obtain the license key, contact your Neocom sales representative.

Your PC must be connected to the Internet when you click the **Check** button.

- If the license key is valid, the **Activate features** window displays all features included into the license.
- Click the **Activate features** button.

- The **Location Tracking** license item allows the option board to receive GPS and iBeacon location data from the radio.
- The **Personal Safety** license item allows the option board to receive G-meter data from the radio.
- The **Voice Recording** license item allows the option board to receive voice recording data from the radio.

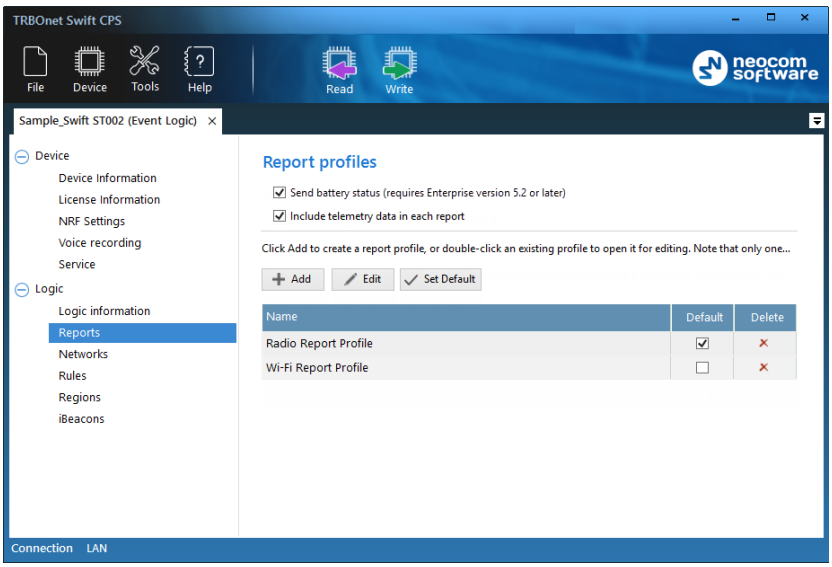


2.2.2 Report Settings

If configured accordingly, a device can collect incoming information in the memory, create data sequences (reports), and send them to TRBOnet Server over a radio channel or via a Wi-Fi connection. Reports typically include the current location of a connected radio and telemetry from the input pins.

Report profiles determine what kind of information is sent to the server and how often. You can create as many profiles as necessary. One profile must be indicated as default. The default profile is loaded to the device memory at startup.

To configure report settings, click **Reports** in the **Logic** section of the navigation panel.



The **Report profiles** tab displays all profiles with report settings.

- **Send battery status**
  Select this option so that the radio will include battery status each time it sends a data packet to TRBOnet Server.
  See also 5.1, Battery Status.
- **Include telemetry data in each report**
  Select this option so that the radio will include telemetry data in each report.

In the default configuration, there are two predefined report profiles: **Radio Report Profile** and **Wi-Fi Report Profile**.

You can manage report profiles as described below.

To create a profile:

- Click **Add**.
- In the **Edit Report Profile** window, specify the report settings as described in section 2.2.2.1, Editing Report Profile (page 4).
- Click **OK**.

To set a default profile:

- Select the profile and click **Set Default**,
  or
  select the **Default** box next to the profile name.

To edit a profile:

- Select the profile in the list and click **Edit**,
  or double-click the profile.
- Edit the report settings as described in section 2.2.2.1, Editing Report Profile (page 4).
- Click **OK**.

To delete a profile:

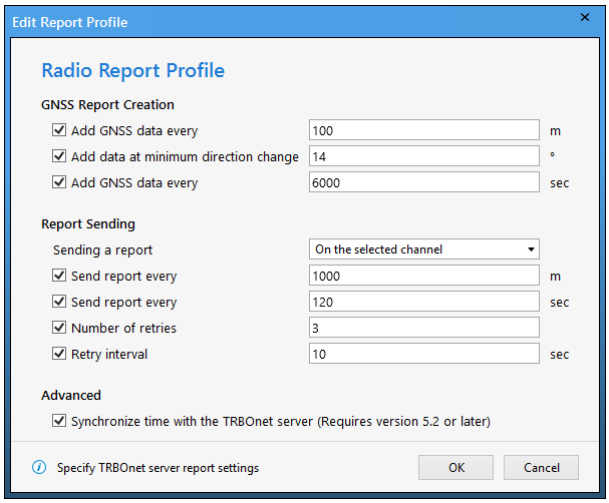
- Click the **Delete** icon next to the profile name.

  The profile is deleted and cannot be restored. If you delete the default profile, the last profile in the list becomes the default one.

  Note: You cannot delete the last remaining profile.

2.2.2.1 Editing Report Profile

Specify the report settings in the **Edit Report Profile** window. Click **OK** to save the profile.



- **Profile name**
  Click this field to enter/edit the name of the report profile.

GNSS Report Creation

- **Add GNSS data every (m)**
  The GNSS data will be added to the report each time the specified distance (in meters) is traveled.
- **Add data at minimum direction change**
  The minimum direction change, in degrees, at which the GNSS data is added to the report.
- **Add GNSS data every (sec)**
  The GNSS data will be added to the report each time the specified time interval (in seconds) elapses.

Report Sending

- **Sending a report**
  From the drop-down list, select one of the following options:
  - **Do not send**
    Creating and sending GNSS reports is disabled.
  - **On the selected channel**
    The radio sends reports on the currently selected channel.
  - **On the data channel**
    The radio sends reports on the data channel.
- **Send report every (m)**
  The radio will send a report each time the specified distance (in meters) is traveled.
- **Send report every (sec)**
  The radio will send a report each time the specified time interval (in seconds) elapses.
  Note that in **Wi-Fi Report Profile**, this value must not exceed **6 sec**.
- **Number of retries**
  The number of retries for sending a report on the radio channel.

- **Retry interval**
  The time interval, in seconds, between retries.

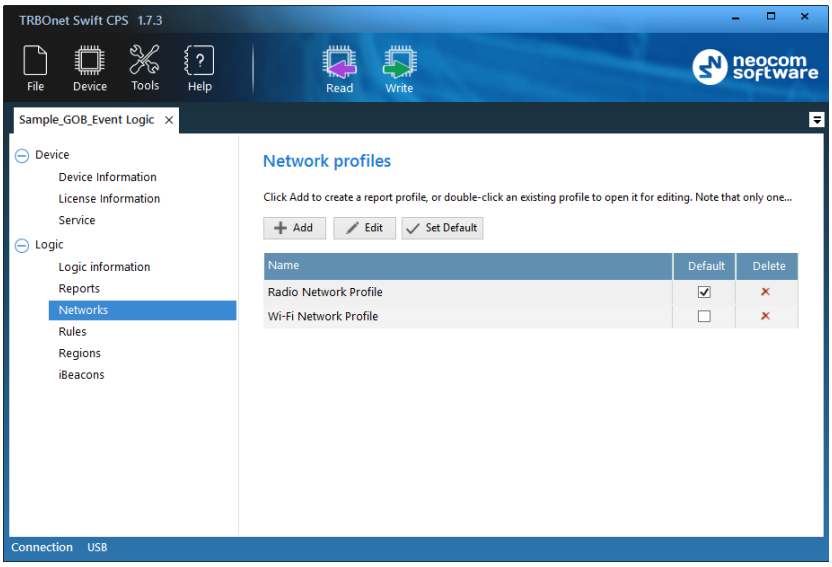
Advanced

- **Synchronize time with TRBOnet Server**
  Select this option so that time on the radio will be synchronized with TRBOnet Server.

2.2.3 Network Settings

You can also specify settings for the network media over which reports are sent to TRBOnet Server.

To configure network settings, click **Networks** in the **Logic** section of the navigation panel.



The **Network profiles** tab displays all profiles with network settings.

In the default configuration, there are two predefined network profiles: **Radio Network Profile** and **Wi-Fi Network Profile**.

You can manage the network profiles as described below.

To create a profile:

- Click **Add**. On the drop-down menu, click either **Radio network profile** or **W network profile**.
- Specify the network settings in the appropriate **Network profile** window as described in sections 2.2.3.1 or 2.2.3.2.
- Click **OK**.

To set a default profile:

- Select the profile and click **Set Default**,
  or
  select the **Default** box next to the profile name.

To edit a profile:

- Select the profile in the list and click **Edit**,
  or double-click the profile.
- Edit the network settings as described in sections 2.2.3.1 or 2.2.3.2.
- Click **OK**.

To delete a profile:

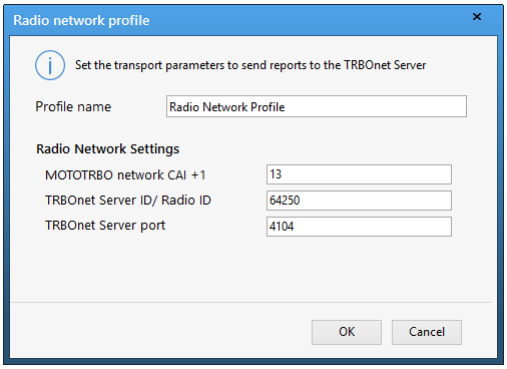
- Click the **Delete** icon next to the profile name.

  The profile is deleted and cannot be restored. If you delete the default profile, the last profile in the list becomes the default one.

  Note: You cannot delete the last remaining profile.

2.2.3.1 Editing Radio Network Profile

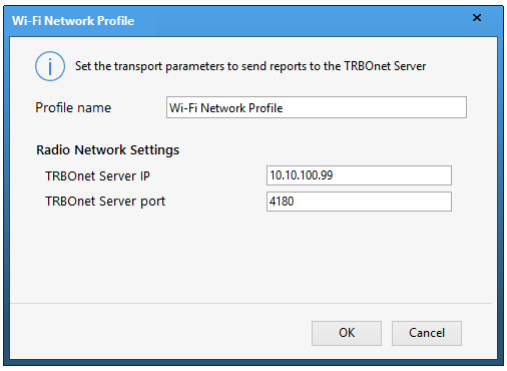
Specify the network settings in the **Radio Network Profile** window. Click **OK** to save the profile.



- **Profile name**
  Click this field to enter/edit the name of the radio network profile.
- **MOTOTRBO network CAI +1**
  The MOTOTRBO network identity (CAI) increased by 1. This increment is required to send data to TRBOnet Server. Example: If MOTOTRBO CPS defines the network CAI 12, enter 13.
- **TRBOnet Server ID/Radio ID**
  The unique radio ID of TRBOnet Server in the MOTOTRBO network.
- **TRBOnet Server port**
  The port of the PC where TRBOnet Server is running (4104, by default).

2.2.3.2 Editing Wi-Fi Network Profile

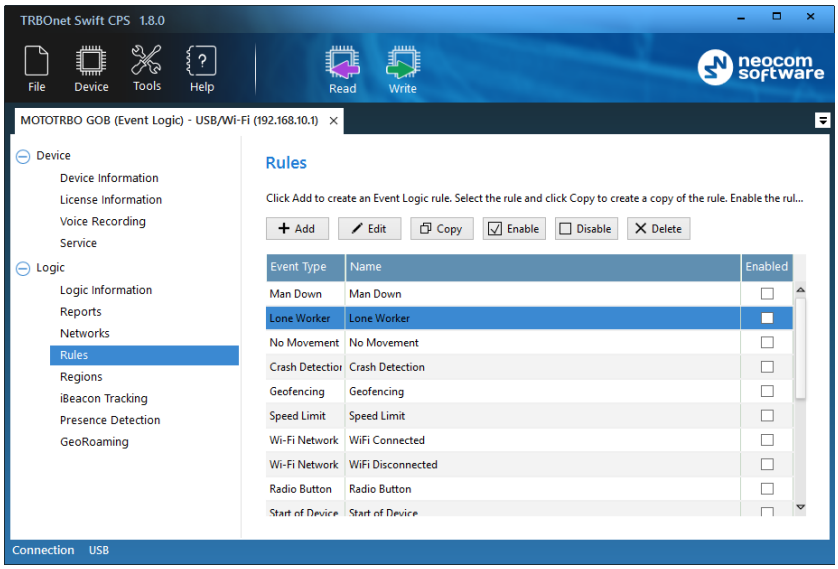
Specify the network settings in the **Wi-Fi Network Profile** window. Click **OK** to save the profile.



- **Profile name**
  Click this field to enter/edit the name of the Wi-Fi network profile.
- **TRBOnet Server IP**
  The IP address of the PC where TRBOnet Server is running.
- **TRBOnet Server port**
  The port of the PC where TRBOnet Server is running (4180, by default).

2.2.4 Rules

A rule describes a specific event to which a programmed device will respond with a predefined sequence of actions, such as playing back tone or displaying text on the radio display, sending text to other radios, changing the radio channel, sending alarms, and other.



To configure rules, expand the **Logic** section and click **Rules** in the left panel.

The **Rules** page displays a predefined set of rules. You can manage the rules as described below.

To create a rule:

- Click **Add** and on the drop-down menu click the event type.
- In the **Create Rule** window, define the rule as described in section 2.2.4.1, Creating/Editing a Rule (page 9).

To create a copy of an existing rule:

- Select the rule in the list and click **Copy**.
  A copy of the selected rule is added to the list.
- Edit the rule name and settings as described below.

To edit a rule:

- Double-click the rule or select it in the list and click **Edit**.
- Modify the rule settings in the **Edit Rule** window as described in section 2.2.4.1, Creating/Editing a Rule (page 9).

Delete a rule

- Select the rule in the list and click **Delete**.
- Confirm the deletion in the prompt dialog box.

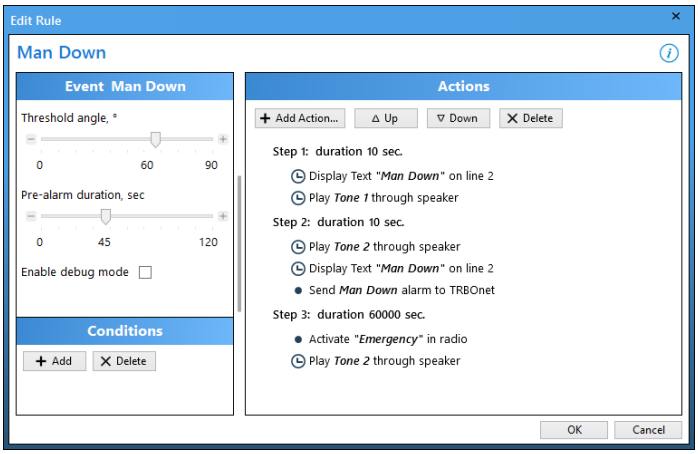
Enable all rules that you want to write to the device memory and be executed at runtime.

To enable a rule:

- Select the rule in the list and click **Enable**,
  or select the **Enabled** box next to the rule name.

2.2.4.1 Creating/Editing a Rule

The **Create/Edit Rule** window is used for creating and/or editing the Event Logic rule.



To define a rule:

1. Specify the name of the rule in the **Name** field.
2. In the **Event** panel, specify the properties of the event. For a brief description of the event, click the "*i*" icon at the window's top right.
3. In the **Conditions** panel, add as many conditions as required. Configure conditions as described in section 2.2.4.3, Conditions (page 12).
4. In the **Actions** panel, select actions to execute when the event occurs. Configure each action as described in section 2.2.4.4, Actions (page 12).
5. Click **OK** to save the rule.

2.2.4.2 Events

The following table summarizes information about all supported events and their configurable properties.

Event	Description
Start of Device	This event is triggered when the radio starts up.
Geofencing	This event is triggered when the radio enters/exits the designated region for a time longer than the wait timeout. Properties: ▪ **Region**: Select the region the borders of which are monitored. ▪ **Direction**: Select if the region is entered or left.
Swift Command	This event is triggered when the Swift command is received from TRBOnet Server. Properties: optional parameters 1, 2.
Telemetry	This event is triggered when the status of any I/O pin has changed on the device. Properties: ▪ **Input**: Select the Input pin #. ▪ **Input trigger**: Select the type of change occurring to the pin (turned on, off or toggled)
Incoming Call	This event is triggered when the incoming radio call has started/ended. ▪ **Call trigger**: Select whether the call is started or ended. ▪ **Call from**: Select whether the calling party is the radio or radio group. ▪ **Group ID**: Enter the radio ID of the radio or radio group. ▪ **Enable debug mode**: Select this option to show debug information on the radio display.
Radio Channel	This event is triggered when a different channel and/or zone is selected on the radio. ▪ **Zone**: Enter the zone number. ▪ **Channel**: Enter the channel number.
Radio Button	This event is triggered when the designated radio button is pressed/released. ▪ **Button**: Select the radio button. ▪ **Action**: Select the type of action. This can be Short press, Long press, or Release.
iBeacon	This event is triggered when an iBeacon is discovered/lost. ▪ **iBeacon trigger**: Select whether the iBeacon is discovered or lost. ▪ **Major ID**: Enter the beacon's major ID exactly as specified in the iBeacon device. ▪ **Minor ID**: Enter the beacon's minor ID exactly as specified in the iBeacon device.
Presence Detection	This event is triggered when the beacon specified in the Presence Detection page is discovered/lost. ▪ **iBeacon trigger**: Select whether the iBeacon is discovered or lost.
Wi-Fi Network	This event is triggered when a Wi-Fi network is connected/disconnected. ▪ **Network trigger**: Select whether the Wi-Fi network is connected or disconnected. ▪ **Wait timeout**: Enter the minimum duration of staying connected/disconnected.

Event	Description
Rollover Detection	This event is triggered when the mobile radio tilt is below the threshold angle for a time longer than the pre-alarm duration. ▪ **Threshold angle**: The minimum vertical angle (in degrees) at which the radio is still considered up. ▪ **Pre-alarm duration**: The timeout (seconds) after detecting the radio tilt. Note: After installing the radio in the working position in a car, you need to set a custom axis orientation of the accelerometer. This is done by clicking **Set a custom axis orientation of the accelerometer** in the **Service** page.
Crash Detection	This event is triggered when the radio acceleration exceeds the impact threshold, the speed drops to zero within the idle timeout, and then there is no movement for the duration of the wait timeout. ▪ **Impact acceleration threshold**: The maximum acceleration that shall be exceeded to suspect a car crash. ▪ **Wait timeout**: The timeout, in seconds, that starts after the suspected car crash and during which no acceleration measurements are taken. ▪ **Acceleration threshold**: The minimum acceleration that must be gained during the control time to confirm the normal speed mode. ▪ **Idle timeout**: The timeout, in seconds, that starts after the wait timeout.
Lone Worker	This event is triggered when there is no user activity for a time longer than the response time. The timer will rest after pressing any radio button or knob. ▪ **Response time**: The timer, in seconds, that restarts after a button push, a talk, or use of the channel selector was detected on the radio.
No Movement	This event is triggered when the radio acceleration is below the threshold for a time longer than the wait time. ▪ **Acceleration threshold**: The minimum acceleration at which the radio is still considered to be at normal speed. ▪ **Wait time**: The timeout, in seconds, that starts after the radio acceleration has fallen below the threshold.
Man Down	This event is triggered when the radio tilt is below the threshold angle for a time longer than the pre-alarm duration. ▪ **Threshold angle**: The minimum vertical angle, in degrees, at which the radio is still considered up. ▪ **Pre-alarm duration**: The timeout (seconds) after detecting the radio tilt. ▪ **Enable debug mode**: Select this option to show debug information on the radio display. Note: Before enabling this event, you need to set a custom axis orientation of the accelerometer. This is done by clicking **Set a custom axis orientation of the accelerometer** in the **Service** page.
Speed Limit	This event is triggered when the measured speed exceeds or falls below the threshold. ▪ **Speed**: The math operator. Values: greater than, less than. ▪ **Threshold value**: The maximum or minimum allowed speed in kilometers per hour. Note: The speed measurement error may be as high as 5 to 10%, depending on the type of a two-way radio (less for mobile, higher for portable) and on the satellite signal reception quality.

2.2.4.3 Conditions

In the **Conditions** panel of the **Create/Edit Rule** window, add one or more conditions for the event to be handled.

> Note: Adding conditions to a rule is optional. If you add multiple conditions, at least one of them must be TRUE for the actions in the **Actions** list to be triggered.

To add a condition:

- In the **Conditions** panel, click **Add** and select one of the following condition types.
  - **Region**

    In the **Geofencing Condition** dialog box specify the following parameters:

    - **Position**
      From the drop-down list, select 'Inside' or 'Outside' position in a region.
    - **Region**
      From the drop-down list, select the desired region.
  - **iBeacon Presence**

    In the **iBeacon Presence Condition** dialog box specify the iBeacon's Major ID and Minor ID.
  - **Flag**

    In the **Flag Condition** dialog box specify the flag (a number from 1 to 32) that is checked to be set to On.
  - **Pin State**

    In the **Pin State Condition** dialog box specify the Status (On/Off) and select the Input(s) which status to be checked.

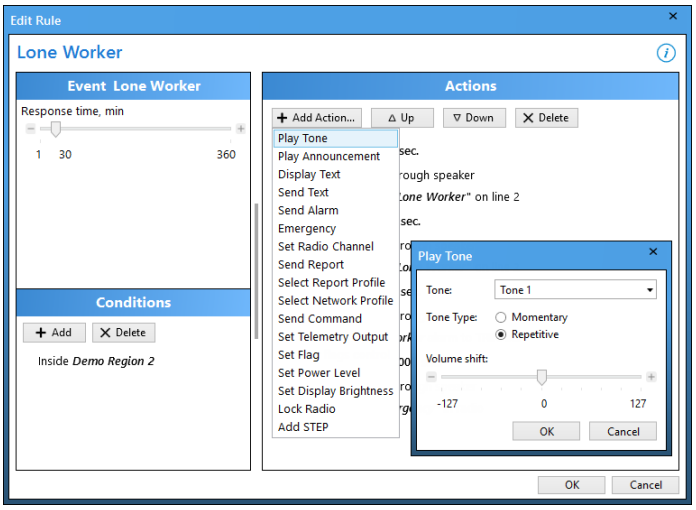
Once added, the new condition will appear at the last position in the **Conditions** panel. The order of conditions in the list cannot be changed and does not affect the logic. To open condition settings for editing, double-click the required condition in the panel. To delete a condition, select it and click the **Delete** button.

2.2.4.4 Actions

In the **Actions** panel of the **Create/Edit Rule** window, add one or more actions to execute when the event has occurred and all conditions have been confirmed.

To add an action:

1. In the **Actions** panel, click **Add Action** and on the drop-down menu click the action type.
2. In the dialog box that opens, specify action properties and click **OK**.



A new action with the specified name appears at the last position in the **Actions** panel. Use **Up** and **Down** arrow buttons to adjust the execution order of actions.

To delete an action, click the **Delete** button. Double-click the required action to open its properties for editing.

The following table summarizes information about all supported actions and their configurable properties.

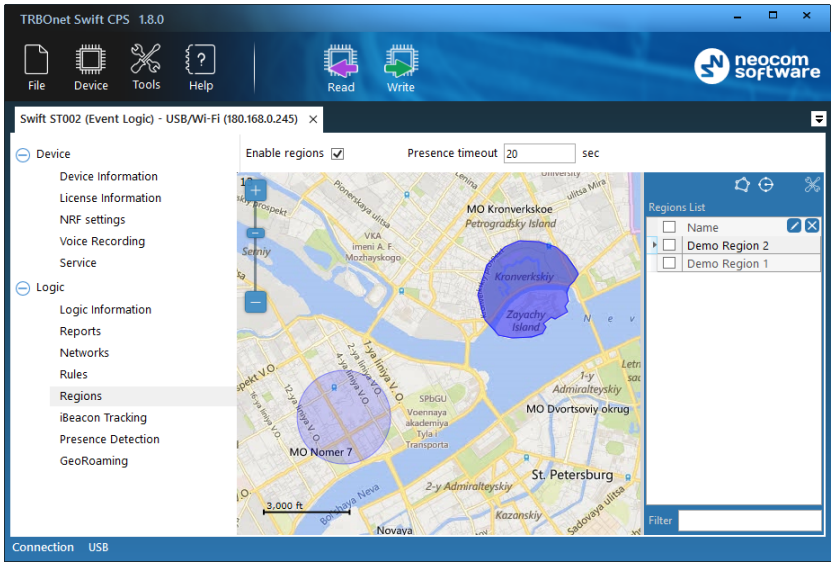
Action	Description
Play Tone	This action forces the radio to play back the specified tone. Properties: ▪ **Tone**: The tone to be played back. ▪ **Tone Type**: Choose whether to play the tone momentarily or repetitively. ▪ **Volume shift**: The volume boost (in MOTOROLA's units of measure).
Play Announcement	This action forces the radio to play back a pre-recorded voice announcement. ▪ **Voice Announcement**: Select one of the pre-recorded voice announcements.
Display Text	This action forces the radio to display text. Properties: ▪ **Text**: Enter the text to display on the radio. ▪ **Position**: The display line from which the text starts. Options: Line 1, Line 2, Line 3, Line 4. ▪ **Alignment**: Select the alignment of the text. ▪ **Font**: Select the font style (Normal or Bold).
Send Text	This action forces the radio to send text to a specified radio or radio group. Properties: ▪ **Destination**: The recipient of the message. Values: radio, radio group. ▪ **Radio ID**: The radio ID of the recipient. ▪ **Text**: The message to be sent.
Send Alarm	This action forces the radio to send a particular alarm to TRBOnet Server. Properties: ▪ **Alarm type**: The type of alarm to be sent. Options: Crash Detection, Lone Worker, Man Down, No Movement.
Emergency	This action activates/deactivates the alarm mode on the radio.
Set Radio Channel	This action forces the radio to select a different radio channel/zone. Properties: ▪ **Channel**: The radio channel to be set. ▪ **Zone**: The zone to be set. Note: These are numerical values that are represented in *MOTOTRBO CPS, Channels>Zone>Channel* (in the Position column).
Send Report	This action will send a report to TRBOnet Server. ▪ **Priority**: The values are: 'Immediately send to TRBOnet' and 'Immediately send to TRBOnet with interrupt'. The latter option means that a report will be sent immediately, interrupting the current transmission, if the radio channel is busy.
Select Report Profile	This action forces a device to use the specified profile with report settings. Note: A profile with report settings defines rules for sending reports to TRBOnet Server. See also section 2.2.2, Report Settings (page 3). ▪ **Profile**: Select the report profile to switch to.
Select Network Profile	This action forces a device to use the specified profile with network settings.

Action	Description
	Note: For information on network profiles, see section 2.2.3, Network Settings (page 6) ▪ **Profile**: Select the network profile to switch to.
Send Command	This action will send a Swift command to TRBOnet Server. ▪ **Command**: Select the Swift command to be sent. ▪ **Priority**: The values are: 'Immediately send to TRBOnet' and 'Immediately send to TRBOnet with interrupt'. The latter option means that the selected command will be sent immediately, interrupting the current transmission, if the radio channel is busy.
Set Telemetry Output	This action will set the selected telemetry output to the specified state. ▪ **Action**: Select the action for the output (Toggle, On, Off). ▪ **Output**: Select the radio's output to perform the specified action on.
Set Flag	This action will set the selected flag to the specified state. ▪ **Action**: Select the action for the flag (Toggle, On, Off). ▪ **Flag**: Specify the flag (a number from 1 to 32).
Set Power Level	This action will set the radio's transmission power level for the current channel. ▪ **Power**: The values are 'Low' and 'High'.
Set Display Brightness	This action will set the radio display brightness to a specified level. ▪ **Brightness**: The values are 'Increase' (one step), 'Decrease' (one step), 'Maximum', 'Minimum' and 'Default'
Lock Radio	This action will lock/unlock the radio.
Add STEP	This will add an additional step to the Actions page. Double-click the step that appears and enter the duration, in seconds.

2.2.5 Regions

The Event Logic rules use geographical regions as input parameters. A region is an area selected on the online map and given a unique name. You can add to the map any polygonal regions and circular regions with a maximum radius of 65 kilometers.

To define regions, click **Regions** in the **Logic** section of the navigation panel.



In the right pane, select the **Enable regions** option.

In the **Presence timeout** box, specify the minimum duration of stay within (if entered) or out (if left) of the region. This value will be used for Geofencing events.

Regions appear on the map as colored areas. The region names are displayed in the right panel.

The following useful features will help you work with the map:

To pan the map:

- Keep the left mouse button pressed and move the mouse cursor to the required direction.

To adjust the scale level:

- Scroll the mouse wheel to zoom the map.

To select a different map:

- Click the **Map Settings** button in the right panel.
- In the **Map Configuration** window, from the **Tile source** drop-down list, select the preferred map.
- Click **Apply**.

Note that in the offline mode, the map is loaded from cache.

To select the cache folder:

- Click the **Map Settings** button in the right panel.

- In the **Map Configuration** window, click the **Search** button next to the **Root cache directory** field. Find the destination folder and confirm the choice. Or, specify the folder path manually.
- Click **Apply**.

You can perform the following operations with map regions.

To add a polygonal region:

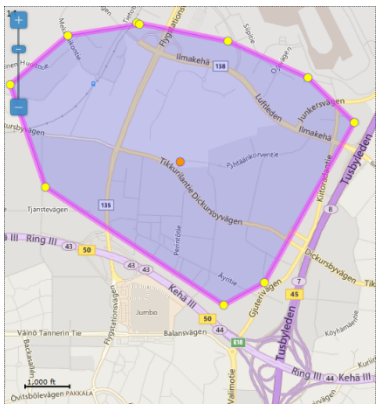
- Click the **Add Polygonal Region** button ( ).
- Click the map where the region border will start. Draw the shape of the region, clicking where you want to place nodes. The added nodes connected with lines make a region border.
- Double-click to finish. The first and the last nodes will be connected with a line. The new polygonal region will appear in the right panel under the **Regions List**.

To add a circular region:

- Click the **Add Circular Region** button ( ).
- Click the map where the center of the region will be located.
- Release the mouse button and move the cursor away from the center. The distance from the center (in km) is displayed near the region. The radius of a circular region is restricted to 65 km.
- Double-click to finish. The new circular region will appear in the right panel under the **Regions List.**

To edit a region:

- Double-click inside the region on the map, or in the **Regions List**.
  The region on the map is highlighted and all of its nodes are displayed.
- To drag a node to a different position, click it and keep the mouse button pressed. To drop the node, release the mouse button.
- To delete a node, right-click it.
- To move the entire region, point to its central point, click and drag it to the new position on the map.
- To save changes, double-click on the map. Or, press Esc to cancel editing.



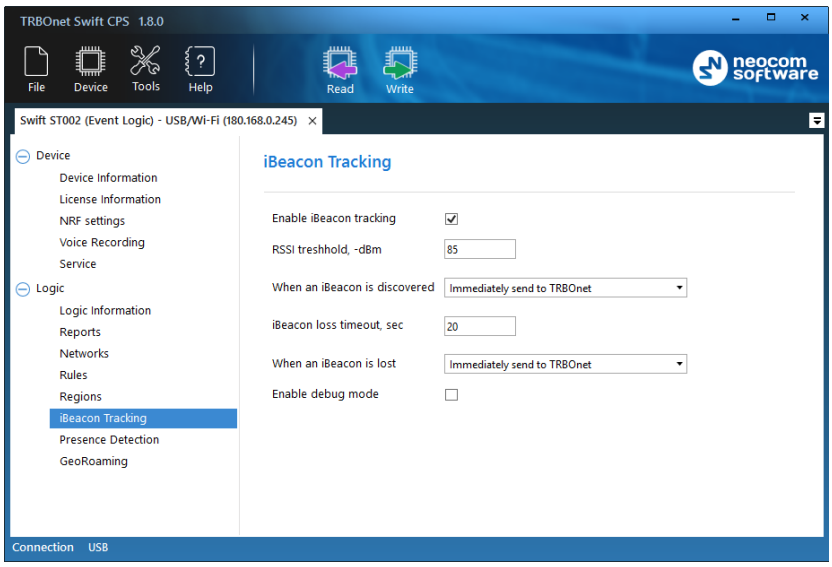
To delete a region:

- Select the region under the Regions List and click the Delete button.

Note: The deleted region cannot be restored with the Undo command.

2.2.6 iBeacon Tracking

To configure iBeacon tracking, select the **iBeacon Tracking** section in the left panel.



In the right pane, specify the following iBeacon-related settings:

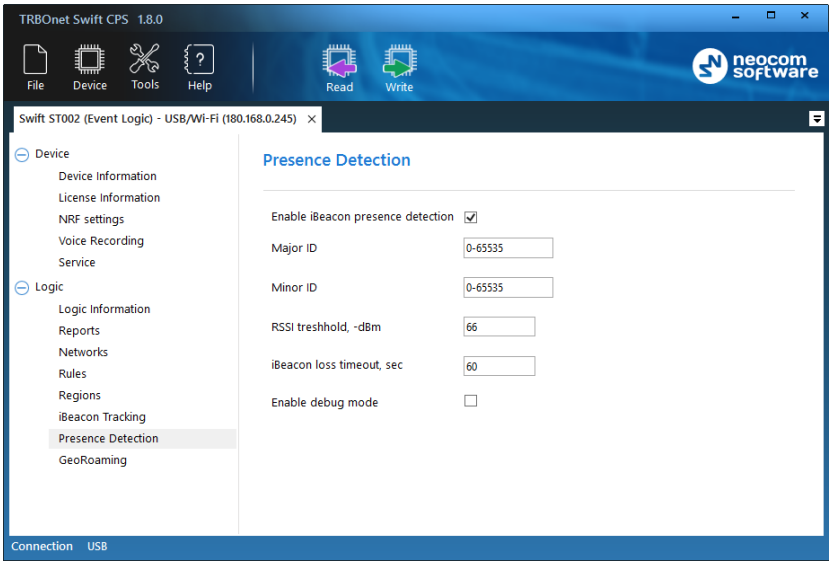
- **Enable iBeacon tracking**
  Select this option to enable iBeacon tracking.
- **RSSI threshold**
  Set the minimum signal strength, in negative decibels, of an iBeacon to be considered as discovered.
- **When an iBeacon is discovered**
  From the drop-down list, select what to do when an iBeacon is discovered.
  - **Add to report**
    This will add information on a discovered iBeacon to the report.
  - **Immediately send to TRBOnet**
    This option means that the corresponding report will be sent immediately.
  - **Immediately send to TRBOnet with interrupt**
    This option means that the corresponding report will be sent immediately, interrupting the current transmission, if the radio channel is busy.
- **iBeacon loss timeout**
  Enter the timeout, in seconds, within which an iBeacon is not considered as lost.
- **When an iBeacon is lost**
  From the drop-down list, select what to do when an iBeacon is lost.
  - **Add to report**
    This will add information on a lost iBeacon to the report.

- **Immediately send to TRBOnet**
  This option means that the corresponding report will be sent immediately.
- **Immediately send to TRBOnet with interrupt**
  This option means that the corresponding report will be sent immediately, interrupting the current transmission, if the radio channel is busy.

- **Enable debug mode**
  Select this option to show debug information on the radio display.

2.2.7 Presence Detection

To configure iBeacon presence detection, select the **Presence Detection** section in the left panel.



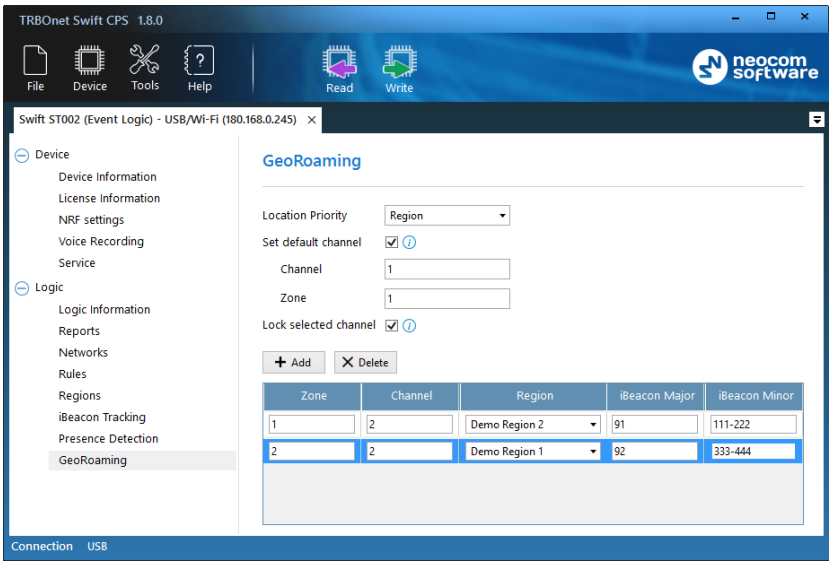
In the right pane, specify the following iBeacon presence-related settings:

- **Enable iBeacon presence detection**
  Select this option to enable iBeacon presence detection.
- **Major ID**, **Minor ID**
  Enter the Major ID and Minor ID (the values or the ranges of values).
- **RSSI threshold**
  Set the minimum signal strength, in negative decibels, of an iBeacon to be considered as discovered.
- **iBeacon loss timeout**
  Enter the timeout, in seconds, within which an iBeacon is not considered as lost.
- **Enable debug mode**
  Select this option to show debug information on the radio display.

2.2.8 GeoRoaming

The GeoRoaming feature allows for automatic selection of the radio channel/zone depending on the geographical region and/or the proximity of certain iBeacons.

- In the left panel, select the **GeoRoaming** section.



In the right pane, specify the following GeoRoaming-related settings:

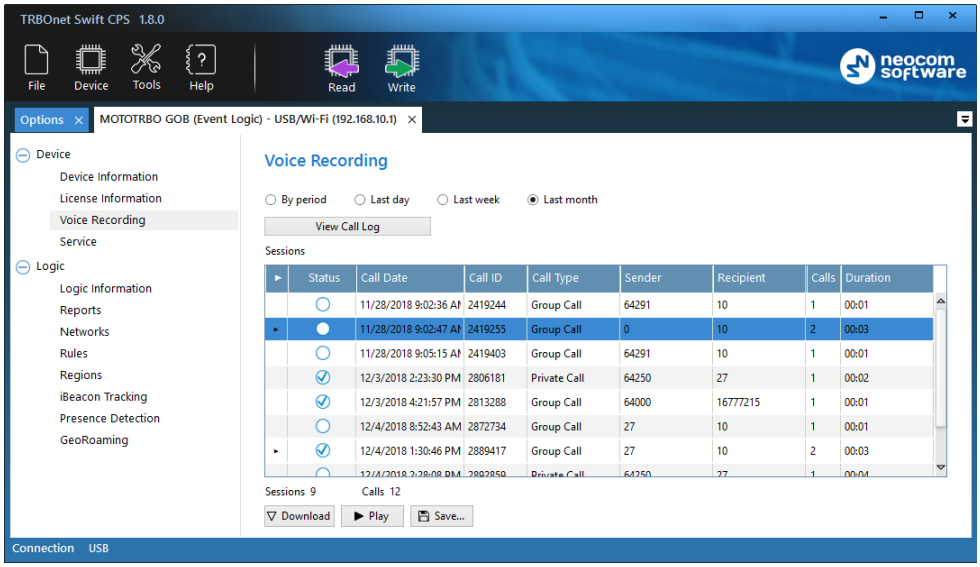
- **Location Priority**
  From the list, select the priority to use for GeoRoaming.
- **Set default channel**
  Select this option and specify the default channel and zone. This channel/zone will be automatically set on the radio when its location is not available or outside designated regions/iBeacons.
  - **Channel**
    Enter the default channel.
  - **Zone**
    Enter the default zone.
- **Lock selected channel**
  Select this option so that the radio will prevent the user from changing the automatically selected channel.
- **Add**
  Click this button and specify the following GeoRoaming parameters:
  - **Zone**
    Enter the zone to be set automatically when the radio stays in the selected region and/or in the vicinity of the specified iBeacon(s). The value 0 means that the current zone won't be changed.
  - **Channel**
    Enter the channel to be set automatically when the radio stays in the selected region and/or in the vicinity of the specified iBeacon(s). The value 0 means that the current channel won't be changed.
  - **Region**
    From the list, select the region within which the radio must stay so that the specified channel/zone will be set automatically.

- **iBeacon Major, iBeacon Minor**
  Specify the Major ID and Minor ID of the beacon(s) in the vicinity of which the radio must stay so that the specified channel/zone will be set automatically.

3 Voice Recording

The Voice Recording tool available in TRBOnet Switch CPS allows you to retrieve call recordings from the radio and listen to them by using the TRBOnet Player.

- In the left pane, click **Device > Voice Recording**.



- In the **Voice Recording** pane on the right, choose the appropriate time period and click **View Call Log**.

  In the **Sessions** table, you will see the list of audio sessions.
- Select a record or a group of records in the table and click the **Download** button.
  The downloaded record(s) will be marked as checked in the **Status** field.
- Once downloaded, the records can be listened to by clicking the **Play** button. The TRBOnet Player will open and start playing the selected audio record(s).
- To save downloaded records, click the **Save** button.
  In the **Save As** dialog box, locate the folder where you want to save the audio file, specify the file name, and click **Save**.

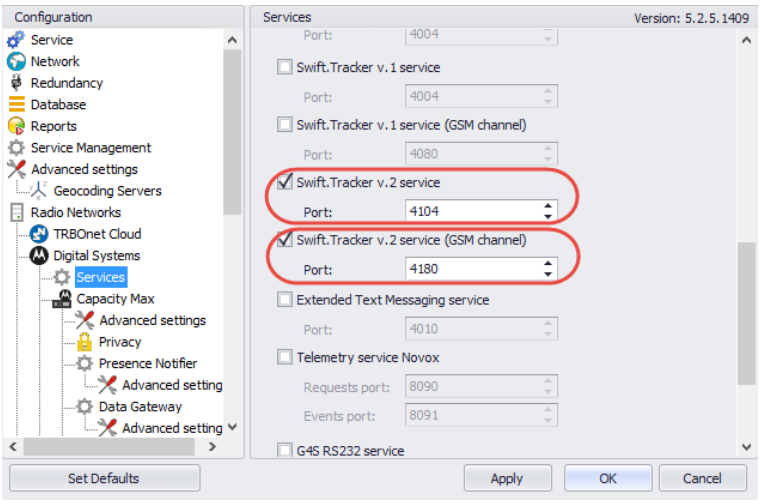
> Note: The audio records will be saved in the TNA format, which is a proprietary audio format that contains additional information about radio calls, such as radio ID, start time, end time, and other parameters. This format provides more details about call participants and allows easy navigation within recorded audio files.

4 Configuring TRBOnet Enterprise

This section describes how to configure TRBOnet Enterprise software to take advantages of option boards.

4.1 TRBOnet Server

- Run TRBOnet Enterprise Sever.
- In the **Configuration** pane, select **Radio Networks > Digital Systems > Services**.

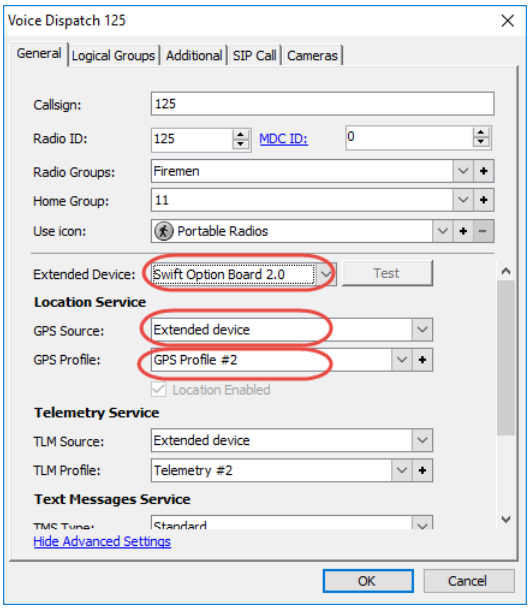


- In the **Services** pane:
  - Select the **Swift.Tracker v.2 service** option and make sure the port number is **4104**.
  - Select the **Swift.Tracker v.2 service (GSM channel)** option and make sure the port number is **4180**.

4.2 TRBOnet Dispatch Console

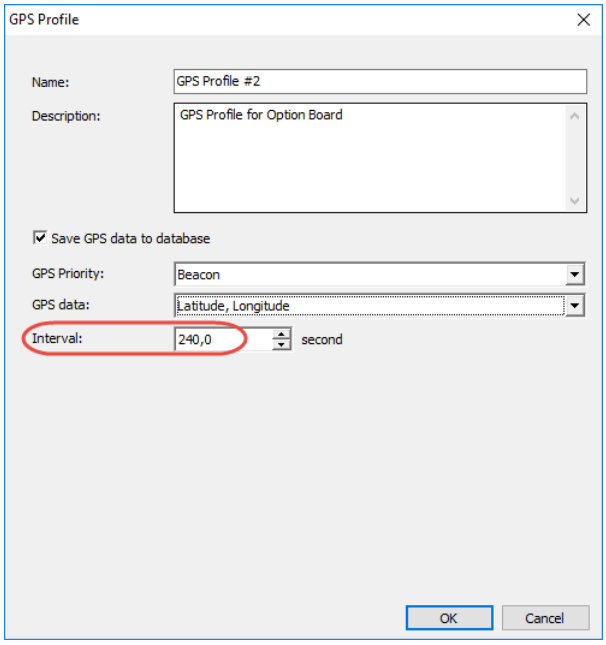
- Run TRBOnet Enterprise Dispatch Console.
- Go to **Administration**, **Radios**.
- Double-click the desired radio in the list of registered radios.

  The Voice Dispatch dialog box opens:



- **Extended Device**
  From the drop-down list, select **Swift Option Board 2.0**.
- **Location Service>GPS Source**
  From the drop-down list, select **Extended device**.
- **Location Service>GPS Profile**
  From the drop-down list, select the GPS profile to apply.

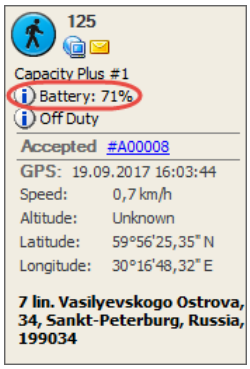
Note: In the applied GPS Profile (**Administration > GPS Profile**), set the **Interval** parameter to a value two-three times as large as that specified in TRBOnet Swift CPS (**Logic>Reports>Radio Report Profile>Send report every X sec**, see section 2.2.2.1, Editing Report Profile).



5 Using Option Board Features in Dispatch Console

5.1 Battery Status

- Select a radio in the Radio List and hover the mouse pointer over it:

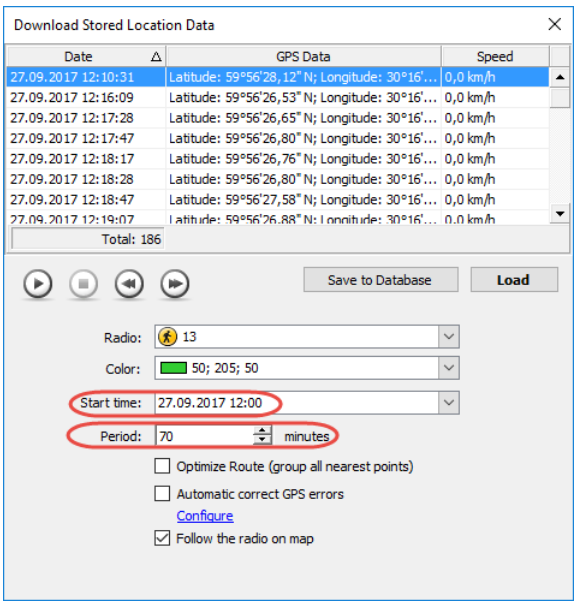


In addition to the common information, you'll see the battery status received from the radio.

Note: The version of TRBOnet Enterprise must be **5.2.0.1359** or later. The Swift ST002 device firmware version must be **03.00.13** or later. If the radio is equipped with an Impres battery, the dispatcher will be able to see the percentage remaining battery level. Otherwise, the radio will send an alert in the case of a low battery level.

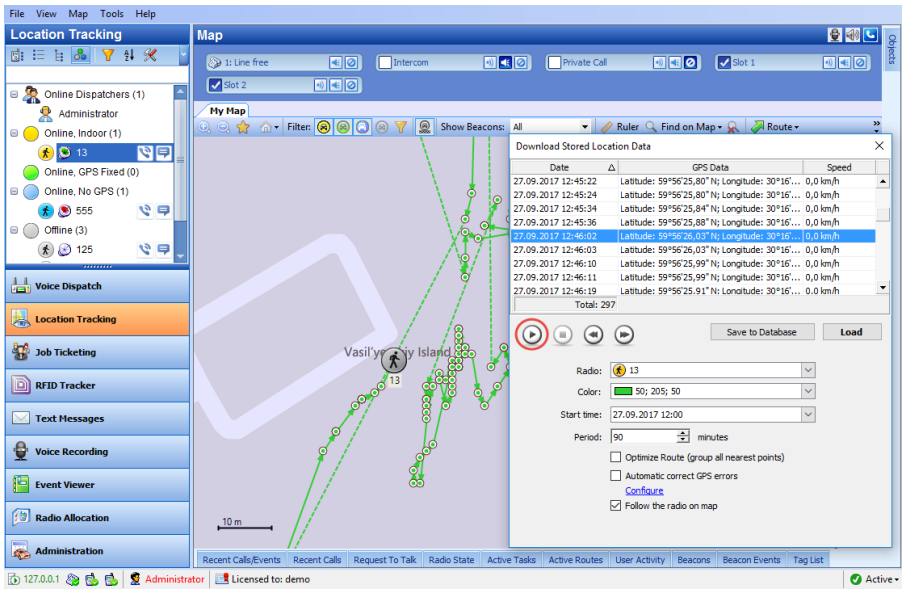
5.2 Downloading Location Data

- Right-click a radio in the Radio List and on the context menu choose **Monitoring > Download Stored Location Data**.



- In the dialog box, specify the following parameters:

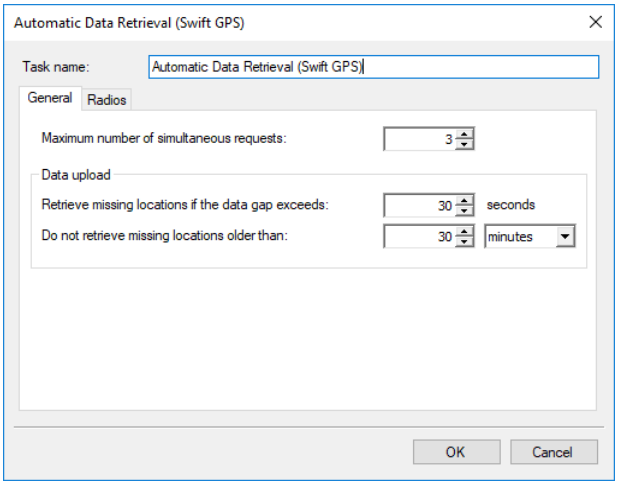
- **Start time**
  Specify the date/time starting from which to load location data from the radio's option board.
- **Period**
  Specify the time period, in minutes, for which to load location data from the radio's option board.
- Click **Load** to start loading location data.
- Once you have finished loading location data, click the **Play** button and see the route made by the radio user on the map.



5.3 Automatic Data Retrieval

The **Automatic Data Retrieval** task is used to automatically retrieve missing location data from the radio's option board.

- Go to **Administration**, **Tasks**.
- In the **Tasks** pane, click **Add > Automatic Data Retrieval (Swift GPS)**.



- In the dialog box, specify the following parameters:

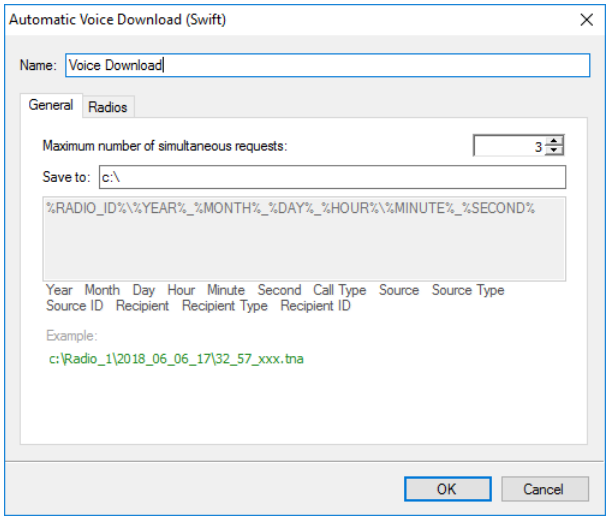
- **Maximum number of simultaneous requests**
  Specify the maximum number of radios being requested at the same time.
- **Retrieve missing locations if the data gap exceeds**
  TRBOnet Server automatically checks whether the location data is continuous. If it detects data gaps between any consecutive location data that exceed this value, it will attempt to retrieve missing information.
- **Don't retrieve missing locations older than**
  TRBOnet Server doesn't check location updates for consistency if they are older than this value in seconds, minutes, or hours.
- On the **Radios** tab, specify the radio(s) to retrieve location data from.

- In the list of tasks, activate the **Automatic Data Retrieval (Swift GPS)** task by selecting the box next to the task name.

5.4 Automatic Voice Download

The **Automatic Voice Download** task is used to automatically retrieve voice data from the radio's option board when the radio is in WiFi zone.

- Go to **Administration**, **Tasks**.
- In the **Tasks** pane, click **Add > Automatic Voice Download (Swift)**.



- In the dialog box, specify the following parameters:
  - **Maximum number of simultaneous requests**
    Specify the maximum number of simultaneously requested radios.
  - **Save to**
    Specify the path where to save voice data on your PC.
  - On the **Radios** tab, specify the radio(s) to retrieve voice data from.

In the list of tasks, activate the **Automatic Voice Download (Swift)** task by selecting the check box next to the task name.