





TRBOnet Option Board Configuration Guide

Version 2.1

Last revised on 6 June 2024

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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
- Dynamic Channel Selection

1.2 Supported Option Boards

- Generic option board (GOB) by Motorola (the memory capacity is 8 MB)
- Swift option board by Neocom (the memory capacity is 512 MB)

1.3 Supported Radio Systems

- Direct Mode
- 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 (or Motorola GOB) to the PC using a USB port.
- Run TRBOnet Swift CPS.
- Make sure that the **Allow changing device firmware type** option is set to ON (**Tools > Options**).
- Expand the **Connection** menu and click **USB**.
- On the **Device** menu, click **Read**, or click the **Read** button on the toolbar. Or:
- On the File menu, click Open Sample.
 - In the folder, click the sample file intended for your type of device. Click **Open**.
- In the **Device Information** pane, click **Update Firmware**.
- In the **Firmware update** window, open the **Update to** menu and click the firmware version to which the device will be updated.

2.2 Configuring Event Logic

For how to configure Swift Logic parameters, refer to section 4.5, Swift Event Logic in TRBOnet Swift CPS User Guide.

Once you have finished configuring required Swift Logic parameters:

• On the **Device** menu, click **Write**, or click the **Write** button on the toolbar.



2.2.1 Activating Features

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

Activate features Activate features on device. License key Company Test_ Neocom Software								
Feature	Code	Quantity	Available	Active				
Location Tracking	#EL001	80	8	\checkmark				
Personal Safety	#EL010	70	13	\checkmark				
Custom Service	#EL030	70	7	\checkmark				
Voice Recording	#EL050	60	14	\checkmark				
Activate features Activate demo mode Restore features								

• In the Activate features window, enter the license key.

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 allows the option board to receive GPS and iBeacon location data from the radio.
 - The **Personal Safety** license allows the option board to use accelerometer to provide personal safety features.
 - The **Voice Recording** license allows the option board to receive voice recording data from the radio.





2.2.2 Mass Configuration

You can configure multiple option boards at once by using the Mass Configuration mode. The OTA connection is used for over-the-air programming of endpoint devices such as an option board ST002 installed into a MOTOTRBO radio.

• On the toolbar, click **Tools > Mass Configuration**.

File Device	K 🖸 🔛 🧛	neocom software
MOTOTRBO GOB (Eve	nt Logic)-Sample_GOB (Swift Logic) × Mass Configuration ×	E
Mass Configu	uration	
Device type	Swift OB, GOB •	
OTA Connection		
Gateway	TRBOnet Server •	
IP Address	10.12.101.6 •	
Port	4011	
Response timeout,	sec 15	
File	C:\ProgramData\Neocom Software\TRBOnet Swift CPS\Samples\Sample_GOB (Swift Logic).swr	
Radio ID range	27, 303	
Retry count 💽	3	
Start		
Connection Over the A	Air A	

- In the Mass Configuration page, enter the following parameters:
 - Device type

From the drop-down menu, select 'Swift OB, GOB'.

OTA Connection

In this section, specify the OTA (over-the-air) Connection-related settings.

• Gateway

The gateway that can establish an IP connection with TRBOnet Swift CPS and that can communicate with the device over the air. Values: TRBOnet Server, Swift IP Gate: Swift A100/ A200

• IP Address

The IP address of the gateway selected above.

• Port

This is the Forward Data service port of the TRBOnet Server (if selected above). Default: **4011**.

To get the port number, launch the TRBOnet Enterprise (PLUS) Server application and select **Radio Systems > Services** in the left pane. Find the port number under the **Forward Data service** option.

Note: Make sure that the **Forward Data service** option is selected (see section <u>4.1, TRBOnet Server</u>).



• Response timeout

The time period, in seconds, to wait for a response from the server side (TRBOnet Server, Swift IP Gate).

File

Enter the full path name for the configuration file (*.swr) that will be sent to the radios specified below.

Radio ID range

Enter the range of Radio IDs to which the configuration file selected above will be sent.

Note: Separate each Radio ID with a comma, for example, "105,106,111", or enter the range using the following example: "105-111".

Retry count

Select this option and enter the number of retries allowed.

• Once you have specified the desired configuration settings, click **Start**.



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.

- Note: In the Swift ST002 option board, the amount of memory for voice records is limited to 256 MB.
 - In the left pane, click **Device > Voice Recording**.

File	Device	Tools	{? Help		Read	Write						soft	com war
Option	ns 🗙 MOT	otrbo g	DB (Event Lo	gic) - USB	/Wi-Fi (192.1	168.10.1) ×							
⊡ Dev	Vice Device Inforr License Infor Voice Record Service	mation rmation ling		O By	period (View Call	ling C Last day C) Last week	 Last month 					
🗆 Log	jic General			Session	ns State	Call Date	Call ID	Call Type	Sender	Recipient	Calls	Duration	
	Report Profile	es			0	11/28/2018 9:02:36	AI 2419244	Group Call	64291	10	1	00:01	~
	 Radio Rej 	port		•	•	11/28/2018 9:02:47	AN 2419255	Group Call	0	10	2	00:03	
	Regions				0	11/28/2018 9:05:15	AM 2419403	Group Call	64291	10	1	00:01	
	Modules				\bigotimes	12/3/2018 2:23:30	PM 2806181	Private Call	64250	27	1	00:02	
	Rules				\bigotimes	12/3/2018 4:21:57	PM 2813288	Group Call	64000	16777215	1	00:01	
	ocenanos				0	12/4/2018 8:52:43	AM 2872734	Group Call	27	10	1	00:01	-
					\bigotimes	12/4/2018 1:30:46	PM 2889417	Group Call	27	10	2	00:03	
				Session ⊽ Do	ns 9 wnload	12/4/2018 2-28-08 I Calls 12 Play 🖺 Sa	DM 2802850	Drivate Call	64250	27	1	00-04	~

• 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 **State** 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 using option boards.

4.1 TRBOnet Server

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

Configuration	Services	
💣 Service 🗖		^
S Network	✓ Automatic Registration service (ARS)	
🛱 Redundancy	Port: 4005 * Z RSSI	
Remote Access Restriction		
Database	✓ Telemetry service (TLM)	
😪 Reports	Port: 4008	
Service Management	Taut Manager annias (TMC)	
🔀 Advanced Settings	Text Messages service (TMS)	
Geocoding Servers	Port: 4007	
🔛 Radio Systems	✓ Location service (LRRP / Indoor)	
🔅 Services	Port: 4001	
IPSC 1		
Selex #1		
TT over Cellular		
Advanced Settings		
PoC Gateway #1	Swift.Tracker v.2 service	
👯 Teltonika	Port: 4104	
🔂 Remote Agents	Swift Tracker v 2 service (IP chappel)	
Friendly Servers		
2 Phone Connect	Port: 4180	~
1 a		
Set Defaults	Apply OK	Cancel

- 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 (IP channel) option and make sure the port number is 4180.
 - Select the Forward Data service option and make sure the port number is 4011.

Note: Selecting the **Forward Data service** option is required for using <u>Mass Configuration</u> in TRBOnet Swift CPS.

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 Digital Radio dialog box opens:

TRBOnet Option Board – Configuration Guide



Digital Radio: Radio	o 125	×					
General Logical Groups Additional SIP Account Cameras							
Radio Name:	Radio 125						
Radio ID:	125 🔹 MDC ID: 0	▲					
Radio Groups:	All	~ +					
Home Group:	None	~ +					
Use icon:	🛞 Portable Radios	~ + -					
Extended Device:	Swift Option Board 2.0	Test ^					
Location Servic							
Location Servic							
Location Source:	Extended device						
Location Profile:	Location Profile #1	> • +					
	Location Enabled						
Telemetry Ser	vice						
TLM Source:	Built-in Telemetry	~					
TLM Profile:	(Default)	~ +					
Text Messages	5 Service						
TMS Source Hide Advanced Se	Built-in Text Messages	V ¥					
		Cancel					

- Extended Device
 - From the drop-down list, select Swift Option Board 2.0.
- Location Service>Location Source
 From the drop-down list, select Extended device.
- Location Service>Location Profile From the drop-down list, select the location profile to apply.
 - Note: In the applied Location Profile (Administration > Location Profile), set the Interval parameter to a value two-three times as large as that specified in TRBOnet Swift CPS (Logic > Report Profiles > Radio Report > Send report every X sec).

Location Profile (Extende	ed device)	×
General Management		
Name:	Location Profile #1	
Description:		^
Positioning mode:	Beacon Indoor/Outdoor	
GPS data:	Latitude, Longitude, Precision, Direction, Speed	
Interval:	240L0 second	
	OK Cano	el



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.

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Download Stored Location Data							
Date 4	GPS Data	Speed					
27.09.2017 12:10:31	Latitude: 59°56'28,12" N; Longitude: 30°16'	0,0 km/h	•				
27.09.2017 12:16:09	Latitude: 59°56'26,53" N; Longitude: 30°16'	0,0 km/h					
27.09.2017 12:17:28	Latitude: 59°56'26,65" N; Longitude: 30°16'	0,0 km/h					
27.09.2017 12:17:47	Latitude: 59°56'26,80" N; Longitude: 30°16'	0,0 km/h					
27.09.2017 12:18:17	Latitude: 59°56'26,76" N; Longitude: 30°16'	0,0 km/h					
27.09.2017 12:18:28	Latitude: 59°56'26,80" N; Longitude: 30°16'	0,0 km/h					
27.09.2017 12:18:47	Latitude: 59°56'27,58" N; Longitude: 30°16'	0,0 km/h	_				
27.09.2017 12:19:07	Latitude: 59°56'26.88" N: Longitude: 30°16'	0.0 km/h	•				
Total: 18	5						
Radio:	Save to Database	Load					
	<u> </u>						
Color:	50; 205; 50	~					
Start time:	27.09.2017 12:00	\sim					
Period:	70 🛨 minutes						
	Optimize Route (group all nearest points)						
	Automatic correct GPS errors	Automatic correct GPS errors					
	Configure	Configure					
	Follow the radio on map						

• 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).

Automatic Data Ret	rieval (Swift GPS)	
Task name:	Automatic Data Retrieval (Swift GP	s)
General Radios		
Maximum number	of simultaneous requests:	3 🚔
Data upload		
Retrieve missing	ocations if the data gap exceeds:	30 🛨 seconds
Do not retrieve m	issing locations older than:	30 🌩 minutes 💌
		OK Cancel

- 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).

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Automatic Voice Download (Swift)	×
Name: Voice Download	
General Radios	
Maximum number of simultaneous requests:	
Save to: c:\	
%RADIO_ID%%YEAR%%MONTH%%DAY%%HOUR%%MINUTE%%SECOND%	
Tear Month Day Hour Minute Second Call type Source Source Type Source ID Recipient Recipient Type Recipient ID Radio ID	
c:\Radio_120221130133744_xxx.tha	
Save to database	
(Note that this may cause duplication of voice records in the server database)	
OK Cancel	

- 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.