TRBONET
Dispatch Systems

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AUTHORIZED APPLICATION PROVIDER
DIMETRA™
MOTOROLA SOLUTIONS

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MOTOTRBO™
MOTOROLA SOLUTIONS

TRBOnet Communicator

User Guide

Version 2.0

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1 Introduction

1.1 About This Document

This document is intended for end users of the TRBOnet Communicator software installed on an Android mobile device. The document describes how to install and configure TRBOnet Communicator, send and receive text messages and files, view the history of messages, and use the contact list.

1.2 About TRBOnet

TRBOnet is a suite of professional applications for the MOTOTRBO digital two-way radio networks. TRBOnet manages voice, text and data communication paths to network endpoints and provides a unified graphical dispatcher workbench interface for all the messaging and workforce orchestration tasks.

For more information about TRBOnet products, refer to our website.

1.3 Contacts

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EMEA	+44 203 608 0598	info@trbonet.com — general and commercial inquiries support@trbonet.com — technical support https://trbonet.com/kb/ — online knowledge base
Americas	+1 872 222 8726	
APAC	+61 28 607 8325	

2 Overview

TRBOnet Communicator is a software application for Android mobile devices. Install this application and pair it with a Motorola two-way radio via Bluetooth to send and receive text messages and files on the MOTOTRBO radio network using the screen of your mobile device.

2.1 Features

- Sending text messages to radios, radio groups, TRBOnet Console dispatchers or TRBOnet Communicator applications connected to radios via Bluetooth
- Sending files to TRBOnet Console dispatchers and TRBOnet Communicator applications connected to radios via Bluetooth
- Incoming messages from radio users, radio groups, and dispatchers displayed on the screen of the mobile device
- Ability to sign in users to the radio system
- Message delivery status
- Message history for all contacts
- Configurable message parameters (timeout, delay, packet size, etc.)
- Customizable contact book
- Auto-reconnect to the last connected radio after the radio or the mobile device is off and on again
- Auto-scan of active Bluetooth radios within the 15-meter area
- Notification about a new incoming message with the application closed
- Adaptive user interface for all smartphone and tablet screen types
- Support of both portrait and landscape orientations

2.2 Requirements

- The hardware and software requirements to install and run TRBOnet Communicator 2.0 on a mobile device include:
  - Android version: 4.4.1 and higher
  - Bluetooth LE supported
  - Wi-Fi disabled (except for Nexus)
  - Bluetooth enabled
- The version of TRBOnet Enterprise/Plus must be 5.4 and higher.

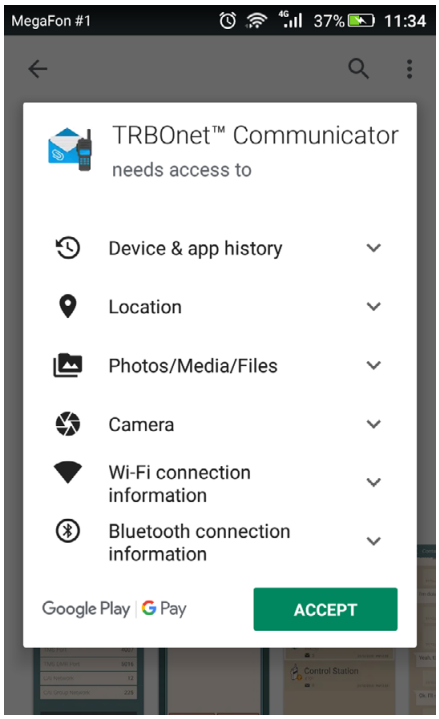
3 Installation

The latest version of the TRBOnet Communicator software application is available for download on Google Play (play.google.com).

3.1 Installing TRBOnet Communicator

To install TRBOnet Communicator:

1. Visit play.google.com from your mobile device.
2. Type “TRBOnet” in the search box and run the search.
3. Tap the TRBOnet Communicator application, then tap **Install**.
4. Click **Accept** to activate all required options on your mobile device.



Note: Make sure Location permission is enabled. Otherwise, issues may arise when searching for a radio to be connected via Bluetooth.

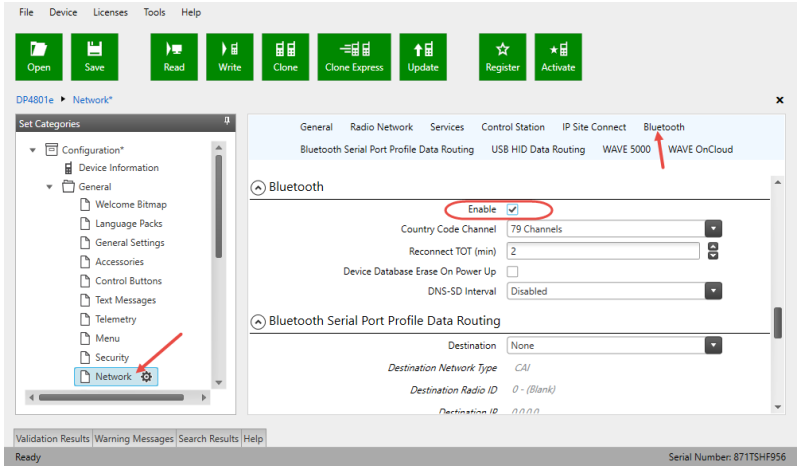
5. When the installation is completed, tap **Open**.

4 Radio Configuration

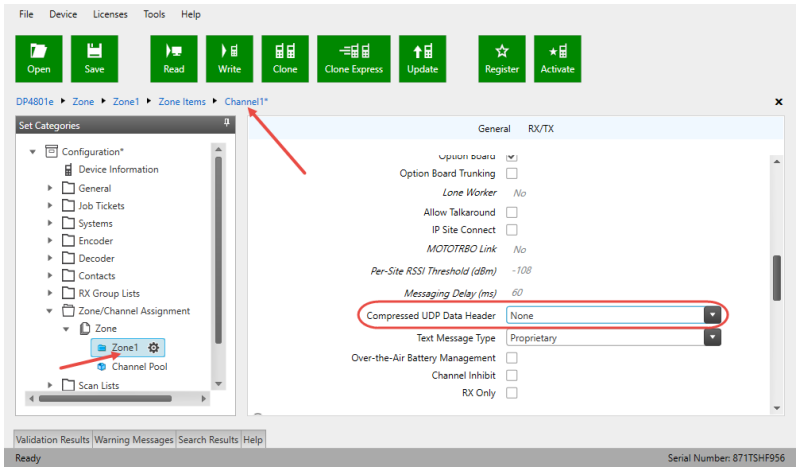
Before two devices can start communication over Bluetooth, they need to be paired. For your MOTOTRBO radio to be able to perform Bluetooth pairing, update the configuration of your radio in MOTOTRBO CPS as follows:

4.1 MOTOTRBO CPS Settings

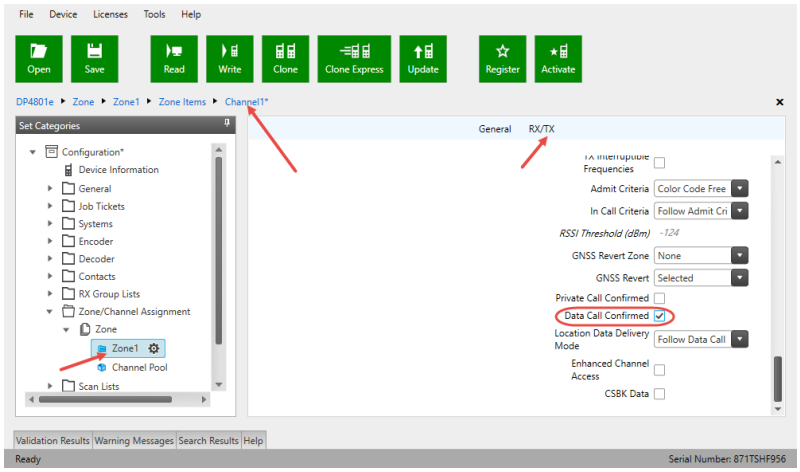
- In the **Set Categories** pane, select **General > Network**.
  In the right pane, navigate to the **Bluetooth** section and select **Enable**.



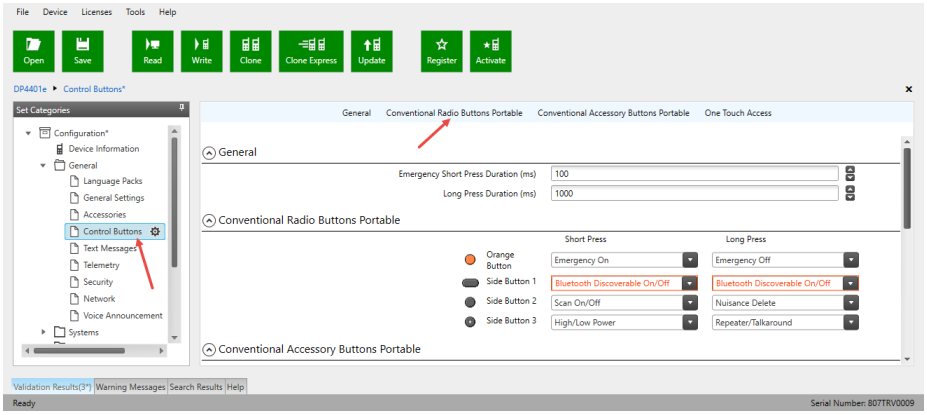
- In the **Set Categories** pane, select **Zone/Channel Assignment > Zone > Zone**.
  In the right pane, select the channel and click the pencil button to edit the selected channel.
  - In the right pane, navigate to the **General** section and in the **Compressed UDP Data Header** parameter, select **None**.



- In the right pane, navigate to the **RX/TX** section and make sure the **Data Call Confirmed** option is selected.



- In the **Set Categories** pane, select **General > Control Buttons**.
- In the right pane, navigate to the **Conventional Radio Buttons Portable** section.

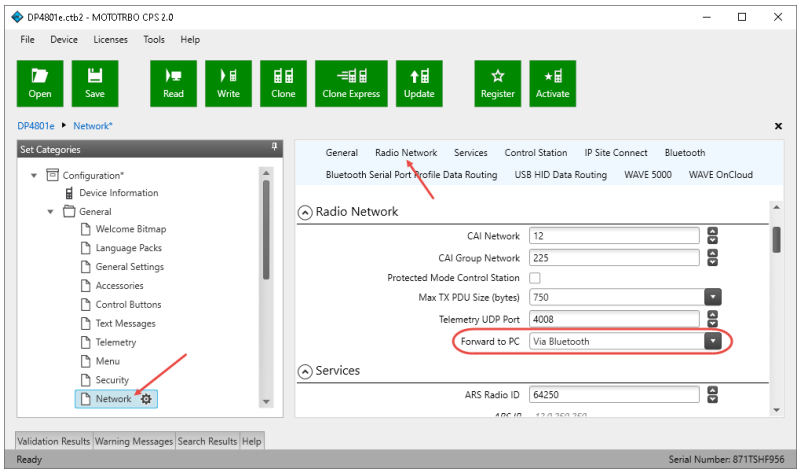


- In the right pane, select a button, and in the Short Press or Long Press action select **Bluetooth Discoverable On/Off**.

Note: This setting applies to non-display radios only. The programmed button serves for the activation/deactivation of the Find Me mode on the radio.

Note: In addition, if you want to receive in your TRBOnet Communicator private and group text messages from the radios that don't use TRBOnet Communicator, do one more setting:

- In the **Set Categories** pane, select **General > Network**.
  In the right pane, navigate to the **Radio Network** section and in the **Forward to PC** parameter, select **Via Bluetooth**.



5 TRBOnet Enterprise/Plus Configuration

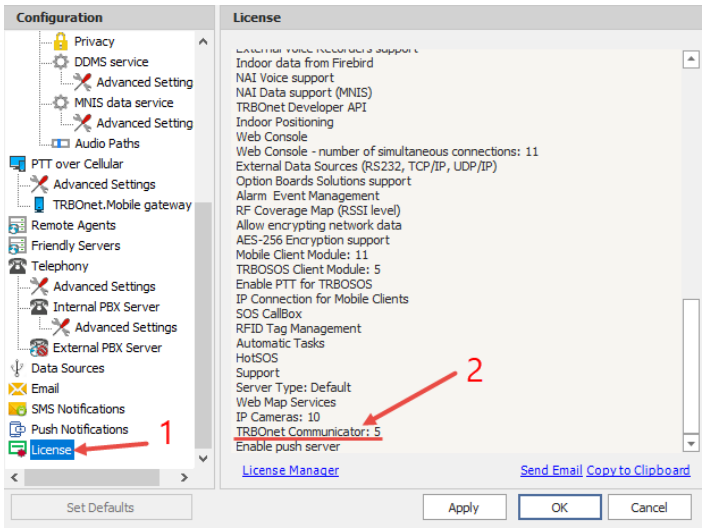
This section describes how to configure TRBOnet Enterprise/Plus software for a correct operation of TRBOnet Communicator.

5.1 TRBOnet Server

This section describes how to appropriately configure TRBOnet Server.

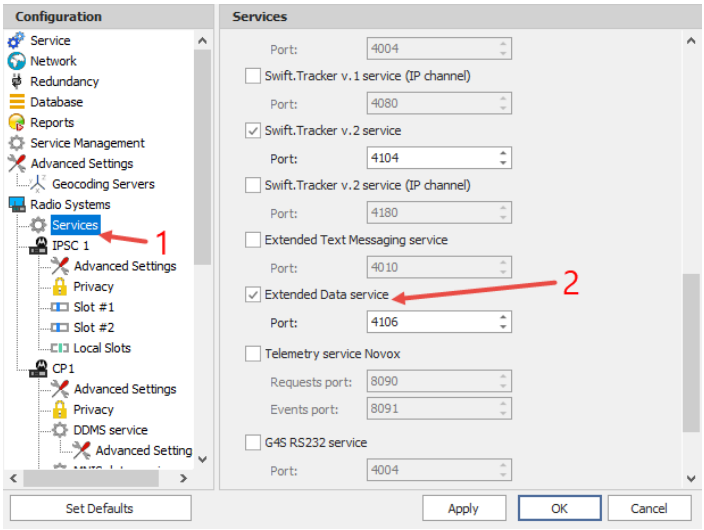
5.1.1 License

- In the **Configuration** pane, select **License** (1).
- In the **License** pane, make sure that there is a line reading **TRBOnet Communicator: #** (2).



5.1.2 Services

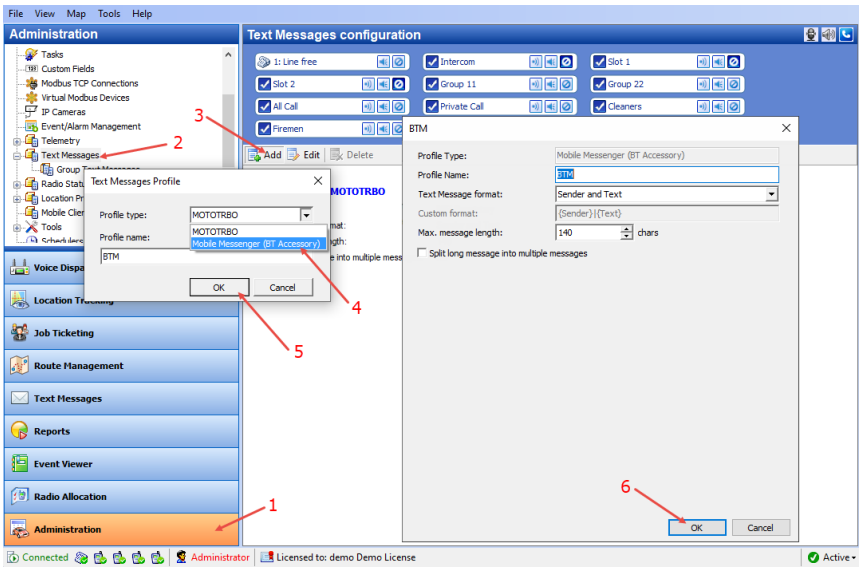
- In the **Configuration** pane, under **Radio Systems**, select **Services** (1).
- In the **Services** pane, select the **Extended Data service** option (2). Do not change the port number (**4106**).



5.2 TRBOnet Dispatch Console

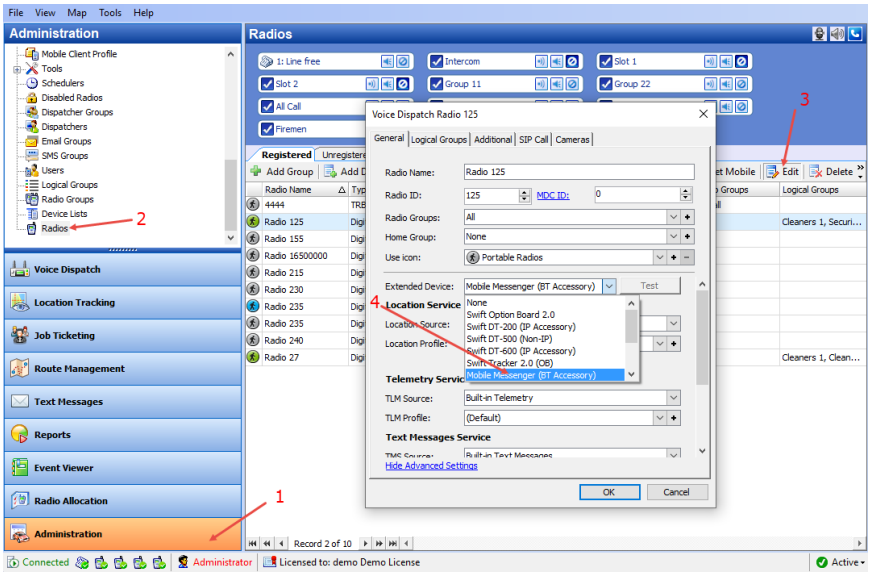
This section describes how to appropriately configure TRBOnet Dispatch Console.

5.2.1 Creating Text Message Profile

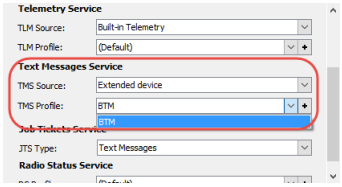


- Go to **Administration** (1) > **Text Messages** (2).
- In the **Text Messages configuration** pane, click **Add** (3).
- In the **Text Messages Profile** dialog box, from the **Profile type** list, select **Mobile Messenger (BT Accessory)** (4).
- Click **OK** (5).
- In the dialog box that opens click **OK** (6)

5.2.2 Configuring Radio

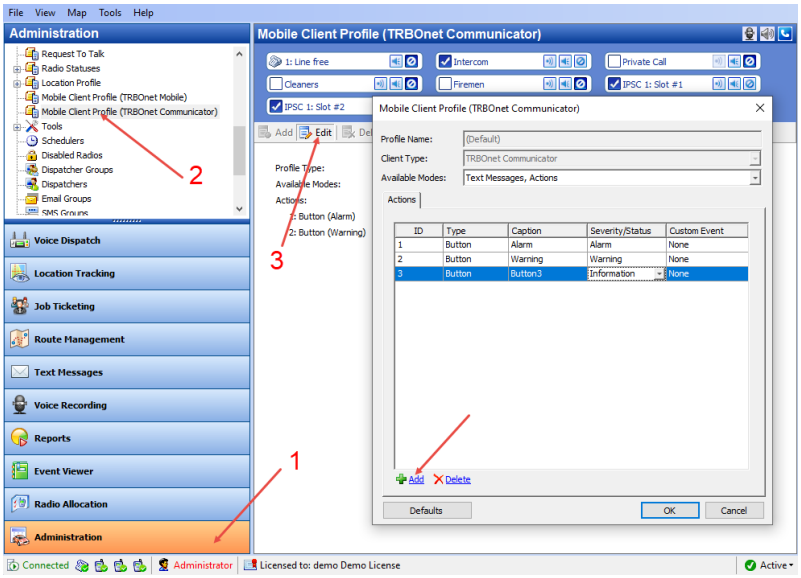


- Go to **Administration** (1) **> Radios** (2).
- In the **Radios** pane, select the required radio and click **Edit** (3).
- In the dialog box that opens, from the **Extended Device** list, select **Mobile Messenger (BT Accessory)** (4).



- Go to **Text Messages Service**, and from the **TMS Source list**, select **Extended Device**. From the **TMS Profile** list, select the text message profile created in the previous step.

5.2.3 Configuring Mobile Client Profile



- Go to **Administration** (1) **> Mobile Client Profile (TRBOnet Communicator)** (2).
- In the **Mobile Client Profile (TRBOnet Communicator)** pane, click **Edit** (3).
- In the dialog box that opens, click the **Add** link.
- In the table below, specify the Type, Caption, Severity/Status, and Custom Event for the button(s) you are adding.
- Once you have configured the profile, click **OK**.

As a result, the specified buttons will appear on the **Signed-in** tab of TRBOnet Communicator.

6 Bluetooth Connection

6.1 Connecting a Radio

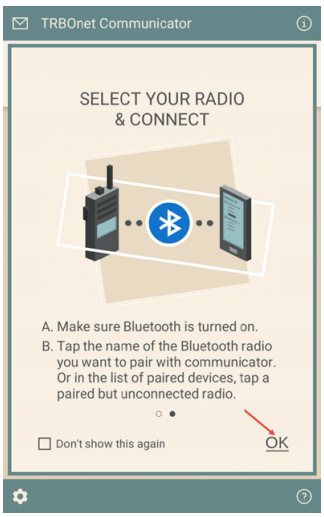
To launch TRBOnet Communicator on your mobile device, you need to establish a Bluetooth connection with a Motorola radio as described below.

Note: When connecting TRBOnet Communicator to a radio for the first time, include the steps with the "Bluetooth pairing" mark. When connecting TRBOnet Communicator to the paired radio, skip the marked steps.

To connect a radio:

1. Turn on the radio.
2. (Bluetooth pairing) Activate the Find me mode on the radio:
   - On a radio with display, go to the **Bluetooth** menu section and select the **Find me** option. The "Find me" message should remain on the screen until Bluetooth pairing is done.
   - On a non-display radio, push the button programmed for the activation of the Find me mode. If successful, the orange LED indicator is activated. For details, refer to section 4 Radio Configuration (page 4).
3. Launch TRBOnet Communicator on your mobile device.
4. Disable Wi-Fi and enable Bluetooth on your mobile device.
5. In the **Prepare Your Radio** page, click **Next**.
6. In the **Select Your Radio and Connect** page, click **OK**.

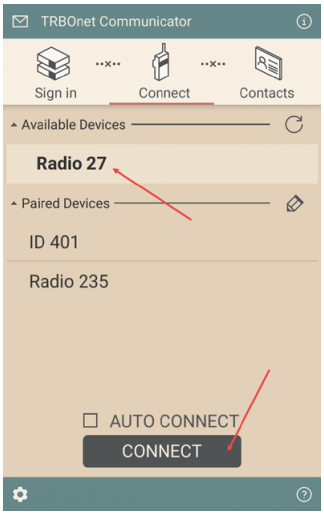
   The mobile device scans around for devices with enabled Bluetooth.

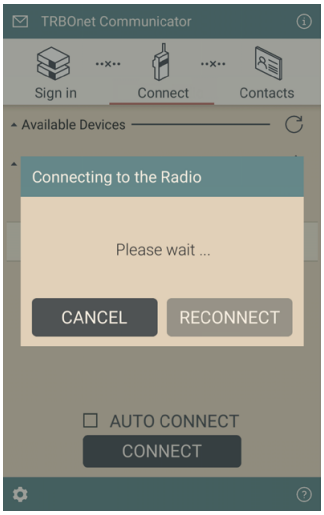


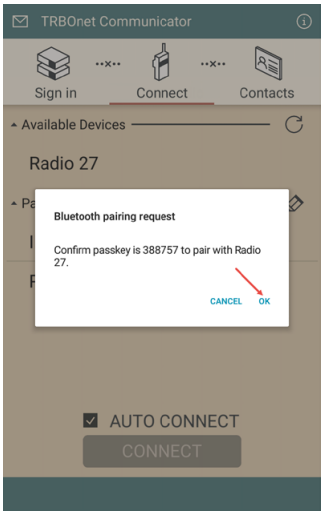
All previously paired devices with activated Bluetooth appear in the Paired Devices list. Devices that haven't been connected before appear in the Available Devices list.

Note: Your TRBOnet Communicator app must have Location Permission enabled. See section 3, Installation. In addition, make sure that the Location service is enabled on your mobile device.

7. Tap the preferred radio, then tap **Connect**.





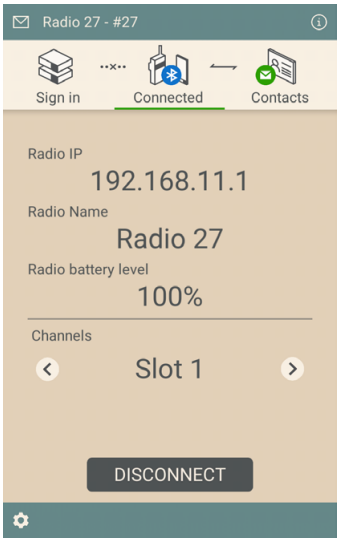


8. (Bluetooth pairing) Confirm Bluetooth pairing on both devices:

- On a radio with display, you see two options – **Accept** and **Decline**. Select **Accept**. On a non-display radio, you see the activated orange LED indicator, which means that the pairing request is accepted automatically. No user action is required.
- In the Communicator, tap **OK** to confirm the receipt of the passkey sent by the radio.

Note: The paired radio is remembered in the Bluetooth settings of the Android device. In future, you do not need to activate the Find me mode again for the Communicator to find the paired radio.

9. When the Bluetooth connection is established, the radio plays back the tone. On the mobile device, you will see the screen like below:



On the Connected screen, you see the following information on the connected radio: Radio IP, Radio Name, Radio battery level, and the currently selected channel (slot) on the radio.

6.2 Connection Issues

The following table summarizes all known issues that you may encounter when trying to connect TRBOnet Communicator to a Motorola radio.

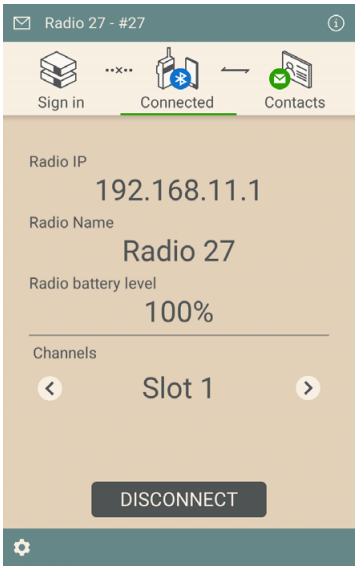
Issue	Solution
The radio has played back the “connected” tone. The application displays the **Unable to connect** error message.	The connection is established. The application has not received the confirmation of the “connected” status from the radio. Tap **Reconnect** to update the connection status of the application.
The application cannot scan a particular radio. The radio is not displayed in the **Available Devices** list.	Make sure that you have enabled Bluetooth and the Find Me option on the radio. Keep the radio within 15 meters from the mobile device. The “Find me” message should be displayed on the screen of the radio. Then tap the “scan” icon in the right upper corner of the **Available Devices** list to scan again.
The application fails to scan Bluetooth devices. The **Available Devices** list is empty.	This issue is known for Android 6 and higher versions. The issue typically occurs if TRBOnet Communicator has not been granted access to all required services on the mobile device during the installation. To resolve this issue, try any of the following: 1. On your mobile device, go to Settings and Apps (or Application Manager). Find and tap (or tap and hold) TRBOnet Communicator. In the application settings, find Permissions. Enable all permissions required by the application. Now launch the application and choose the **Connect** tab. All Bluetooth devices now appear in the **Available Devices** list.

Issue	Solution
	2. On your mobile device, go to Bluetooth settings (tap and hold the Bluetooth icon). Enable Bluetooth and start scanning. When your radio appears in the list available devices, tap it. Respond to the pairing request on the radio and on the mobile device. Now launch the application and choose the **Connect** tab. All Bluetooth devices now appear in the **Available Devices** list. Tap it and tap **Connect**.

6.3 Disconnecting

To get disconnected from the radio:

- Switch to the **Connected** tab and tap **Disconnect**.



Or:

- Tap **Disconnect** in the notification box (see section 6.5, Notifications.)

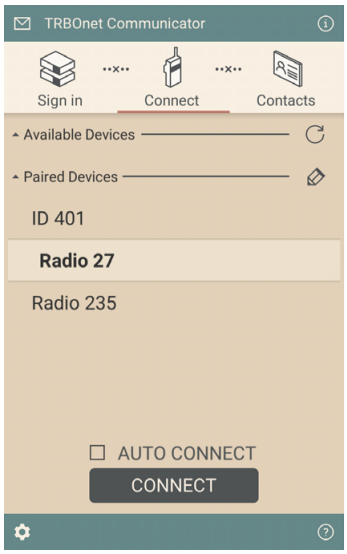
The radio plays back the tone. The application is stopped, the **Connect** tab appears on the screen of your mobile device.

Or:

- Press the **Back** button on the mobile device, then confirm disconnecting from the radio and closing the application.

Note that the paired radio remains in the Bluetooth settings of your mobile device.

6.4 Reconnecting after Restart



Radio is off and on

If the connected radio is off, the application will switch to the **Connect** tab.

When the radio is on again, the connection is restored automatically, without any user action. The radio plays back the tone, and the mobile device displays the main window of the application.

Mobile device is restarted

When the mobile device is powered off, the disconnected radio plays back the tone.

When the mobile device is restarted, the Bluetooth connection between the radio and the mobile device is restored automatically. The radio plays back the tone.

Swipe the screen of the mobile device and find the TRBOnet Communicator notification. Tap this notification and the main window of the application will appear on the screen.

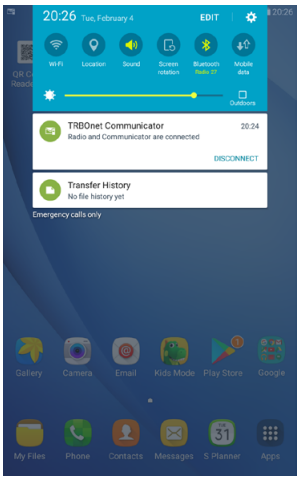
6.5 Notifications

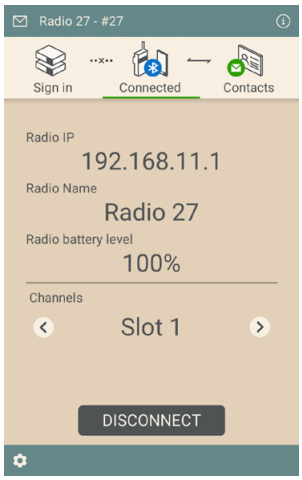
When running, the application performs continuous monitoring of the Bluetooth connection with the radio. To know the actual status of the Bluetooth connection, swipe the screen of the mobile device and find the TRBOnet Communicator notification.

Radio and Communicator are connected

For a normally operating Communicator, the notification box displays the "Radio and Communicator are connected" text. In Android 5 and later versions, the notification box displays the icon of a particular color for each Bluetooth connection status.

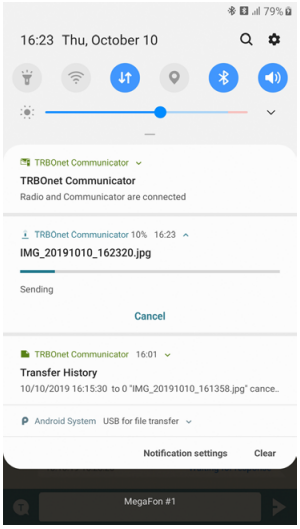
Tapping on the notification will bring the application to the foreground.

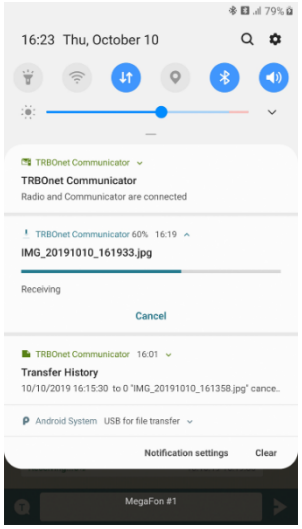




If you tap **Disconnect** in the notification box or on the application menu, the Bluetooth connection with the radio is terminated. The application is switched to the **Connect** tab.

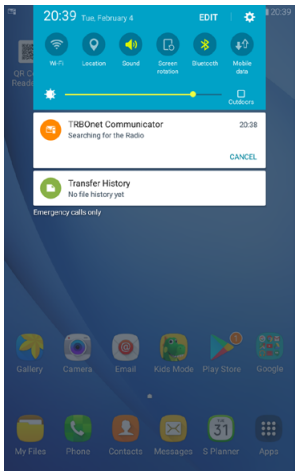
In addition, when TRBOnet Communicator is sending or receiving a file, you can see the corresponding notifications with the progress bar indicating the percentage of completion.

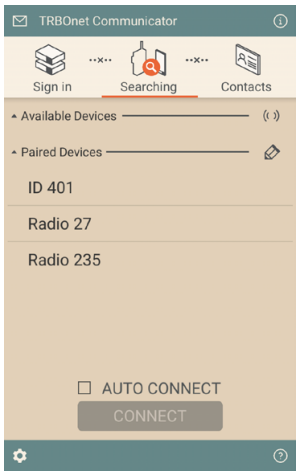




Searching for the Radio

When the connected radio is off or out of the Bluetooth signal range (or Bluetooth is OFF, or Wi-Fi is ON on the mobile device) the application searches for the radio and tries to restore the lost connection. The notification box displays the "Searching for the Radio" text (see the picture below).





Tapping on the notification will bring the application to the foreground with the selected **Searching** tab. The "Searching" icon is blinking on top of the screen.

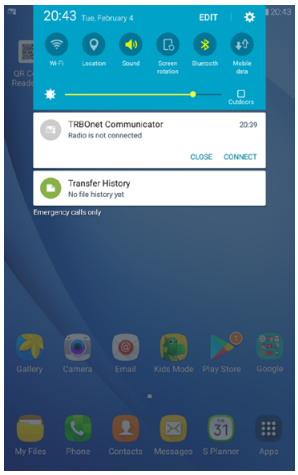
When the radio is on or back in the range, the connection is restored and the application is started automatically, without any user action.

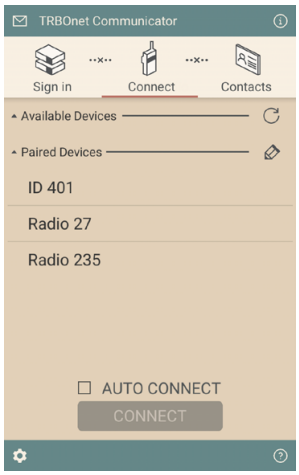
The search stops after five minutes or after you tap **Cancel** in the notification box. When the search is canceled, the notification box disappears. The monitoring of the Bluetooth connection is stopped.

Radio is not connected

If Bluetooth is disabled on the mobile device or the radio is switched off for a time longer than five minutes, the notification box displays the "Radio is not connected" text.

Tapping on the notification will bring the application to the foreground with the selected **Connect** tab.





Radio is connected

When the Bluetooth connection with the radio is restored after a break, the notification box displays the "Radio is connected" text. If the application is

restarted automatically, the notification text changes to "Radio and Communicator are connected".

After restart of the mobile device, the Bluetooth connection is recovered but the application is not launched automatically. The notification box displays the "Radio is connected" text. This case is described in section 6.4 Reconnecting after Restart (page 15).

The "Radio is connected" notification remains until you terminate the application manually or tap **Disconnect** in the notification box.

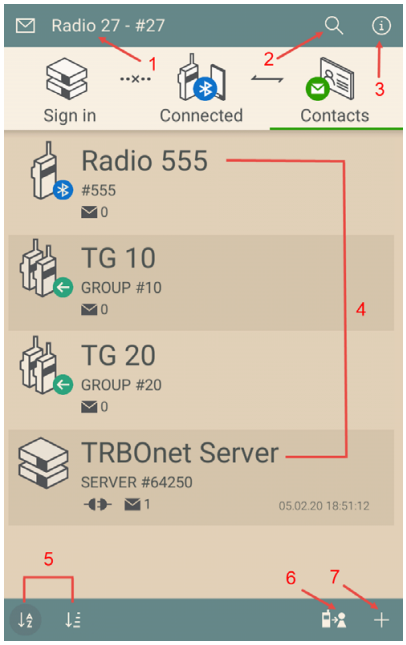
7 Contact List

To enter the contacts list, tap the **Contacts** tab.

To send a message to a radio, a radio group, or a dispatcher, you need to select the respective contact from the contact list.

When you launch TRBOnet Communicator for the first time, the contact list contains only one default server contact TRBOnet Server.

Contacts are added to the contact list automatically when you receive a message from an unknown sender. You can also add a contact manually.



7.1 Screen Elements

For a description of the screen elements, refer to the table below:

##	Element	Description
1	Radio Name	The name of the radio for which you send and receive text messages.
2	Search button	Tap this button and type the contact name you are looking for.
3	Information button	Tap this button to see information about TRBOnet Communicator (version number, etc.).
4	Contact list	Tap a contact to see all of their messages. The number next to the envelope icon indicates the number of messages in your conversation with this contact.
5	Sort buttons	Tap these buttons to sort contacts alphabetically (left button) or by the radio or group ID (right button) in the descending or ascending order.
6	Import button	Tap this button to import contacts from the connected radio. See section 7.5, Importing Contacts from Radio.

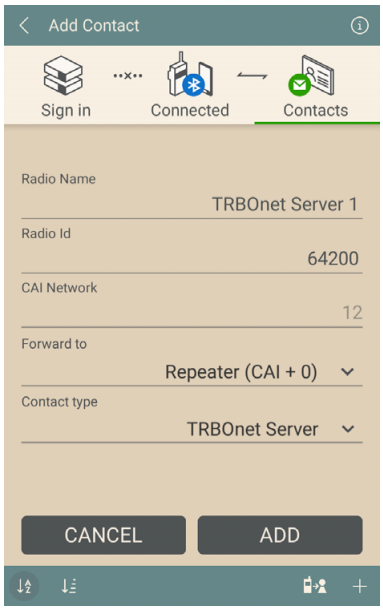
##	Element	Description
7	Add contact button	Tap this button to add a new contact to the contact list. See sections 7.2 - 7.4.

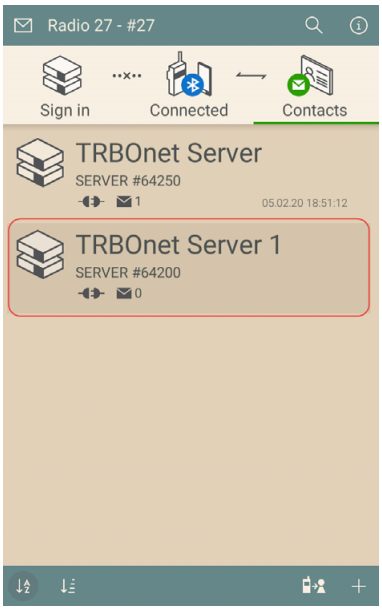
7.2 Adding a Server Contact

Note that you already have the default server contact with the value of **Radio ID** set to **64250**.

To add a server contact with a different Radio ID, tap the plus sign button at the bottom of the contact list. In the **Add Contact** screen, enter the following parameters:

- **Radio Name**
  Enter a descriptive name of the server contact.
- **Radio ID**
  Enter the radio ID of the repeater (or, control station).
- **Forward to**
  From the drop-down list, select either **Repeater (CAI + 0)** (if TRBOnet Server is connected to the radio network via the repeater) or **USB (CAI + 1)** (if TRBOnet Server is connected to the radio network via the control station).
- **Contact type**
  From the drop-down list, select **TRBOnet Server**.
- Tap **Add**.
  As a result, the new server contact will appear in the contact list.

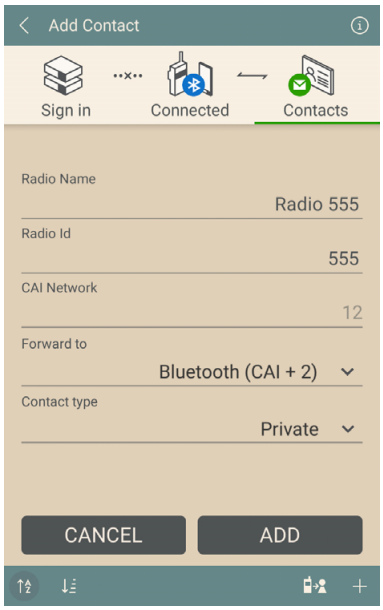


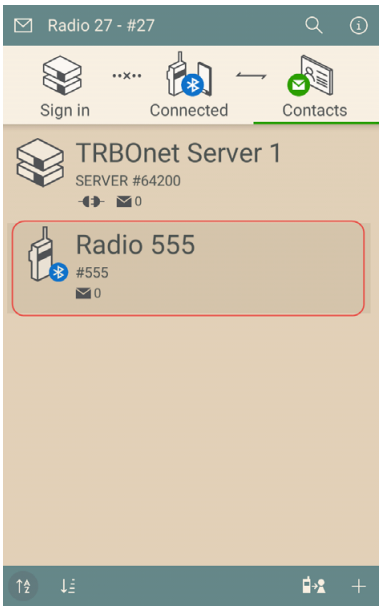


7.3 Adding a Private Contact

To add a private contact, tap the “plus” icon at the bottom of the contact list. In the **Add Contact** screen, enter the following parameters:

- **Radio Name**
  Enter a descriptive name of the private contact.
- **Radio ID**
  Enter the radio ID of the radio.
- **Forward to**
  From the drop-down list, select either **Disabled (CAI + 0)** (if you will send text messages and files directly to the radio), **Bluetooth (CAI + 2)** (if you will send text messages and files to a TRBOnet Communicator connected to the radio), or **USB (CAI + 1)** (if the radio is connected to the PC as a control station).
- **Contact type**
  From the drop-down list, select **Private**.
- Tap **Add**.
  As a result, the new private contact will appear in the contact list.

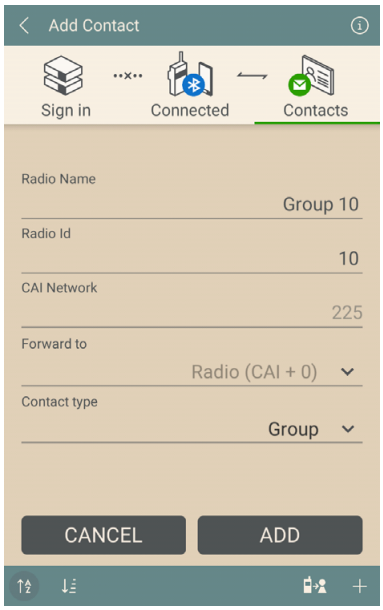


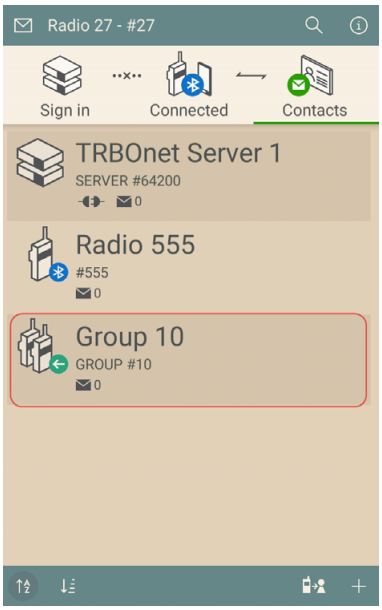


7.4 Adding a Group Contact

To add a group contact, tap the “plus” icon at the bottom of the contact list. In the **Add Contact** screen, enter the following parameters:

- **Radio Name**
  Enter a descriptive name of the group contact.
- **Radio ID**
  Enter the radio ID of the radio group.
- **Contact type**
  From the drop-down list, select **Group**.
- Tap **Add**.
  As a result, the new group contact will appear in the contact list.





7.5 Importing Contacts from Radio

Contacts can also be imported to TRBOnet Communicator from the connected radio.

To import contacts from the radio:

- Tap the button at the bottom of the screen.
- In the pop-up window that opens, tap **Import Now**.

As a result, the radio contacts will be copied to TRBOnet Communicator.

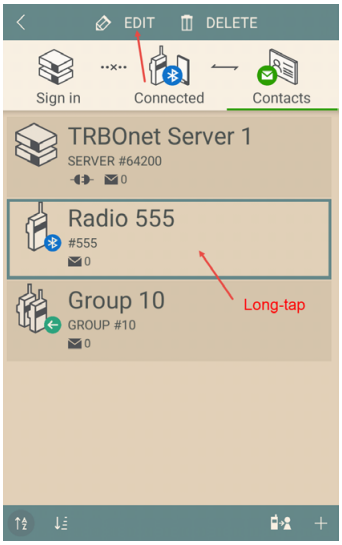
Note: You will probably need to reconfigure some contacts because all imported contacts have the value of the **Forward to** parameter set to **Disabled (CAI + 0)** meaning that all messages and files will be sent directly to the radio. Set this value to **Via Bluetooth (CAI + 2)** if you want to send text messages and files to a TRBOnet Communicator connected to the radio.

7.6 Editing a Contact

You can modify the descriptive name and the type of any contact. The radio ID (or group ID) of the contact cannot be edited. Instead, delete the wrong contact and create a new one with the correct radio ID.

To edit a contact:

- Tap and hold it until the **Edit** and **Delete** buttons appear at the top of the screen.
- Tap **Edit**.



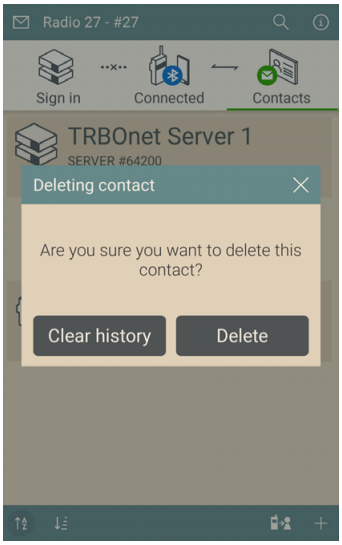
7.7 Deleting a Contact/History

To delete a contact/contact history:

- Tap and hold it until the **Edit** and **Delete** buttons appear at the top of the screen.
- Tap **Delete**.
  - Tap **Clear history** to clear the contact history.

Or:

- Tap **Delete** to delete the contact from the contact list.



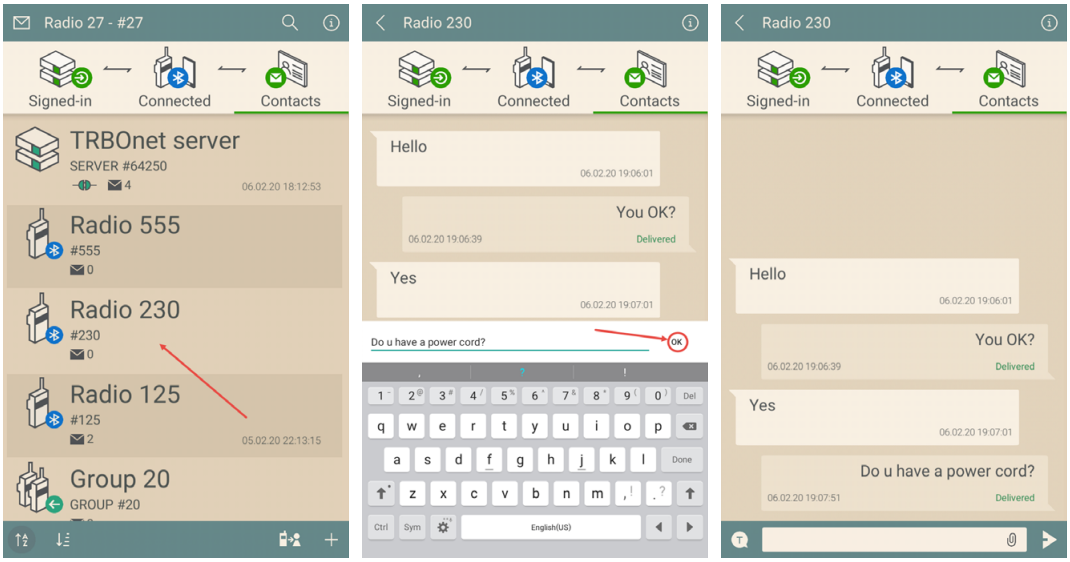
8 Text Messages and Files

With TRBOnet Communicator, you can send text messages and/or files to any radio contact in your contact list, receive messages from a radio user, a dispatcher, or a talk group member, and respond to an incoming message.

8.1 Sending a Text Message

To send a text message:

- Tap a contact (server, private, or group) in the contact list.
- Type your message in the edit box or use a quick message.
- Tap **Send** (**OK**).

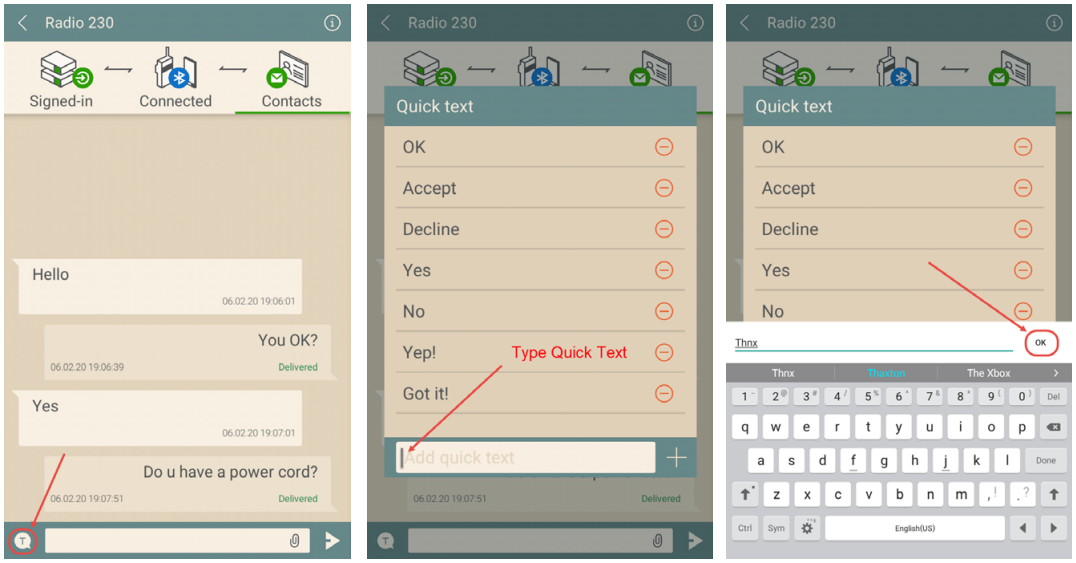


The sent message appears in a separate message box above the edit box. The delivery status (Trying to send, Timed out, or Delivered) is displayed in the message box.

Also note that you can type messages without being connected to the radio. All the typed messages will be sent as soon as the mobile device gets connected to the radio.

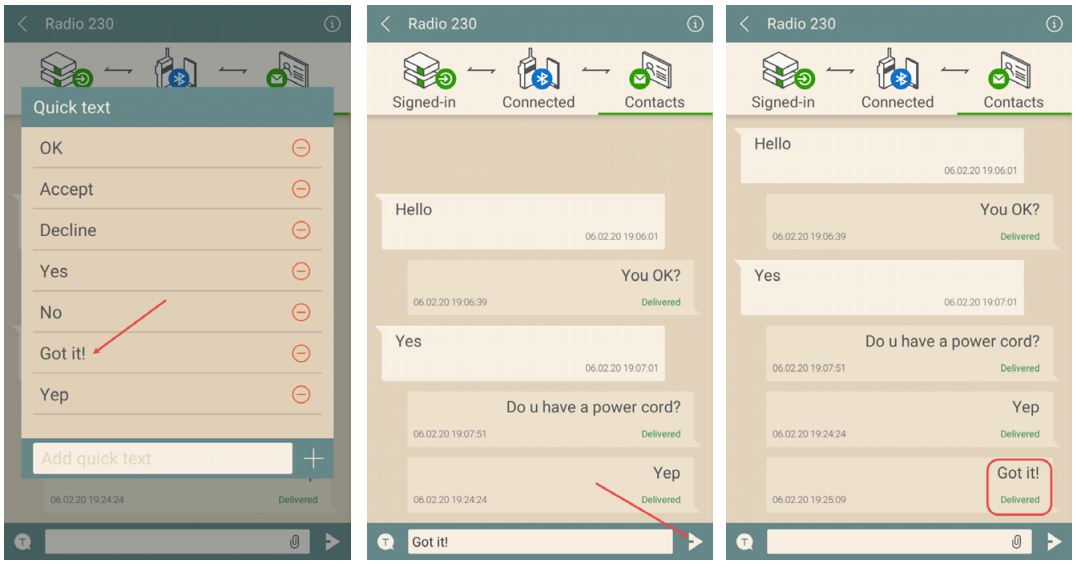
8.2 Using Quick Text

You can save the text of a message once and send it whenever needed without typing.



Tap the **Quick text** button to view all quick messages available. To add a new quick message, type it and then tap the **Add** button (**OK**). The new quick message appears in the **Quick text** menu.

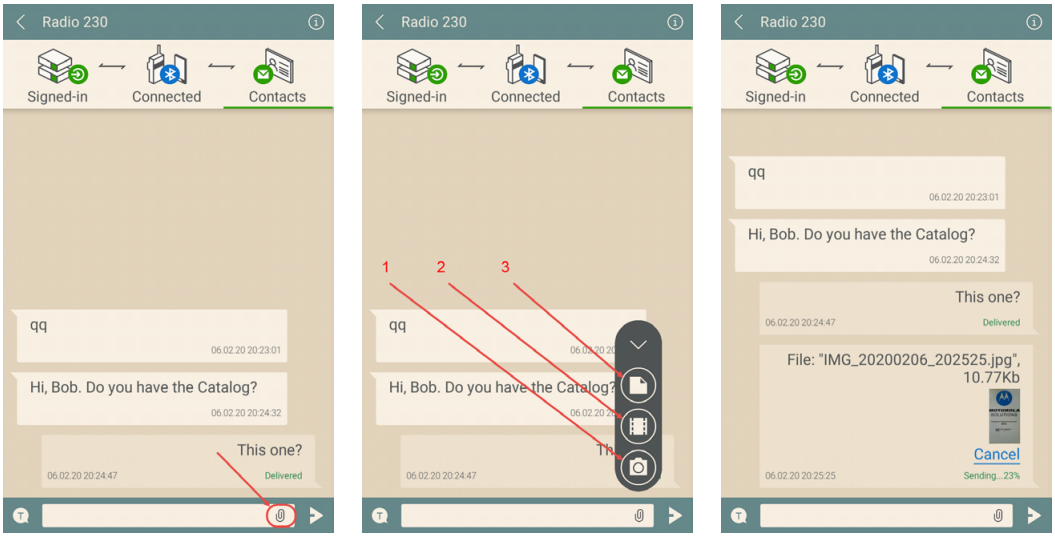
To send a quick message, select the contact. Tap the **Quick text** button and tap a quick message. The message is copied to the edit box. Tap **Send**.



8.3 Sending a File

To send a file:

- Tap a contact (server or private) in the contact list.
- Tap the paperclip icon at the bottom of the screen.
- In the pop-up menu, select one of the following buttons:
  1. Tap this button to take a photo.
  2. Tap this button to take video.
  3. Tap this button and select the desired file from the smartphone's storage.
- Once selected and confirmed, the file appears in the correspondence history:



Note: You can configure the size of the taken photo by specifying the values of the **Estimated Photo Size** and **Photo Resolution** parameters. See section 10, Application Settings.
Also note that you can include files without being connected to the radio. All the included files will be sent as soon as the mobile device gets connected to the radio.

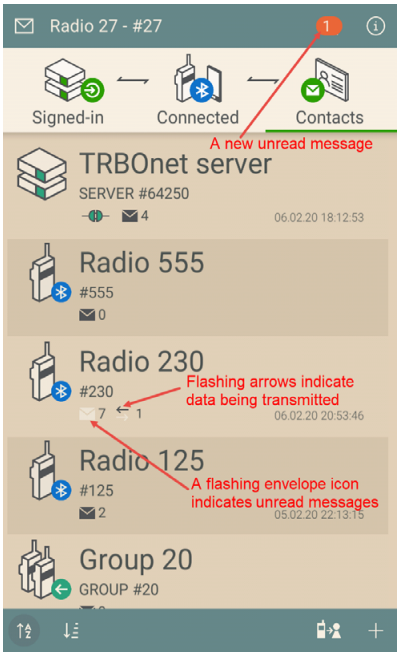
8.4 Receiving a Message

When the application window is open, the number of new incoming messages is marked with a red icon on top of the main window (see the picture below). The flashing "envelope" icon in a contact box indicates the sender. Two flashing arrows indicate a file is being transmitted. Tap the sender to open the message.

When all new messages are opened, the read icon disappears.

When the application window is hidden, an indication of a new message appears on the icon bar of your Android device. Swipe the screen to open the notifications

and tap the notification about a new incoming message. The Communicator appears on the screen to display the unread incoming message.



Note: To ensure receiving messages, your TRBOnet Communicator must be signed in to TRBOnet Server. See section 9, Signing In/Out.

8.5 Viewing Message History

Tap a contact to view all messages that you exchanged with this contact.

8.5.1 Radio user

If a contact is a radio user or a dispatcher, you can see all incoming and outgoing messages that you exchanged with this contact.

8.5.2 Talk group

If a contact is a talk group, you can see all messages that you sent to the group. If any group member responds, you receive a private message from a particular radio user rather than a group message. Replies are not included in the group conversation.

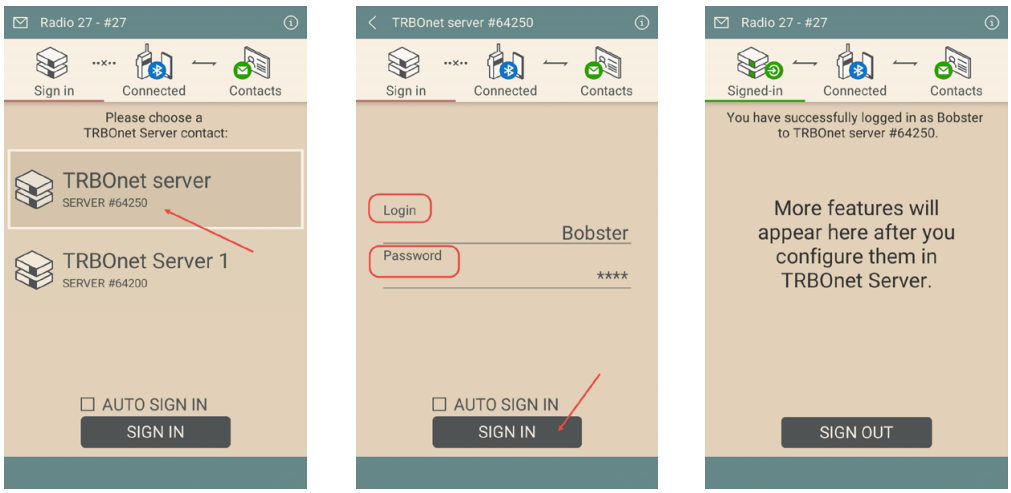
9 Signing In/Out

Once you have created a TRBOnet Server contact, you can take/return the connected radio by signing in/out to/from TRBOnet Server.

9.1 Signing In

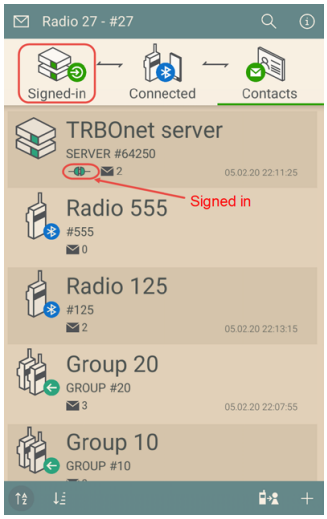
To perform a sign-in operation:

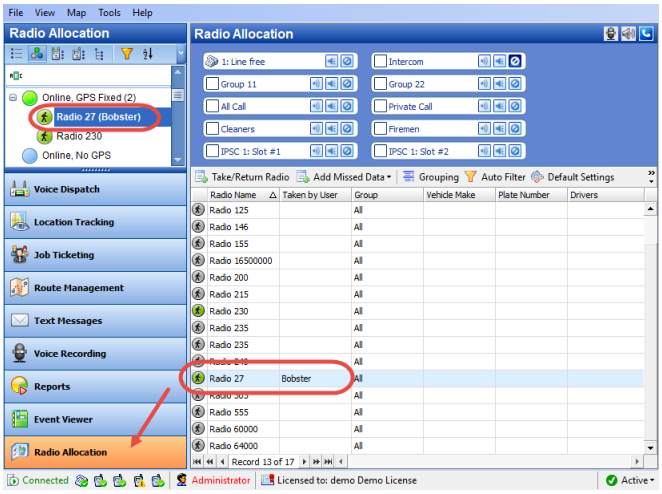
- Switch to the **Sign In** tab.
- Tap the server contact you want to sign in to.
- Enter the **Login** and **Password** of the user account. This account must be previously created in TRBOnet Dispatch Console.
- Select the **Auto Sign In** option so that the application will automatically sign in the user.
- Tap the **Sign In** button at the bottom of the screen.



Once you have signed in, the connected radio is considered taken by the specified user (see the right picture below).

In addition, the server contact in the contact list displays the green plug icon (see the left picture below).

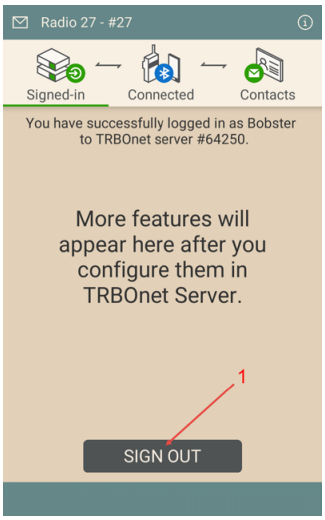


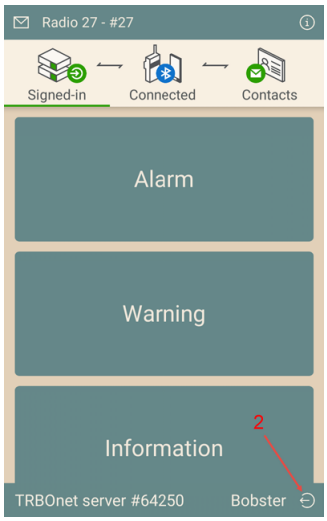


9.2 Signing Out

To perform a sign-out operation:

- Switch to the **Signed-in** tab.

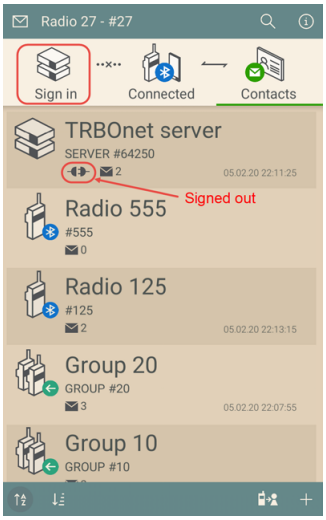




- Tap the **Sign Out** button (1) at the bottom of the screen. Or, if there are TRBOnet buttons on this page, tap the sign-out button (2) at the bottom right.

Once you have signed out, the connected radio is considered returned by the specified user.

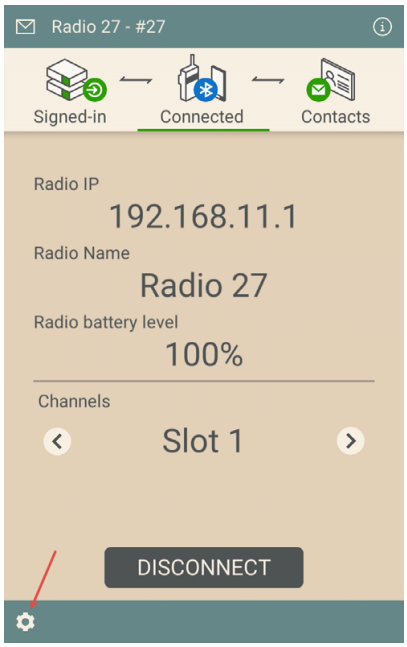
In addition, the server contact in the contact list displays the "disconnected plug" icon (see the picture below).


Radio 27 - #27
Sign in
Connected
Contacts
TRBOnet server
SERVER #64250
2
05.02.20 22:11:25
Signed out
Radio 555
#555
0
Radio 125
#125
2
05.02.20 22:13:15
Group 20
GROUP #20
3
05.02.20 22:07:55
Group 10
GROUP #10

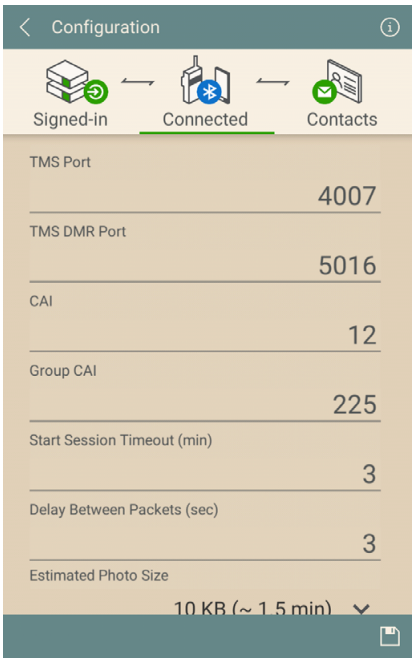
10 Application Settings

You can configure some of TRBOnet Communicator settings as follows:

- Switch to the **Connected** tab.
- Tap the gear wheel button at the bottom of the screen.



- On the **Configuration** screen that appears, you may configure the following parameters:



Note: Only experienced users should modify the first four parameters.