TASSTA

ENGLISH

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T.Flex for Android

User's Guide

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Introduction to T.Flex

T.Flex is a TASSTA application running on touchscreen mobile devices powered by the two most popular mobile operating systems: Android and iOS. It works over Wi-Fi and any mobile network (such as 3G and LTE) while providing users with maximum connectivity at the lowest price. VoIP technology implemented in T.Flex ensures that users can connect and communicate with each other from every corner of the world. In addition to Wi-Fi and 3G, T.Flex is designed for communicating under poor conditions and being able to retain acceptable communication quality on GPRS and EDGE (2G) networks.

T.Flex contains all the expected basic features such as group calls and individual calls, messaging and history, map and GPS positioning. Combined with T.Rodon (the TASSTA command and control center solution), it acquires additional tools for organizing and managing your business: task management system, GPS and indoor localization, geofencing, alarming and so on.

T.Flex has a friendly user interface and is flexible in use. It is specially designed for compact mobile touch screen devices.

T.Flex uses TCP flow for signaling and data transfer, and UDP is used for voice data transfer. In the event of any limitation on UDP flow (for example, enforced by the network provider), T.Flex can wrap the data in TCP.

Getting around in T.Flex

IMPORTANT:

When you first run T.Flex on Android 10 or later, you are prompted to set the overlay permission for the app. Please abide by this request and set the permission. Otherwise, some functionality may not work as intended.
You can also enable the overlay permission later at any time in the Settings system app. Go to **Apps and notifications | TASSTA | Advanced | Display over other apps** (or take a similar route, depending on the Settings layout in your case) and turn it on.

The T.Flex UI consists of the main view area, the Push-to-Talk (PTT) button, the Emergency button, the navigation drawer and (if enabled in the application settings) the bottom toolbar. The main view area is multi-functional and provides an interface for each feature. For a list of these features, see Navigation drawer.

The PTT screen is your main screen after login in a default deployment. However, the choice of main screen for you is up to the administrator, so your experience may vary.

If Channel name on PTT button is enabled, the channel name you last communicated on will be displayed on Push-to-Talk button.

IMPORTANT:

To display the channel name of the PTT button after logging in, quickly press the PTT button once. After that, the channel name on the button will be updated automatically.

Full screen PTT mode

You may find that your T.Flex UI is nothing but a single PTT button screen. If so, then this is the configuration that the TASSTA administrator has enabled for you in T.Commander. In this mode, the full screen is used as a PTT button that you activate by touching anywhere on the screen.

T.Flex provides this mode to reduce the risk in the use of the application in transport and industrial sectors. In these areas (and others such as supply chains), the use of the PTT button needs a special approach. Mobile phone use while driving is common but widely considered dangerous, because it distracts the driver. Due to the number of accidents that are related to mobile phone use while driving, some jurisdictions have made the use of a cell phone while driving illegal. Many countries have enacted laws to ban handheld mobile phone use, but allow the use of a hands-free device. Another common and bothersome problem is vibration.

Navigation drawer

The navigation drawer is a side bar that displays the app's main navigation options on the left side of the screen. To reveal it, swipe from the left edge of the screen or tap the menu icon.

The list of options available for navigation depends on T.Commander settings. Scroll the list if all of the options don't fit on the screen.

The following table briefly explains the purpose of each menu item. Tapping any of the items takes you to the corresponding dedicated interface.

Interface	Description
Groups	Lists the groups configured by the administrator in T.Commander. To select a group in the list, tap the group. Once you have selected a group, you can initiate a group call to it from any interface using the PTT button. See Access to people in your TASSTA network.
Users	Lists the users configured by the administrator in T.Commander and shows their statuses, group memberships and activity. See Access to people in your TASSTA network.
History	Lists audio records and lets you play back recent voice messages. The time interval for keeping recent recordings is defined by the administrator in T.Commander. See Voice recording and call history.
Chats	Real-time exchange of free-form text messages between individual users or in groups. See Messaging.
Map	GPS location and tracking of users on the map in real time. All available users are marked with their user name and pin icon. See GPS location and tracking.
E2E encryption	End-to-end encryption is an additional security mechanism. Configure keys for encryption and decryption. See Voice communication.
My TASSTA	User-defined shortcuts to favorite features and options. This screen also provides call requests that are sent to the T.Rodon operator. See My TASSTA feature.
Task manager	Lists the assigned tasks and their statuses. The statuses can be updated using QR codes or manually. See Task management and control.
Emergency	Features related to emergency situations: emergency call, Periodic Check U, and lone worker protection. See Emergency call and Lone worker protection.

Interface	Description
Emergency journal	Lists all emergency messages. See Lone worker protection.
Guard tour	Chart a route and track track the progress on that route.
Network usage	Detailed information about the network traffic used by the application. This view also contains a connection quality meter represented by a triangular icon (additionally available on the PTT screen). Tap the icon to get a popup that rates the quality of the connection to the TASSTA server and shows the estimated network delay.
Feature status	Lists the features that the administrator activated for the user.
Settings	Configure T.Flex options. See Application settings.
About	Version of the application.
Reset password	Change the password for your user account. See Logging in and out.
Logout	Log out of the TASSTA network. See Logging in and out.

Setting your role-based status

The administrative configuration of your server may define a set of roles for users, and you may be assigned one of such roles. Each role can have a set of statuses, only one of which can be active at a time for a user.

If you have a role, its label is shown in the navigation drawer above the menu. If the role has statuses, you can change status by tapping the role label and selecting the new status in the popup that opens. Your status is shown to the right of the role label. Statuses are color-coded, and there is a small colored disc next to the status label.

Bottom toolbar

At the bottom of the screen, the application can show a navigation panel with the most commonly used items for quick access. This toolbar is toggled in the enabled in the application settings. All of these options in it are also available in the navigation drawer. Most of them are stowed into the More menu, but such items as Users and Groups are always at hand.

Floating always-on-top widget

When T.Flex is hidden, you have the option of using a movable floating widget that appears on top of other apps. The T.Flex widget contains an emergency button and a second context-sensitive button which is used for maximizing the app and shows the current mode of the app: for example, whether a call is in progress. To enable the widget, select the Floating Widget in the app settings.

Application settings

Configure the application using the gear icon on the login screen or by tapping **Settings** in the navigation drawer. The version information can be found at the bottom of the screen.

The following settings are mandatory for T.Flex to begin working:

- User name
- Password
- Server domain name (or IP address)
- Server Port

To change a parameter, tap that parameter, enter the value and tap **OK**.

> NOTE:
>
> Changing these settings can be disallowed by your TASSTA administrator in T.Commander. You may be prevented from changing anything at all or only allowed to change your credentials. If all changes are disallowed, then you can still specify the connection options listed above, but they become hidden the next time you log in successfully.

The following tables list all of the options and features available in the T.Flex Settings menu. Configure them in accordance with your network policy and operational environments.

Choice of mode

Parameter	Description
Operation mode	Whether to communicate with the TASSTA server for the full-featured experience (**Server mode**) or become part of a peer-to-peer network with reduced functionality within the reach of a wireless network (**WiFi direct mode**); for details about direct mode, see Direct mode

Accounts

This item is available only if you are logged out. Here you can switch the account that you want to log in as and change the list of account profiles stored on the device. For details about account switching, see Logging in and out.

User settings

For more information about the use of these settings, see Logging in and out.

Parameter	Description
User name	User name configured in T.Commander
Password	Password configured in T.Commander
Server	Server domain name or IP address
Port	Server port
Show credentials input	Whether to show the user name and password input boxes every time the app starts
User name alias	Whether to show administrator-defined user aliases instead of login names
Autostart	Whether to automatically launch the app at device startup
Autologin	Whether to automatically log in with the pre-configured credentials when the app starts

Look-and-feel settings

Parameter	Description
Require overlay permission	This option allows the app to work on top of other apps; on Android 10 and later, this should always be on
Floating Widget	Enables a floating two-icon widget that provides quick access to calls when T.Flex is minimized
Bring app to foreground on PTT	Switch to the app when someone presses PTT in your channel, no matter which other app you are using
Bottom navigation panel	Enables a panel that is always on-screen at the bottom of the app and contains shortcuts to the most commonly-used views
Disable Battery Optimization	Whether to ignore Doze and Standby modes, which can interfere with the functionality of the app; on Android 10 and later, the option is on by default to prevent the device disconnecting you from the network when you turn off the screen

Parameter	Description
Font size	Set the desired font size for the user and channel names (**Normal**, **Large**, **Largest**)
Screen orientation preference	Which screen orientation the app uses: **Portrait**, **Landscape**, **Sensor-Defined**; this option can be changed only if T.Flex is logged out and the Settings have been opened from the login screen
Pin the application	Prohibits switching to other applications. Learn more...
Use Hot-buttons panel	Whether to show additional shortcut icons in relevant contexts on various screens; currently, this includes only the emergency shortcut icon NOTE: The check box is editable only when the app is logged out.
Select Hot-buttons to display	Select the shortcut icons to show on various screens of the app, where applicable; at this time, only the emergency shortcut icon can be shown or hidden – if enabled, it is added to the user list, group list, map and so on NOTE: The emergency icon on the main PTT screen is not controlled by this option.
Display group indexes	Whether to show indexes in the group list
Display user IDs	Whether to show IDs in the user list

Hardware control settings

Parameter	Description
PTT2 button	Available only if an Aina responder Bluetooth device is connected — select the behavior for PTT2: • Respond to individual call • Replay last history • Second PTT group • Keep alive button This option makes the PTT2 button restart Periodic Check U (see Lone worker protection)

PTT2 group	Available only if an Aina responder Bluetooth device is connected — select the group to designate as the second PTT group for use with the PTT2 button
Use digital keyboard in channel/user list	Whether to use the number keyboard for user and channel search; this is useful for networks where user naming conventions rely heavily on numbers, so that a simple numeric keypad is more adequate than a full keyboard
Preferred Bluetooth Device	Select the Bluetooth device to connect
Bluetooth handsfree mode	Whether to enable voice transmission over SCO connections to Bluetooth devices such as car radios; for details, see Using hands-free mode
Use BlueParrott devices	Automatically connect accessories made by BlueParrott
Use HW intents	Whether to allow the device's hardware parts such as buttons and knobs to use their associated intents for working with T.Flex
Select HW intents	Which hardware intents to use when the Use HW intents option is enabled; the following intents are supported: • PTT • SOS • Channel Change • Channel Change Reverse Order • PTT by media button Define the behavior of headset media button. • Use PTT as SOS • SOS. Enable cancel Pre-alarm • SOS. Enable cancel Alarm • SOS. Pressing duration in seconds Set a hold time to prevent accidental alarms that can occur when the hardware SOS button is pressed unintentionally. • Volume down as PTT Whether to use Volume Down as the PTT button • Pound as PTT Whether to use the pound key (#) as PTT • Use Yellow button for Urgent call request

	If this feature is enabled, pressing the programmable (yellow) key on Sonim XP8 device creates a high-priority call request. Pressing it again cancels the previously created request. Also, when you press the programmable key for the first time, Call Request option is automatically added to My TASSTA screen. • Open the app with physical button See the note below.
Call request	Initiate a call request when the specified key is pressed on the RSM device.
Urgent call request	Initiate an urgent call request when the specified key is pressed on the RSM device.
LED scheme	Which LED color scheme to use for indicating state.
Mute button	Tap to configure and enable the app-wide **Mute** countdown button: • **Mute speaker time** specifies the duration of the muting action in seconds • **Mute button intent** opens a prompt that waits for you to press the hardware button you want to assign • **Beep notification** selects how to indicate that the **Mute** button has been tapped For details about temporarily muting all voice communications, see Voice communication.

HARDWARE BUTTON FOR OPENING THE APP:

The **Open the app with physical button** option enables bringing the app to the foreground by pressing the button of your choice. The app has to be running, and you have to be logged in for this feature to work.
To set the button, take the following steps:

- Select the **Open the app with physical button** option.
- Tap **Open button intent** below.
- When the prompt pops up, press the hardware button you need. Its intent is captured by the app.
- Tap **OK** to confirm your choice of button.

Remote control settings

For more details about the use of these options, see Remote media capture.

Parameter	Description
Accept incoming remote audio requests	Whether to automatically accept remote audio requests without a confirmation prompt; if this option is selected, you cannot reject such requests
Accept incoming remote camera requests	Whether to automatically accept remote camera requests without a confirmation prompt; if this option is selected, you cannot reject such requests
Accept incoming remote video requests	Whether to automatically accept remote video requests without a confirmation prompt; if this option is selected, you cannot reject such requests

Audio settings

Parameter	Description
Redirect voice to loud speakers	Whether to use the loudspeakers for voice output instead of the internal speaker. This setting is intended to work around the problem of audio feedback whenever possible. The following options are available: • Never – always output sound to an internal speaker • Defined by proximity sensor – Output sound to the internal speakers when the proximity sensor detects obstruction; otherwise, use the loudspeakers • Always when one user talks – This is the recommended option • Always – Always output sound to the external speaker or loudspeaker; this option is the most likely to cause audio feedback, making it harder for others to make out what you are saying For details about configuring sound outputs, see Voice communication.
Audio Effects	These Android system settings help improve your listening experience • Acoustic Echo Canceler – Ensures that the person who is talking doesn't get the echo of their own voice from the loudspeaker; this functionality is usually provided in hardware and is not available on all devices • Noise Suppressor – Audio pre-processor which removes background noise from the captured signal; this functionality is usually provided in hardware and is not available on all devices • Automatic Gain Control – Audio pre-processor which automatically normalizes the output of the captured signal by boosting or lowering input from the microphone to match a preset level so that the output signal level

is virtually constant; this functionality is usually provided in hardware and is not available on all devices

- Event and Voice in same output – Whether to redirect event sounds and voice to the same Android audio route so that you can use the same volume control for both
- Mic Level Control – Ensures that the microphone volume is controlled by T.Flex and prevents the system from automatically reducing it
- Mic Volume level – Lets you increase the microphone level (select **higher** or **highest**) on devices where its factory settings are low; this works by increasing the microphone gain, so the audio quality may degrade noticeably
- On GSM call disable Event sound – Mute event sounds during a GSM call so that they don't interfere
- On GSM call disable User's voice – Mute incoming PTT audio during a GSM call so that it doesn't interfere
- Volume level — Lets you override the system's maximum volume and make sounds louder than normal; it can be useful in noisy environments
- Play PTT start tone – Play a tone before outputting voice over PTT
- Play PTT release tone – Play a tone when another speaker releases PTT button
- Wait for PTT start tone – Start voice transmission only after PTT notification tone is played. If disabled, voice transmission is started immediately after tapping PTT button.
- Event Sound Volume – Set the volume for event sounds
- Show waveforms on main PTT screen – Use waveform visualization on the main PTT screen when you talk in the channel; turn off this animation if you prefer a blank PTT button
- Minimum volume on startup – Minimum volume levels for each type of type of event
- Fixed volume direct call – Volume levels for each type of event during direct calls

For details about the availability of these features, see Voice communication.

Text-to-speech settings

These settings are available only if the text-to-speech feature is enabled for your user account by the administrator. The feature ensures that channel and user names are pronounced; this is useful for devices without screens.

Parameter	Description
TTS settings	Change the text-to-speech language
TTS Flex settings	Select the events for which you want text-to-speech feedback

Guard tour NFC scanning settings

Parameter	Description
Send NFC scan results to chat	Upon scanning an NFC tag, send a message with the tag's ID, coordinates and Google Maps link to the Main group chat
Guard tours NFC scan in the background	Perform NFC scans automatically without the need to switch to the guard tour view or even bringing the app to the foreground

System information

Item	Description
Device ID	The unique ID of the mobile device for identification in the TASSTA network; this ID is separate from the device IMEI
Network usage	How much incoming and outgoing data the app has processed; tap the item to view the details
TLS version	Version of the Transport Layer Security protocol used by the app
T.Lion server version	Version of the T.Lion server that the app can communicate with

Usage statistics

Parameter	Description
Allow log collecting and crashlytics	Enables uploading of logs and crash dumps to a secure TASSTA-monitored server for analysis by the Support team; this data helps improve future versions of the app

Warning reset

The Reset all warnings action ensures that all popups where you previously answered Never ask again begin to be displayed again.

Logging in and out

Tap the launcher icon to start T.Flex. Type your username and password for the TASSTA network and press the CONNECT button to log in to the TASSTA server.

To make T.Flex log in automatically, specify the User name and Password options and enable the Autologin option in the application settings.

If you want to change your password, use the Reset password item in the navigation drawer.

Connection security details

All TASSTA applications use an encrypted connection that enables authentication, session management, and access control mechanisms. All data between clients and servers is exchanged through encrypted channels. This protects the connection from active eavesdropping and passive disclosure in the network traffic. It also prevents session fixation attacks during the authentication or authorization processes.

In order to manage access to enterprise networks, the TASSTA administrator has the ability to assign rights and permissions to any TASSTA user in T.Commander. Any TASSTA client must be configured with proper connection settings before attempting to log in.

All important connection settings in T.Flex are contained in the Settings menu. For details about configuring them, see Settings.

HTTPS

The T.Flex client application uses the HTTPS protocol for communication with the server. This makes data exchange robust and secure.

Voice encryption

By default, all TASSTA communication traffic is encrypted with TLS using 256-bit AES-SHA. The client and the server authenticate using digital certificates. The standard TASSTA server does not support voice encryption. However, the encryption option can be used on demand. If the specific encryption algorithm is not defined, TASSTA will offer an Authenticated-Encryption Algorithm with blockcipher: AES128, AES192, and AES256 specified in ISO/IEC 19772:2009.

Secure logout

To improve safety, T.Flex provides an additional authentication mechanism on logout. This is controlled through T.Commander and can be enabled by the TASSTA network administrator. The feature forces the user to enter a specific password for logout.

QR code-based authentication

QR code-based authentication can be useful in some operating conditions and has the additional advantage of applying preconfigured T.Flex settings.

1. Tap the QR code icon on the login screen of the application. You will be prompted to scan a code with your camera in a few moments.
2. Focus the camera and scan the code. T.Flex logs in, and new settings are applied automatically.

Account switching

The instance of T.Flex installed on your device can store authentication profiles for multiple TASSTA user accounts and direct mode accounts. You can set up multiple users and switch from one user to another on the fly without having to log out and log in as a different user.

Selecting the user for login

On the login screen, you may want to change the user that you want to log in as. For that, tap Settings and then tap Accounts in the configuration settings editor. In the list that opens, tap the user you want and then tap the back arrow to return to the login screen.

Switching users mid-session

When you are logged in and multiple user accounts are defined on the device, the Switch account  icon is available in the navigation drawer. Tap the icon to select one of the other accounts stored on the device. In the Switch account popup that opens, tap the item you want and tap OK.

The account switch occurs immediately, and a new connection is established.

Configuring users

To add, edit and delete user account profiles, you need to be logged out. When you are logged in, these tools are not available.

On the login screen, tap Settings and then tap Accounts in the configuration settings editor to open the account list. You can do the following:

- To add an account to the list, tap Add and select the connection mode for the account you are adding: Server or Wi-Fi direct.

  For a server mode account, specify the following:

  - User name
  - Password
  - Server
  - Port

  - T.Lion server version

  For a direct mode user, you only need to specify the name of the user and the number of that user's local mode group.

- To modify an existing account, tap it in the list and then tap **Edit** to change the settings listed above.
- To delete an item from the account list, tap the trash can icon  next to that item. You cannot delete the item that is currently selected; to delete it, first switch to some other item.

> NOTES:
>
> - The **User name**, **Password**, **Server** and **Port** options outside the account list editor refer to the currently selected account. Modifying them applies the changes only to that account.
> - The accounts you configure don't have to use the same port or even the same server.

To edit an existing account, select it and tap **Edit**.

Channel passwords

In server mode, access rules may require that you supply a password for access to a specific channel. To configure such passwords, use the **Channels' passwords** area. Tap **Add password** and specify the password and a meaningful comment about its purpose. You can add as many passwords as you need. When the app requests access to a password-protected channel, a matching password (if any) is picked automatically from that list. To remove a password from the list, tap the password item's trash can icon.

Applying connection settings from a configuration file

T.Flex can use connection settings defined in a configuration file. Such files with the **.usr** extension are created by the administrator in T.Commander, and their contents look like this:

```
:user12:31f39b648b1bd3ce0ecb820f3663ca8ad63f40a3:myserver.mydomain.com:65089:
```

To apply the settings from a **.usr** file that you obtained from your administrator:

On a device that has a screen:

1. Make sure the **Autologin** option is enabled in the applicaton settings.
2. Put the file in the **/Android/data/com.tassta.flex/files/Download** directory on the device.
3. Restart T.Flex. The login with the newly-applied credentials occurs automatically.

On a device without a screen:

1. Make sure the **Autologin** and **Autostart** options are enabled and applied. If either of the settings was previously disabled and you had to enable it, log in to the server again to apply the new permissions.
2. Put the file in the **/Android/data/com.tassta.flex/files/Download** directory on the device.

3. Restart T.Flex. The login with the newly-applied credentials occurs automatically.

> NOTE:
>
> If there are multiple **.usr** files in the downloads directory, T.Flex picks the oldest file. After the settings are applied, all **.usr** files are deleted from the directory.

Getting the file to the device

If the target device does not have a touchscreen, you have to transfer the file to it over a physical USB connection. To begin, make sure USB debugging is enabled for the device and connect it to the computer you want to copy the file from. Next, do one of the following, whichever method is available or convenient to you:

- If your OS was able to mount the filesystem of the device, simply use your file manager to copy the file to **/Android/data/com.tassta.flex/files/Download** on the device.
- Use the **adb** utility, and specifically the **adb push** command, as follows:
  `adb push <source_file> <destination_path>`
  Example:
  `adb push James.usr /Android/data/com.tassta.flex/files/Download`
  (Note that "usr" is not part of the destination path and is followed by whitespace.)

For details about **adb**, see https://developer.android.com/studio/command-line/adb.

Access to people in your TASSTA network

In the TASSTA network, subscribers have associated user accounts, which are managed by TASSTA administrators. Interaction among users takes place individually or in channels, which are also managed by administrators. The terms channel and group are used interchangeably in the TASSTA framework most of the time.

To view the available groups and users and work with them, switch to the group list and user list.

Group list

The group/channel list is one of the main interfaces in T.Flex.

In this list, you can change your channel by tapping the channel you need. The channel you select is the one in which you talk using PTT.

One way to get access to the most common actions on a group is to swipe the group item left and right. This reveals the following actions:

- Multi-listening toggle
- Messaging
- Conference PTV call if available, or regular PTV call otherwise

For convenience, there is a search bar at the top of the list. List filtering is applied as you type. Sorting tools are also available: you can sort groups alphabetically or by index. Note that a custom group order can be defined for your environment; in that case, sorting by index follows that order. To show or hide group indexes, use the Display group indexes option in the app settings.

Zone management

A zone is a collection of channels that is defined by the administrator in T.Commander. Zones enable users to switch channels conveniently.

Select a zone by tapping the corresponding icon in the top bar of the app.

> NOTE:
>
> Starting with version 2.6.10 of the TASSTA services, management of zones is done by microservices instead of the server. T.Flex 5.6.64.1 and later supports both types of zones; earlier versions of the client can only select legacy zones that are managed by the server.

Restricted and password-protected channels

You may have no permission to enter specific channels. Such channels are not visible to you in the channel list. Channel access is managed by the administrator with ACL rules in T.Commander.

Instead of directly prohibiting access to a specific channel, rules can also make the channel available only to members of a specific access team defined by a password. If you have this password, that makes you a member of the access team and gives you access to the channel. To manage the passwords for all of your password-protected channels, log out and go to the Accounts page in the application settings. For details, see Logging in and out.

After you log in, you can perform the channel actions that are allowed to you (listen to the protected channel, speak in it, join it, move a user into it or even see it in the list) as long as a matching password is found among the passwords you have specified on the Accounts page.

Multi-channels and cross-server channels

In TASSTA networks, communication among multiple channels at once can be organized as if they were a single channel. The simpler variant of this is *multi-channels* on the same server port. In addition, there is the more advanced option to combine channels from multiple server ports or even from multiple servers into *cross-server communications*.

If a channel is part of a multi-channel or a cross-server communication, this is indicated by the  icon, accompanied by the abbreviated name of the composite channel.

Channel message

Exchange text messages with other users in the channel and send photos by pressing the camera icon that appears in the upper right corner. You can also attach a file from the device or use a predefined status message. For details, see Messaging.

Selecting a channel may automatically take you to the main screen. This behavior is configured by the administrator in T.Commander.

User list

This list contains TASSTA user accounts created by the administrator.

Users in the list are color-coded based on their status:

- Green means the user is online and a member of the same channel as you.
- Light gray means the user is online but in another channel.
- Dark gray means the user is currently offline.

Add users to your contact book for quick access. Select the user from the user list, click the "three dots" icon and select Add to contact book.

For each user in the user list, a set of action icons is shown to the right of the user name. These are the actions you can perform on that user. The set varies depending on your permissions and that user's permissions, the status of the user and the way the administrator configured the features of the network. The common actions include direct call, individual call, messaging, remote listening and remote picture.

An offline user's status line shows the date and time of their most recent activity and the name of the channel they visited last.

Another way to get access to the most common actions on a user is to swipe the user item left and right. This reveals the following actions:

- Messaging
- Direct call
- Conference PTV call if available, or regular PTV call otherwise

For convenience, there is a search bar at the top of the list. List filtering is applied as you type. Sorting tools are also available: you can sort users alphabetically or by ID. To show or hide user IDs, use the Display user IDs option in the app settings.

NOTES:

- If you enable the User search digital keyboard option in the application settings, the keyboard will consist of numbers only.
- The precedence of returned results is as follows: ID, Name or Channel contains the search characters.

Voice communication

T.Flex supports the following types of voice communication:

- One-to-many:
  - Group call (from anywhere in the app)
  - Broadcast call
  - Priority call
  - Dynamic group call
  - Group call to PMR over T.Bridge
- One-to-one:
  - Individual call
  - Direct call
  - Offline call
  - Remote microphone control (ambience listening mode)
  - E2E encrypted call
- Many-to-many:
  - Full-duplex call

For details about emergency calls with GPS location notification, see Emergency calls.

How simultaneous TASSTA and external calls are handled

Your administrator controls whether incoming external (GSM or VoIP) calls to your device are prioritized over TASSTA calls. This is specified by the **Auto-mute Flex on external calls** user option in T.Commander.

If **Auto-mute Flex on external calls** is *enabled* and you accept an incoming external call:

- Voice from TASSTA calls is not played, except emergency calls. An emergency call always overrides external calls.
- TASSTA notification sounds are not played, except emergency notifications.
- On-screen and hardware PTT buttons are ignored.
- You get a system notification that says, "External communication activity detected. Voice and notifications are muted, except for emergency ones".

IMPORTANT:

This administrative setting has an effect only on devices running Android 7.0 and later.

If **Auto-mute Flex on external calls** is *disabled* and a GSM call is received, then the result depends on the following app configuration settings:

- **On GSM call disable Event sound**:
  - If this is *enabled*, TASSTA notification sounds are not played.
  - If this is *disabled*, TASSTA notification sounds are played as usual.
- **On GSM call disable User voice**:
  - If this is *enabled*, TASSTA calls are muted.
  - If this is *disabled*, TASSTA proceed as usual and the GSM call is ignored by the app.

Non-GSM external calls are completely ignored if **Auto-mute Flex on external calls** is *disabled*.

Inactivity timeout

Your administrator may configure an inactivity timeout for calls. If this is enabled, you get a progress bar which counts down while the PTT button remains released by all parties involved in the call. The call is interrupted if this progress bar runs out.

Temporarily muting all voice communications

T.Flex gives you the option to mute all voice communications for a few seconds with a dedicated app-wide **Mute** button. This button is configured in the app settings and disabled by default.

When enabled, the button becomes available:

- On most app screens: the main PTT screen, map, user list and so on
- As the **Touch to mute** tile in the My TASSTA view

NOTE:

In the button configuration settings, you have the option to assign a hardware button to the **Mute** action.

In any screen where this button is available, tap it to mute audio until the countdown ends:

The button changes to the following:

A shrinking strip around the button shows how long is left until the end of the countdown. You can tap the button again before the end of the countdown to unmute immediately.

Using hands-free mode

T.Flex offers an operation mode where voice communication is done through the microphone and speaker of the connected Bluetooth audio system. This is the typical use case in a vehicle, where the on-board radio system is used for making calls over the connected mobile phone. T.Flex adapts this functionality to voice communication in the TASSTA network.

For this setup to work, enable the Bluetooth handsfree mode option in the app settings and set your car radio as the Preferred Bluetooth device. After that, any voice activity that involves your instance of T.Flex will put your on-board radio system into phone call mode, where that system's microphone and speaker are used instead of those on the mobile phone for the duration of the communication exchange. During this time, voice data is transmitted over a Synchronous Connection-Oriented (SCO) Bluetooth connection between the on-board radio and the mobile device.

The following types of communication are supported in hands-free mode:

- Group call
- Individual or direct call

Phone call mode is turned off automatically after about five seconds of silence in communication or manually when you hang up. The hands-free data exchange stops, and the radio goes back to its previous operation mode.

While the Bluetooth handsfree mode option is enabled, the following icons are shown in T.Flex views to indicate the state of the automatic Bluetooth connection:

Icon	Meaning
	Bluetooth disabled
	Bluetooth connected
	Connecting in SCO mode

Icon	Meaning
	Connected in SCO mode

Audio-related options

T.Flex mostly uses two Android audio routes: **Voice** and **Music**. In some situations, **Notifications** is also used.

The **Voice** route is recommended for situations where multiple users can talk at once. In this route, Android audio effects can be applied as long as they are supported by the hardware. These audio effects (Acoustic Echo Canceler, Noise Supressor and Automatic Gain Control) can be turned on and off in T.Flex settings.

> NOTES:
>
> - Some devices do not have built-in acoustic echo cancelling, and some makers falsely claim that their devices have it.
> - Audio in T.Flex uses 16 bits per sample at 48KHz.

The **Music** route does not support audio effects and provides acceptable audio quality only if one user talks at a time. T.Flex does not currently have fallback software acoustic echo cancelling and relies on the **Voice** route of the system for that functionality.

The **Redirect voice to loud speakers** option in T.Flex settings controls which route is used for voice communication. The following table lists the configurations enabled by the option's choices.

Option	Which outputs are used	Volume controls available	Loudspeaker use
Never	**Voice** for all voice audio **Music** for event signals, unless the **Event and Voice in same output** is turned on	Voice and Music	Loudspeaker off
Define by proximity sensor	**Voice** for all voice audio **Music** for event signals, unless the **Event and Voice in same output** is turned on	Voice and Music	Loudspeaker on, but audio switches to the internal speaker when you put the device to your ear

Option	Which outputs are used	Volume controls available	Loudspeaker use
Always when one user talks (default choice)	**Voice** for all voice audio **Music** for event signals, unless the **Event and Voice in same output** is turned on	Voice and Music	Loudspeaker on when only one user is talking at a time; loudspeaker off otherwise
Always	**Music** for all voice audio **Notifications** for event signals, unless the **Event and Voice in same output** is turned on	Music and Notifications	Loudspeaker on

IMPORTANT:

If the phone is paired with a Bluetooth device or a headset is connected to the phone, then voice audio output switches to **Voice** and the loudspeaker is turned off regardless of the choice in the **Redirect voice to loud speakers** option. In effect, the **Never** choice is forced in this case.

One-to-many voice communication

Group call

Push-To-Talk (PTT) is the main feature of any radio, from simple walkie-talkie handhelds to professional mobile radios such as MPT, DMR, P25 or TETRA. PTT allows a single person to reach hundreds of users in multiple channels by pushing a button. This time-honored and efficient approach is also implemented in the TASSTA solution to improve communication.

A channel normally has a PTT queue, where only one user can have the floor at a time. Depending on the configuration, channels can serve the same purpose as conference calls. In a group that is designated as a *conference group*, there is no PTT queue. Unlike regular group calls, any user in a conference channel can press PTT and talk without waiting their turn.

NOTES:

- If the device has no support for noise cancellation and no headset is connected, then sound from the external speaker is rerouted to the internal speaker while you have the floor in a conference channel. This is done by design to prevent noise in the channel.
- It is not recommended that you talk in a conference channel if there are already four or more users talking. The presence of more than four audio streams causes sound corruption.

Whether or not a group is a conference group is configured on a per-group basis by the administrator in T.Commander. This property is not indicated in the group list, so you should ask your administrator to include this information in conference group names.

Group/channel setup on T.Flex is similar to PMR terminals. During PTT use, the screen shows appropriate color behavior: light green – red – green, meaning released – requested – granted, respectively.

The PTT button changes color from light green to green when someone is speaking in your group.

The PTT button displays information about the user that is currently talking in the channel. If the channel is free, it may show the name of the channel and the user that last spoke. That behavior can be configured by the administrator in T.Commander.

PTT HOLD TIMEOUT SPECIFICS:

Administrative configuration may define a PTT hold timeout for your user account, where you are allowed to hold the floor for no longer than a specified time and PTT is automatically released for you when the time limit is hit. This feature works in some situations but not in others – it is applicable where there is a PTT queue (floor control).
In particular, the timeout works in the following types of call:

- Group call (except in conference channels)
- Broadcast call

The timeout *does not work* in the following situations:

- Conference channel
- Full-duplex call
- Individual call

Also note that in networks with bridged connections, the timeout never works for bridge users.

Broadcast call

A broadcast call is similar in purpose to a group call but it is initiated by the broadcast call action instead of the PTT button. Broadcast call permissions are also administered separately from PTT permissions. Broadcast calls are normally intended for announcements and organizational information. In this type of call, the initiator subscribes specific users; these users can only listen and cannot opt out or answer.

To make a broadcast call

1. Go to the user list by selecting it in the navigation drawer.
2. Tap the **Select users for broadcast call** icon  .
3. In the view that opens, select the users you need, and tap the **Start call** button at the bottom.

On the step where you select the users for the call, you can select and deselect all users, use a search box, filter users by assigned role or group membership and sort them.

PTT is available throughout T.Flex

Channel talk is the central functionality of the TASSTA system. By default, you can start a channel talk from any operational interface using the PTT button. Even if you are focused on the map interface, the PTT button is always at hand. This feature has the advantage of providing easy and fast communication anytime in any context.

Priority call

The priority call is one of the major features of modern professional communication. It allows users with a higher priority (meaning greater priority number) to interrupt individual or group call communication at any time and get through with important information. The range of priority levels is defined by the administrator per server, and the default range is 0 to 9999.

> IMPORTANT:
>
> In multi-channel and cross-server communications, user priority is not taken into account at this time. In such channels (marked ) users are queued to talk on an equal footing. For more details about multi-channels and cross-server communications, see Access to people in your TASSTA network.

Dynamic group call

A dynamic group is formed on the spot from selected T.Flex users. A dispatcher assigns a dynamic group to selected users in T.Rodon to create an ad-hoc channel for immediate communication needs. This feature is designed for command and control centers to provide a flexible operational tool for team organization and quick response.

A dynamic group exists until the last T.Flex user leaves the dynamic group call channel.

Multilistening

You can listen to multiple channels at the same time if this functionality is enabled for you by the administrator in T.Commander. If this is the case, enable multilistening for each group you need as follows:

1. In the group list, tap and hold the group until the context menu opens.
2. Tap the circle icon to enable listening for the group.

Groups for which listening is enabled have a green circle icon on the left.

An additional administrative setting lets the administrator directly specify the list of groups for you to listen to, and that group list is stored on the server side. This is especially useful on devices that have no screen. In such a configuration, you are free to change the multilistening settings, but the administrator's changes may take precedence – for example, if the administrator includes a group that you have previously muted.

Prevent accidental PTT use

This option is intended for blocking the PTT button and protecting users from unwanted access to the channel while performing work. Importantly, the user must hear the conversations in the channel. When the feature is active, the PTT button is locked automatically by a countdown timer.

Timer activation and timer interval settings are configured by the administrator in T.Commander. To unlock PTT, you need to tap the selected channel in the channel list. The countdown timer starts automatically again.

Communication with PMR over T.Bridge

Any PMR Network such as TETRA or MOTOTRBO can be extended with the TASSTA solution or become integrated as its complement. Voice communication between PMR and TASSTA is possible through T.Bridge. If T.Bridge is configured in your environment, voice communication involving both networks (TASSTA and PMR) is done through special allocated groups using regular group calls. The T.Bridge configuration is transparent to you as a T.Flex user – use the PTT button and talk, whether your audience is in the TASSTA network or in the PMR network.

On channels that have bridged connections, this is indicated with a radio  icon.

IMPORTANT:

Depending on the PMR channel binding method chosen in your environment, creation of dynamic sub-channels in the bridged channel may not be supported. In this case, communication features relying on dynamic channels (including full-duplex calls, PTV calls and others) will not work for any members of the channel, and you will get the following error: "Failed to establish a call due to timeout. Contact the system administrator for details.".
If this happens for you unexpectedly and interferes with your work, contact your administrator about using appropriate labels in the names of such channels or revising the bridging topology.

One-to-one voice communication

Individual call

This is the equivalent of a one-to-one simplex call, providing secure point-to-point communication. The two users can be anywhere in the network or in different channels.

To make an individual call

1. Go to the user list by selecting it in the navigation drawer.
2. Tap the user you need and then tap the individual call icon. The available action icons are above the user list interface when a user is selected.
3. Wait for the other user to accept your call, and then use the PTT button to start talking.

> WHAT HAPPENS DURING AN INDIVIDUAL CALL:
>
> The calling party sees the Outgoing Call window and hears outgoing call ringtones.
> The party being called can hear incoming call ringtones and see the incoming call notification.
> The calling party has to wait until the call is accepted or drop the call using the red phone button.
> The party being called can accept the incoming individual call or drop it using the red phone button.

If the user could not answer the call, they get a notification message about the missed call.

Direct individual call

This a call to another user without prior notice. The user who receives the call immediately sees the icon of the established connection on the device screen. This type of call does not require confirmation from the receiving party.

To make a direct call

1. Go to the user list by selecting it in the navigation drawer.
2. Tap the user you need and then tap the direct call icon. The available action icons are above the user list interface when a user is selected.

Offline user call

You can initiate an individual call to an offline user. In this case the system automatically accepts the call and records your message. Use the PTT button to record the message. Your records appear in the history and will be available when user is online.

When the offline user become online, they get a notification about the offline message. To listen to a recorded offline call, tap the call and then tap the down arrow in the top right corner. Finally, tap the play button in the top right corner.

Muting users

You can mute specific users in a similar way to how you disable listening for groups. This doesn't change the muted users' configuration or permissions in any way; it only makes sure you don't hear them in T.Flex.

To mute or unmute a user, select that user, tap the More  icon and select Listening ON/OFF.

> NOTE:
>
> You can mute a user only if they have the same priority as you or lower.

E2E encrypted call

T.Flex offers an additional security mechanism called end-to-end encryption (E2EE), implemented on top of built-in TLS. E2EE prevents potential eavesdroppers from being able to access the encrypted conversation even if they manage to intercept the communication channel. E2EE in TASSTA provides a way of communication where only the communicating users with matching key pairs (encryption and decryption keys) can hear the voice messages. It is an additional level of protection to ensure that no third parties without the keys can capture the voice data being transmitted or store it.

When you make an E2EE call, you require both an encryption key and a decryption key. You will need to exchange keys with the other user.

Establishing a secure connection

IMPORTANT:

- The E2EE feature must be enabled for both participating users by the administrator in T.Commander.
- For security reasons, all recorded E2EE calls can be played back from the history only if the appropriate keys are provided.
- Emergency calls and remote listening audio are never E2E encrypted.

Encrypt both devices and share the keys with the user you need. For that, take the following steps:

1. In the navigation drawer, tap **E2EE** to open encryption settings.
2. Select the **Enable PTT Encryption** option. Instruct the other user to also enable E2EE on their device.
3. Come up with a key. Any string can be used as the key. Save it as your encryption key in the settings. Do not manually specify the decryption key.
4. Select the user you need and share the encryption key with them. For that, tap the "three dots" toolbar icon with this user selected, and tap **Share key**. The key that you share will be used as the decrytion key by the other user.
5. Confirm that the other user has accepted the key, and instruct that user to share their own key with you.
6. Accept the other user's key when you get the **Share Key** popup message. They key that you accepted will be used as your decryption key.

A dark lock icon (to the right of the user name or alias) on the PTT button indicates that encryption is on.

To turn off encryption mode on the device, clear the **Enable PTT Encryption** option in E2EE settings.

Many-to-many voice communication

Full-duplex call

In a full-duplex call, multiple users can listen and talk at the same time.

To make a full-duplex call

1. Go to the user list by selecting it in the navigation drawer.
2. Tap the Select users for full-duplex call icon  .
3. In the view that opens, select the users you need.
4. Tap the Start full-duplex call icon  or Start direct full-duplex call icon  . If you choose the direct full-duplex call option, the recipients are not prompted to accept the call.

> NOTE:
>
> Having more than four participants in a full-duplex call is not recommended. The presence of more than four audio streams causes sound corruption.

Video communication

T.Flex supports the following types of video communication:

- One-to-one:
  - Video call
  - PTV (push to video) call
- One-to-many:
  - Live video streaming
- Many-to-many:
  - Multi PTV call
  - Conference PTV call

PTT HOLD TIMEOUT SPECIFICS:

Administrative configuration may define a PTT hold timeout for your user account, where you are allowed to hold the floor for no longer than a specified time and PTT is automatically released for you when the time limit is hit. This feature works in some situations but not in others – it is applicable where there is a PTT queue (floor control).
In particular, the timeout works for PTV calls but not for video calls.

One-to-one video communication

Video call

Users can exchange video calls in the TASSTA system. During a video call, each of the participants can change the speaker of the output sound, turn on and off the microphone and video camera, and switch between the front and rear camera view.

NOTE:

Make sure that you have a stable Internet connection when placing or receiving video calls. The quality of a video call depends on the contact with the weakest connection.

To make a video call

1. Go to the user list by selecting it in the navigation drawer.
2. Tap the user you need and then tap the **Video call** Video call icon. The available action icons are above the user list interface when a user is selected.
3. Wait for the other user to accept your call, and then use the PTT button to start.

RECEIVING A VIDEO CALL:

When someone video calls you, you see an INCOMING VIDEO CALL screen, where you can accept or decline the call.

PTV call

This is a video call that does not require confirmation from the receiving party. A PTV call is declined if the receiving party is already in a call.

To make a PTV call

1. Go to the user list by selecting it in the navigation drawer.
2. Tap the user you need and then tap the **PTV call** PTV call icon. The available action icons are above the user list interface when a user is selected.

One-to-many video communication

Live video streaming

Video streaming can be the optimal way to report on something or make a quick presentation. You can stream live to one or more users of your choice at once.

To make a video stream

1. Go to the user list by selecting it in the navigation drawer.
2. Tap the **Invite users to video stream**  icon.
3. In the view that opens, select the users you need, and tap the **Start stream**  icon.

Each of the invited users gets a notification about the start of your stream, and the stream's dynamic channel becomes available to them. They can join the channel at their convenience; this opens a video player showing the stream.

Viewing a live stream

In the stream player view, you have the following controls:

- A button that hides the stream
- A button that shows how many streams you are invited to and lets you switch streams
- An indicator that shows how many users are viewing this stream

During the stream, you can use the PTT button to claim the floor and talk, as in a group call.

Many-to-many video communication

Multi PTV call

This is a PTV call with more than two participants.

To make a multi PTV call

1. Go to the user list by selecting it in the navigation drawer.
2. Tap the Select users for PTV call  icon in the top bar and proceed to the user selection screen.
3. Select the users you need and tap the PTV call  icon.

Conference PTV call

A conference PTV call allows multiple users to speak at the same time without interrupting each other. To speak, you need to press the PTV button; otherwise, neither audio nor video are transferred from your device.

To make a conference PTV call

1. Go to the user list by selecting it in the navigation drawer.
2. Tap the Select users for conference PTV call  icon in the top bar and proceed to the user selection screen.
3. Select the users you need and tap the Start call button at the bottom.

Participating in a conference PTV call

Once you have started or joined a conference PTV call, you get a grid of video frames with the participants' video feeds, a push-to-video button, a hang up button and a drop-down list of participants.

Depending on the number of participants, the video frame grid is a single frame, two frames side-by-side or four frames two-by-two. Therefore, you can see a maximum of four participants at a time, but you can swipe left and right to switch to other participants if there are more. Audio from all users is transferred, including those that are off-screen.

To mute the incoming sound or hide the video from a specific user, tap the corresponding icon next to the user’s name. The muted users are highlighted in the list, so they can be easily found. To unmute the user or reveal that user's video stream, tap the icon again.

To talk in the conference PTV call, tap and hold the PTV button (or tap it once if the toggle option is turned on for you). Unlike PTT-based group calls, there is no floor control; all users who hold the push-to-talk button can talk simultaneously.

Leaving and re-joining a conference PTV call

You can leave the call at any moment by doing any of the following:

- Tapping the Hang up button on the call screen
- Tapping the Android Back button
- Changing the channel using a hardware button or knob

To re-join the call, switch back to the corresponding conference PTV dynamic channel, named Conference PTV *<initiator>*: *<number>*.

Ending a conference PTV call

How a conference PTV call is automatically terminated depends on the state of the Do not auto-close channels with members administrative option for the call initiator and the call participants.

When the initiator leaves the call, the following happens:

- If the Do not auto-close channels with members option is enabled for the initiator, the call continues while there remain at least two participants. When only one participant is left, the rules are as follows:
  - If the option is disabled for the last remaining user, the call ends as soon as that user is left alone in the call.
  - If the option is enabled for the last remaining user, the call ends as soon as the user leaves the call.
- If the Do not auto-close channels with members option is disabled for the initiator or the initiator is a T.Rodon dispatcher, the call ends.

At the end of the call, the corresponding dynamic channel (Conference PTV *<initiator>*: *<number>*) is automatically removed.

Emergency call

The emergency call feature is integrated into any mobile client and can be useful in emergency situations. Emergency calls do not require acceptance by the operator. They get through automatically to allow the user to talk straight away without any delay. This feature is designed for immediate interaction with the operator of a command and control centers (who are normally T.Rodon users). When an emergency call is in progress, T.Flex sounds an appropriate emergency audio signal and sends an emergency message with GPS coordinates (if GPS is enabled on the caller device).

> IMPORTANT:
>
> To ensure the correct processing of emergency calls, grant T.Flex all permissions and enable location services, Bluetooth and notifications on the device where T.Flex is used.

The emergency message is highlighted red. All emergency messages contain the reason that caused the emergency, and it is logged in the emergency journal.

There are a variety of situations that qualify as emergencies: simple emergency (SOS) call, any LWP emergency (Periodic Check, Mandown, No Movement, Impact or Fall Detection, Battery Level Warning or Alarm), zone statuses (if a zone is empty, if a user goes in or out, if a user connects or disconnects, if a user stays in the zone for a certain time), and so on.

All emergency messages appear in the emergency journal, which can be enabled or disabled by the administrator in T.Commander, no matter what caused the emergencies. However, only emergency messages from regular emergency calls (made by tapping Emergency Call) are duplicated in the root channel.

When an emergency call is started, T.Rodon can toggle a distress sound on the caller device.

When an emergency call is completed, the user is transferred to the default group predetermined for the user.

There are a few emergency-related options that an administrator may configure for users in T.Commander, listed below. You cannot change these options in T.Flex.

- Prevent stop emergency

If this is enabled, you cannot stop an emergency call once you have initiated it. To finish the emergency call in this case:

1. Tap and hold in the screen to suspend the emergency call.
2. Wait for the T.Rodon operator to confirm the call end. (T.Rodon shows a confirmation prompt that has to be closed.)

- Mute outgoing emergency

Mutes the sound of the emergency popup that appears when the user sends an emergency.

- Max emergency volume

Maximizes the volume for an outgoing emergency when the user sends it.

Making emergency calls

You can make an emergency call in the following two ways:

- By tapping the Emergency symbol on the PTT screen
- By opening the Emergency tab in the main menu and holding the Emergency symbol

In either case, you get a popup that says "Click to Cancel Emergency Call" and shows a countdown. This helps prevent false emergencies started by mistake. If you tap the popup before the end of the countdown, the emergency call is cancelled. If the countdown completes uninterrupted, the emergency call starts and the emergency message is sent.

> PTT HOLD TIMEOUT SPECIFICS:
>
> Administrative configuration may define a PTT hold timeout for your user account, where you are allowed to hold the floor for no longer than a specified time and PTT is automatically released for you when the time limit is hit. This feature works in some situations but not in others – it is applicable where there is a PTT queue (floor control).
> In emergency calls, the timeout works only after the emergency PTT timeout ends.

Depending on the administrative configuration for your user account, your emergency call may be a video call instead of a plain voice call.

If you use a smartphone with dedicated hardware buttons (for example, Sonim XP7), make an emergency call by pressing and holding the hardware emergency button (usually red).

> IMPORTANT:
>
> Use emergency calls only for emergency reasons; do not abuse the feature where a direct call would suffice. Emergency calls are intended for users who are in need of urgent assistance. In addition, emergency calls affect the performance of T.Rodon and T.Flex more than other types of call do.
> The TASSTA development and marketing teams accept no liability for any loss or damage by malfunction or misuse. Users need to ensure that their emergency calls sent to T.Rodon by T.Flex can be received by the monitoring operator.
> Before production use, do a coverage network test and physical test of the device, including moving it from one site to another. The monitoring operator must ensure that their supervised users follow very strict operating instructions. The users and the monitoring operator should be aware that they cannot rely fully and solely on this product to ensure their safety and security; they can only use this product as an auxiliary, supplemental aid to assist them in knowing the user is in need of assistance.

Deferred emergency

In poor connectivity conditions, it is especially important that your emergency state is signaled and your emergency call comes through whenever the connection to the server is up. The deferred emergency mechanism is used in situations like the following:

- An emergency is triggered while connection is lost
  T.Flex waits until the connection is restored to send the emergency alert and start the emergency call
- An emergency is triggered, but then connection is lost before the emergency call can be started
  T.Flex waits until the connection is restored to start the emergency call
- An emergency is triggered and an emergency call is started, but then connection is lost mid-call
  T.Flex waits until the connection is restored and starts a new emergency call

In all of those cases, the emergency notifications received by other users indicate that the emergency had to be deferred.

> NOTE:
>
> If an emergency is triggered and then cancelled while there is no connection, then the emergency is not started when the connection is restored.

Using the mobile network for emergency communications

The lone worker protection feature set includes options to integrate mobile network functionality into emergency calling and alerting. If both of these options are enabled by the administrator, a GSM call is made instead of a TASSTA network call, and an SMS alert with location information is sent.

For details, see Emergency contact.

Covert emergency

Covert emergency is a mode for when you need to keep your emergency state unnoticed by people around you. During a covert emergency call, the on-screen indication is the same as for a regular group call. Users who receive your emergency call see standard emergency notifications. Whether your emergencies are regular or covert is configured by the administrator in T.Commander.

To start a covert emergency call, use one of the ways listed in Making emergency calls.

To end a covert emergency call, do one of the following:

- Press and hold the hardware SOS key on a connected accessory.
- Go to the group list and change your group. Leaving your emergency group ends the call if other users have already left it.
- Contact the dispatcher to dismiss the call from T.Rodon.

> IMPORTANT:
>
> Covert emergency and lone worker protection features should not be used together, because LWP emergencies are not supposed to be covert. If they are covert, they may start without you knowing

about it. Covert emergency is designed specifically for deliberately signalling about a threatening situation in secret.

Hidden emergency countdown

If an emergency countdown is set by the administrator, the emergency call starts after the specified timeout has elapsed.

Until the timeout has elapsed, both on-screen and hardware push-to-talk buttons will continue to function normally (for making standard PTT calls) and the user can switch T.Flex screens.

Unlike standard emergency calls, there is no on-screen countdown to cancel the covert emergency and no audio alert. The only indication that an emergency has been initiated is the disappearance of the Emergency icon from the screen.

Once the emergency call is ended, the Emergency icon re-appears on T.Flex screens and the original channel name is displayed in the header and on the PTT button.

WARNING:

Since there is no visual indication of the covert emergency countdown, this countdown can only be cancelled using a hardware SOS button on a connected accessory.

Communicating

Once the emergency call is started, a dynamic channel called Emergency <number>: <user> is created and the user is automatically switched to it.

The emergency (blinking red) screen is not shown and the user can freely switch between T.Flex screens.

While the emergency call is in progress, the Emergency icon is not displayed on T.Flex screens.

PTT timeout for covert emergencies

If the administrator has set the emergency PTT timeout for you to 0 (unlimited), you can talk indefinitely without holding the PTT button until the emergency call is ended.

If the emergency PTT timeout is limited to a certain number of seconds, you can talk without holding the PTT button until the timeout expires. After that, you need to tap and hold the button to continue talking (as with standard PTT calls).

If you tap the PTT button before the emergency PTT timeout expires, it automatically releases the floor regardless of the emergency PTT timeout setting. After that, you need to tap and hold the button to continue talking (as with standard PTT calls).

Whether or not you have the floor, you remain in your emergency channel until you end the call.

Covert video emergency

If the administrator has enabled video emergency for you, the voice call is replaced by a video transmission from the default (front) device camera.

The video is transmitted all the time until the emergency call is ended, regardless of the PTT button state and emergency PTT timeout.

During covert video emergency, the standard interface is shown, and you can freely switch app screens.

A covert video emergency call is ended in the same way as a voice emergency call.

Emergency screen during covert emergency

While covert emergency is active, the text "HOLD TO START EMERGENCY CALL" is displayed as if the emergency call has not started. However, tapping and holding the screen is disabled.

Emergency channel

> IMPORTANT:
>
> Although visual and audible signs of a covert emergency are minimal, there is still a way to tell an emergency call was made. The name of the active channel can be a giveaway.

An emergency call operates in a dedicated dynamic channel called Emergency <number>: <initiator>. The name of this channel will replace the original channel name in the header and (if enabled by the administrator) on the PTT button.

> WORKAROUND:
>
> If the administrator disables the display of the channel name on the PTT button for you, this prevents the telltale emergency channel name from appearing on the PTT button.

Unlike standard emergency calls, the channel and the user names on the PTT button during covert emergency are displayed in the default color instead of red.

Emergency channel will also be displayed in the group list.

Covert emergency calls in history

If you have access to call history, information about the covert emergency call is available on the History screen:

- Emergency channel name
- Call type (exclamation mark icon)
- Call date and time

- Recorded call with playback functionality (if recording is enabled)

> WORKAROUND:
>
> To prevent attackers and aggressors from gaining access to this information, an administrator should disable access to activity history for you.

Voice and video from other covert emergency call participants

The voice responses from other call participants are played on the covert emergency initiator's device, as in standard PTT calls, even if the device is in loudspeaker mode.

Video from other participants is not shown to the call initiator during covert video emergency.

Messaging

T.Flex has advanced integrated messaging and file transfer facilities that let you exchange text messages and files in a group or privately. T.Flex supports the following features:

- Text exchange
- Status messages
- File exchange
- Message exchange with PMR through T.Bridge
- Face recognition requests

Text exchange

Tap the user or channel that you want to send a message to, and then tap the envelope icon above the list to go to the chat. Write your text message and tap the paper plane icon to send it. The recipient's mobile client will receive a notification in the status bar and sound an audio notification.

Your messages can be viewed in recent messaging history. To read all recent messages, tap Chats in the navigation drawer.

Text messages can also be sent to offline users. When the user comes back online, they will be able to read and reply to those messages. The user gets a notification about the unread message and can switch to the messaging screen using that notification.

Copying messages

Messages can be copied and quoted.

To copy a message, tap the message and select Copy. Then tap and hold in the input field and tap Paste.

To quote a message, tap the message and select the quote icon. The message is quoted immediately in your input field.

Deleting messages

You can delete your own messages as long as this is permitted to your user account by the administrator.

To delete a single message, tap it and then tap the trash can  icon that appears in the top bar.

To delete multiple messages:

1. Tap the More  icon in the top bar and tap Delete messages.

2. Select the messages you want to delete by tapping them. The trash can icon in the top bar becomes green when something is selected.
3. Tap the trash can icon to proceed with the deletion.
4. Tap the Back arrow in the top bar to exit message deletion mode.

After you have deleted the messages, a notification bar is shown at the bottom for a few seconds, telling you how many messages have been deleted. It includes an Undo button in case you change your mind and decide to restore the messages, but you only have a few seconds to do it.

Message states

T.Flex tracks if your messages have been received and read. This is indicated as follows:

- Sent – a single check mark; a message has this state if the recipient was offline at the time of the sending
- Received – a double gray check mark next to the message means the recipient got the message and was notified but hasn't read the message
- Read – a double green check mark means the user has read the message

In a user-to-user chat, a message can also come with an acknowledgement request; this is the sender's way of confirming you have given attention to the message. Such a message has the "Confirmation required" label at the bottom. To request acknowledgement for your own message, send it by long-tapping the Send button.

To acknowledge a message that requires it, simply tap the message. An acknowledged message is tagged with the "Confirmed" label.

Status messages

T.Flex provides a quick way to communicate your status updates by sending predefined status messages. The set of status messages in your TASSTA network is configured by the administrator in T.Commander. Each such message has a tag, message text and comment, and a color can be defined for it so that you can instantly spot and categorize it.

To send a status message, press the status icon (top right) and select the appropriate message. Alternatively, type the hash (#) symbol to see the list of available hashtag-like shorthand labels. Tap the label you need to send the message that it stands for.

If you commonly send the same status messages to the same recipients, the quickest way to do it is to create shortcut tiles for these messages in the My TASSTA view.

File exchange

To go to the file exchange interface, tap the user or group you need in the user or group list. This takes you to the recent messages history screen. Here you can send a file and see recent chat history.

To send a file, tap the staple icon and select the file. The file will be immediately transferred to the server, and the recipient will be notified.

To send a photo, tap the picture icon, and you will be redirected to the camera application where you can snap a photo.

When you send a file to a group, all users in the group receive an incoming message notification and can download the file.

> NOTES:
>
> - The app does not restrict the maximum size of a file to upload. However, your upload may be affected by the server-side configuration settings.
> - There are no restrictions on the file types you can upload.

To download a file that you have received, tap the message and then tap the attachment icon with a down arrow in the upper right corner.

Message history

The Chats view is a multipurpose part of T.Flex. It collects all messages from both users and channels. Messages are sorted by date and grouped by date, with the number of new messages shown. You can switch to message exchange by tapping the item you need in the chat list of the messaging view. Alternatively, tap a new message notification in the status bar.

For each chat, the message exchange interface includes the message history that goes as far back as the administrative settings allow.

Marking messages as read

To mark all messages from a channel or user as read, go to the corresponding chat and tap the envelope-and-checkmark icon in top right corner.

Emergency journal

The emergency journal shows emergency calls and alarms of all types (including geozone traversal alarms and lone worker protection-related alarms), and it is the only area in T.Flex that lists emergency messages. The emergency journal is available to you only if it is enabled by the administrator in T.Commander.

When a user initiates an emergency call, authorized users get an emergency notification with an indication of the type of emergency message. If the emergency journal is enabled for you, it means you are such a user.

If the user who sent the emergency message has GPS enabled, the message contains the coordinates of the emergency event. Tap the message to do any the following actions:

- Copy the text of the emergency message, including the type of emergency
- View the location of the emergency event on the map by tapping the centering icon

Message exchange with PMR through T.Bridge

Any PMR Network such as TETRA or MOTOTRBO can be extended with the TASSTA solution or become integrated as its complement. Messaging between PMR and TASSTA is possible through T.Bridge. If T.Bridge is configured in your environment, messaging involving both networks (TASSTA and PMR) is done through special allocated groups using regular group calls. The T.Bridge configuration is transparent to you as a T.Flex user – you can text people no matter whether they are in the TASSTA network or in the PMR network.

Face recognition requests

The messaging UI also doubles as the face recognition front-end, which can be useful to law enforcement agencies, military organizations and other personnel requiring in-the-field identification of people.

The actual face recognition is powered by IntellQ and initiated on the T.Rodon side. To request face recognition, start a chat with the T.Rodon operator and tap the face recognition icon to take a snapshot on the spot or upload a saved image. The automated reply from the operator will contain the results of the recognition process.

My TASSTA feature

The My TASSTA screen is a way to get quick access to favorite T.Flex features and options.

> NOTES:
>
> - The administrator can use T.Commander to set My TASSTA as your main T.Flex screen.
> - Depending on your permissions, you may not be able reconfigure your My TASSTA view, getting configuration updates from the server instead. Alternatively, you may have permission to modify that configuration not just for yourself but for multiple users on the server.

Arrange the important options and features as follows:

1. Select My TASSTA in the navigation drawer and then tap the "three dots" More icon in the upper right corner.
2. Tap Add/Delete items.
3. Select the options and features from the list by tapping them. Selected icons will turn green.
4. Close the window.
5. If necessary, use the Rearrange items action from the same menu.

Call shortcuts

You can add tiles that act as shortcuts for various types of call:

- Individual
- Broadcast
- Full-duplex
- PTV
- Video stream
- Conference PTV

The call participants that you select can be saved with the shortcuts that you create, so that you can instantly call the same people again without reselecting them. Alternatively, you can use such a tile to go into participant selection mode and then proceed to start your call.

A newly added unnamed call shortcut tile is not associated with any call participants. Tap the blank call shortcut tile to specify who you are calling; select the user or users you need, and then do one of the following:

- To start your call without saving it for later reuse, tap the call icon in the top bar. This starts the call.
- To save the call parameters for later reuse, tap the Save icon in the top bar. You are prompted to specify a unique name for the call shortcut. Keep the suggested name or type a name of your choice, and tap OK. This does not start the call.

To start a call from a named call shortcut tile, tap that tile.

Hiding the blank call tiles does not affect your saved call shortcut tiles.

To remove a named call shortcut, switch to tile rearrangement mode and tap the cross icon in the corner of that tile.

Mute button

The Touch to mute tile mutes all voice communications for a few seconds. This button is configured in the app settings and disabled by default.

Tap the tile to mute audio until the countdown ends. How long is left is indicated by a shrinking strip around the icon. You can tap the tile again before the end of the countdown to unmute immediately.

Call request

My TASSTA provides an additional option that is always present: Call Request. It sends a request for communication to the T.Rodon operator so that they can call you back at their convenience.

You can make:

- A regular call request (green tile)
- An urgent call request (red tile)
- A first-to-answer call request (yellow tile)

To send a call request, tap and hold the call request tile you need. If you have already sent a call request and you want to change its priority from normal to urgent or the other way around, simply tap and hold the tile for the other priority. This will change the call request priority.

A first-to-answer call request doesn't have an urgency option. A dispatcher accepts such a request by making a one-to-one (individual or direct) call to you.

To cancel a call request that you have made, tap and hold the tile that says, "Hold to End Call Request". The request can also be cancelled from T.Rodon in the following situations:

- The T.Rodon operator manually cancels the request.
- For regular and urgent requests: the T.Rodon operator accepts your request and moves to the channel you were in at the time of the request, but you are not in that channel anymore.

> NOTE:
>
> Call queue must be enabled on the server in order to use this feature.

Chats shortcut

The Chats tile is a quick way to switch to the Chats view. In addition, the tile shows a counter for new messages that have arrived since you logged in or last left the Chats view, whichever happened later.

Disable back button

The Disable back button option is available only on the My TASSTA screen. Select it if you want to prevent accidental exit from T.Flex when the Back button of your device is pressed.

Quick status messages

My TASSTA tiles can be used as shortcuts for sending specific status messages to specific chats. If you regularly send the same status messages to the same recipients, save time by making a tile for each of these situations.

For that, add a status message shortcut to the view. You will be prompted to select the status message and the recipient. You can add as many status message shortcuts as necessary.

Lone worker protection

Lone worker protection (LWP) is a set of features implemented across the TASSTA solution components to meet codified safety requirements, defined in the DGUV 112-139 standard (view in PDF format) and other regulations. These requirements are developed specifically for lone worker users, who work by themselves without close or direct supervision.

If you are a lone worker, we hope you will appreciate the safety features that T.Flex provides and the way it keeps you connected to your team.

> IMPORTANT:
>
> To ensure the correct functioning of all LWP features, switch T.Flex app to priority mode. Refer to your device manual for details.

Before you start using the LWP features, confirm that the administrator has enabled them for you in T.Commander. If LWP is enabled for you, you are prompted to perform a sensor check as soon as you log in.

LWP has three states:

- Disabled and Inactive
  LWP features are not applied to your user account.
- Enabled and Inactive
  LWP features are applied to your user account, but they are not working properly. For example, this can happen if the sensor check has failed or the dispatcher has gone offline.
- Enabled and Active
  LWP features are applied to your user account and working properly.

To view your LWP settings, tap **Emergency** in the navigation drawer and select LWP settings.

All emergency messages created by LWP features are kept only in the emergency journal.

> DISPATCHER PRESENCE:
>
> The Dispatcher option enables a mode in which the lone worker is supposed to work under direct supervision of a dispatcher who is running T.Rodon. This option is enabled by the administrator in T.Commander.
> In this mode, T.Flex constantly checks if the dispatcher is online. On login, you won't be able to pass the sensor check if the dispatcher is offline. If the dispatcher goes offline while you are logged in, you get a warning signal, and LWP features change their state to Enabled and Inactive.

To ensure maximum safety, LWP provides the following functionality:

- Periodic check
- Man down
- Movement
- Detect impact

- Battery control
- Connect/Disconnect monitor
- Emergency contact

NOTES:

- Lone worker protection is provided by a dedicated service on the TASSTA server. When the server or this particular service is turned off, you receive a notification about disconnection from the LWP server and a short vibrating signal. The same happens when LWP functionality is turned by the operator in T.Rodon.
- Your user account settings may be such that all of the LWP functionality is turned off while the device is charging. This is configured by the administrator in T.Commander.

WARNING:

Use lone worker protection alerts strictly as emergency features. This will help you receive timely assistance if you experience an emergency situation.

Sensor check

The sensor check certifies that the device is ready to work in lone worker protection mode. At its core, the sensor check is a series of tests that verify the basic functionality of LWP. When you see the Sensor Check Validator popup, follow the instructions on the screen.

The sensor check is requested in the following situations:

- On the first launch of T.Flex on the device if LWP is enabled for your user account
- When you log in on a different device from your previous one
- When the T.Rodon operator starts it for you
- Periodically at configurable intervals; the interval ranges from 15 minutes to 24 hours

VEHICLE MODE SPECIFICS:

If the administrator has enabled vehicle mode for your user account, then lone worker protection is activated for you without the sensor check when you log in. The sensor check is reported as passed, although in fact it is not even attempted. If you are still online during the next scheduled sensor check, its status changes to "Not passed", and lone worker protection remains active.
This behavior may be revised in future releases. At this time, it is recommended that you run the sensor check manually after vehicle mode is turned off for you. Otherwise, it will be requested no sooner than the next scheduled time.

You can also start the sensor check using the emergency screen in the top right corner.

NOTES:

If you lose connection with the server and your emergency occurs in an offline state, then the emergency will be initiated upon reconnection with the server.
If the application exits correctly, all notifications in the status bar are deleted.

Tests performed during the sensor check

- Emergency call button
- Panic call
- Man down
- Movement
- Impact
- Battery alarm
- GPS

Possible errors during the tests

Error	Meaning
Wrong phone number	Set the correct phone number
Phone Call Canceled	You are not allowed to make GSM calls
Network error	No internet connection
No service	T.Flex has no access for sending SMS messages or the SIM card is missing
Network is disabled	Enable the data exchange module through the Internet
Connection failed. Sensor check stopped now	T.Flex sent a request to the server but received no response
There is no sensor	The device has no accelerometer
Please, charge battery	Charge the device more than the suggested minimum value
Getting location data is not permitted	T.Flex has no access to the GPS module; enable access in the settings of your device
Turn on GPS, please	Turn on the GPS

Error	Meaning
Waiting time has expired	The response timeout interval is exceeded

Periodic Check and Periodic Check U

The Periodic Check feature is a way to make you repeatedly confirm that you are OK. It provides a popup dialog at regular intervals that are set by the command and control center operator in T.Rodon. The dialog pops up no matter which T.Flex screen you are using. When T.Flex is closed while you are still logged in, the popup dialog appears over other apps. Furthermore, T.Flex can unlock the device to show the popup. The popup dialog says, "EVERYTHING FINE? CLICK TO CANCEL ALARM" and starts a countdown. You have until the end of the countdown to tap the popup, confirming that you are not incapacitated. If you fail to submit the OK status, an emergency call starts and an emergency message is sent.

> NOTE:
>
> If covert emergency is enabled for your user account by the administrator, then covert emergency is initiated in this case. For details about covert emergency, see Emergency calls.

Periodic Check U is similar, but it is a T.Flex feature and cannot be enforced by the administrator or dispatcher. It is up to you when to activate it.

Periodic Check U is based on a combination of two timers: Check Time and SOS Timer (auto).

- Check Time
  This is the time interval (in seconds) between checks. The minimum value is 20 seconds, and the maximum value is 86400 seconds (24 hours). Check Time is restarted every time you successfully pass the check.
- SOS Timer (auto)
  This time interval (in seconds) specifies how quickly you need to respond when prompted (by the "EVERYTHING FINE?" popup) to confirm that you are safe. The minimum value is 20 seconds, and the maximum value is 86400 seconds (24 hours). If this time elapses without your response, an emergency is triggered.

To activate the feature, open Emergency in the navigation drawer and select Periodic Check U. Tap the Periodic Check U symbol to start the timer. If you minimize the application, the timer will continue. If you fail a check and an emergency call is made as a result, the checks stop. To use this functionality again, re-enable it.

If the administrator turns off the LWP feature set for you while your Periodic Check U timer is running, the timer stops and no emergency call is triggered.

The timer does not depend on the connection to the server and continues whether or not the server is available. However, if the Check Time timer expires while you have no connection to the Internet, the emergency popup is not shown. It is also not shown automatically upon reconnection in this case.

When connection is lost, a special audio signal may be played. This is configured by the administrator in T.Commander. However, if LWP is enabled for you, the lost connection alarm is sounded whether or not the option is turned on in T.Commander.

Man Down

Automated Man Down alerting has proven to be an effective way to make the workplace safer for all employees. If an employee encounters a hazardous or a life-threatening situation, an automatic Man Down alert can be used to let the appropriate personnel know that a dangerous or life threatening situation has occurred. In the event of an emergency the assigned personnel can take action immediately after receiving the emergency alert.

The accelerometer on the mobile device is used for detecting an impact, and a Man Down alert is sent to the group. Once the application detects that the phone is in a horizontal position (for a defined period of time), a popup dialog saying "EVERYTHING FINE? CLICK TO CANCEL ALARM" is automatically displayed. To send the OK status, tap this popup. If the worker doesn't send the OK status, an emergency call starts and an emergency message is sent.

The Man Down feature is based on the following three parameters:

- Degree
  If the device falls and the accelerometer reports that the device tilt has exceeded a certain angle (the value can be set in the range from 0 to 90) T.Flex starts the Tilt Timer.
- Tilt Timer
  If the device remains at an angle that exceeds the threshold value until this timer expires, the app goes into a warning state. The timer can be set to a value between 0 and 86400 seconds (24 hours).
- SOS Timer (auto)
  This time interval (in seconds) specifies how quickly you need to respond when prompted (by the "EVERYTHING FINE?" popup) to confirm that you are safe. The minimum value is 20 seconds, and the maximum value is 86400 seconds (24 hours). The default is 30, and the value is configured in T.Rodon or T.Commander. If this time elapses without your response, an emergency is triggered.

Movement

Movement monitoring uses location data from the mobile device's acceleration sensor to detect lack of movement, which may mean that the worker is hurt. In this situation, an emergency alert is triggered and an emergency call is made. The emergency alert includes the user name, group membership and GPS coordinates with a link to the exact location on the map. Automatic no-movement alerting has proven to be an effective way to create safer workplaces.

The Movement feature is based on two timers:

- Inactivity Timer
  If the device remains motionless for a period of time, an Inactivity Timer starts. If any movement occurs within this time, the timer is cancelled and T.Flex goes back to its regular operation. The default setting is 60 seconds, but it can be set in the range from 0 to 86400 seconds using T.Rodon or T.Commander.

- SOS Timer (auto)
  This time interval (in seconds) specifies how quickly you need to respond when prompted (by the "EVERYTHING FINE?" popup) to confirm that you are safe. The minimum value is 20 seconds, and the maximum value is 86400 seconds (24 hours). The default is 30, and the value is configured in T.Rodon or T.Commander. If this time elapses without your response, an emergency is triggered.

Impact detection

> IMPORTANT:
>
> The device must have an accelerometer for this feature to work.

The Detect Impact feature watches for sudden physical impact on the device (and, by extension, on the user). T.Flex uses the accelerometer to distinguish between motions that would be characteristic of normal activities such as walking and irregular jolts that could mean falling, struggling or tumbling downstairs.

As soon as the deceleration of the device reaches the impact threshold which is set in by the T.Rodon operator, the user receives a notification saying, "EVERYTHING FINE?". When T.Flex is closed but a worker is still logged in, a popup appears over other apps. If the worker's device is locked, T.Flex can unlock the device and the popup will appear. The popup says, "EVERYTHING FINE? CLICK TO CANCEL ALARM". Tap the popup to confirm the OK status. If you fail to do so, an emergency call starts and an emergency message is sent.

The Detect Impact feature is based on the following parameters:

- Impact Threshold
  This value is set from 1 to 40, where 1 is the maximum sensitivity, and 40 is the minimum sensitivity.
- Impact Time
  For the Impact feature to be triggered, the device must experience the threshold (or higher) acceleration for at least this long. The value is in milliseconds. The recommended value is 2 to 3, but performance may vary depending on the type of accelerometer. You should check what value is acceptable for your particular device.
- SOS Timer (auto)
  This time interval (in seconds) specifies how quickly you need to respond when prompted (by the "EVERYTHING FINE?" popup) to confirm that you are safe. The minimum value is 20 seconds, and the maximum value is 86400 seconds (24 hours). The default is 30, and the value is configured in T.Rodon or T.Commander. If this time elapses without your response, an emergency is triggered.

Battery level control

The T.Rodon operator can make your T.Flex instance send emergency warnings and battery alarms if the battery charge is below a certain level.

The notifications that the operator receives depend on the following parameters:

- Battery Level Warning
  This parameter sets the value which is lower than normal but is not critical. If the battery level becomes lower than this, T.Flex sends out an emergency message with the subject "Battery level warning".
- Battery Level Alarm
  This parameter sets the critical value. If the battery level falls below this, T.Flex sends out an emergency message with the subject "Battery level alarm".

Another battery control function is Battery Call. With this feature is enabled, if the battery level becomes critical, T.Flex starts an emergency call. This happens without a warning popup timer.

Battery Level and Battery Call can be enabled at the same time.

Emergency contact

The Emergency Contact feature includes two actions: emergency call by GSM and emergency SMS. These options can be enabled and disabled independently of one another. The call and the SMS are triggered by any LWP emergency. The numbers for the call and the SMS are set by the administrator in T.Commander and are not necessarily the same number.

Emergency call by GSM and Emergency SMS can be enabled from T.Rodon.

The emergency SMS includes information about the type of emergency and the coordinates of the lone worker.

NOTES:

- When an emergency GSM call is made or an emergency SMS is sent, they are charged to the SIM card owner's account in accordance with the mobile operator’s charges.
- If an Emergency GSM contact is specified and enabled (for calls not SMS), starting an emergency results in a GSM call to that contact instead of placing an emergency in a channel. If a SIM card is not available at the time of this call or the call cannot be accepted on the receiving end, there will still be no emergency in the channel – this is the expected behavior.
- Emergency SMS is available only in the standalone version of T.Flex, not in the Google Play version.

Voice recording and call history

T.Flex provides a feature-rich voice recording and history call log. The TASSTA system can store vast amounts of voice communication data and call details for all channels and users. This data can be accessed through the History interface in T.Flex: you can view call details and replay recordings. You can do the following:

- View call details: time, date, user and channel
- Play back voice recordings (individual and group calls)
- Save recordings to an external storage device
- Read recordings from an external storage device
- Filter and sort recordings

To view the history, tap History in the navigation drawer. Recent activities for a preconfigured period are available on the history screen. How far back the items are available is configured by the administrator in T.Commander.

To replay a call, simply tap it in the history screen.

Voice data storage and retention

The TASSTA system records conversations in real time and keeps the recordings on the T.Lion server. How much recent data is made available to users depends on the retention policy, which is up to your administrator.

GPS location and tracking

Many popular services such as taxi companies, post offices and shipping companies often use GPS tracking features to optimize their operations in the field. T.Flex provides tools that integrate GPS tracking capabilities with the built-in map. To access the GPS location and tracking interface, tap **Map** in the navigation drawer. You can do the following on the map:

- Zoom in and out
- View the precise positions of TASSTA users and locate them
- View the "who is talking" status and identify users
- Center on a specific user
- Use indoor localization features
- Work with guard tours

> CHOICE OF MAP ENGINE:
>
> The TASSTA framework supports the following two map back-end technologies:
>
> - OpenStreetMap
>   This is the default option available for free. It is also the only option for devices running Android versions prior to 5.0.
> - Mapbox
>   This API offers a richer feature set compared to the OpenStreetMap engine – you can manipulate the compass, follow specific users, switch to night mode, use a grid and create routes from point to point. However, Mapbox requires purchasing an access token to provide the map functionality to clients. It's up to your TASSTA administrators to obtain the access token. Mapbox is also the only map engine that supports Infsoft-provided indoor localization features.
> - Google Maps

User identification and markers

The position of each subscriber is marked by an icon on the map with a label that shows the user name.

The user's icon changes status changes when the user presses PTT and the floor is granted. The set of icons is as follows:

Icon	Meaning
	Your location

Icon	Meaning
	Your last known location
	You are talking
	Location where you were last seen talking
	User's location
	User's last known location
	User is talking
	Location where user was last seen talking
	User is in emergency
	Emergency message
	User's coordinates are unknown
	User with unknown coordinates is talking

When the map is zoomed out enough that markers cannot be told apart, they are clustered together, and each cluster shows the number of users in it. Zoom in to break the cluster and single out the markers.

In addition to the icons listed above, there is a set of icons with the same meanings for radio users connected to the TASSTA network through bridge middleware. These icons have a pin, as in the following example:

The last known location markers are displayed if GPS reports stop coming from the user's device. The regular user marker stays up for a while. After 40 seconds, it is replaced by a last known location marker, which stays up for 120 seconds and then disappears.

A last known location marker does not appear if the user logs out or loses connection. If the user logs out, their marker disappears immediately. If they lose connection, it stays up until the server decides to cut the connection.

> NOTE:
>
> Some users who are online may be absent from the map. This normally means the administrator has turned off GPS location sharing for these users. However, when such a user makes an emergency call, their GPS coordinates are sent to all users that they can reach.

Map zoom

T.Flex lets you zoom the map in and out to help you see the situation at different scales, whether you need to see all active clients in the world (maximum zoom out) or the location of one particular user on the street (maximum zoom in).

In some cases, you may not need a strong zoom. For example, when there is a large distance between users and it is enough to know only their approximate location (district, city).

In this situation, you have the option to limit the zoom range. For that, open the Settings, select Zoom level and set a value from 1 (no zoom) to 18 (allow maximum zoom).

Detailed street view

It is important to have a detailed street view on the map. The integrated map provides a detailed street view with house numbers, road and street names and provides the address of any location.

Furthermore, the map shows colored lines, areas and other standard symbols to help read and interpret the map at different scales.

Real-time positioning and precise location on the map

There are many publications and articles on the Internet devoted to the accuracy of GPS on mobile phones. Some of them introduce us to new technologies improving the accuracy of GPS receivers on

phones. Some articles describe the test results for specific mobile phones and even explain the math behind the process. These materials are good to keep in mind, but the best practice is always to test.

Our tests and practical experience allow us to say that today embedded GPS receivers in many existing mobile phones not only meet but also exceed most of the requirements for production use.

The map component of T.Flex has powerful user locating features. On the T.Flex map you can see your TASSTA network users' locations in real time, accurate to the street and house number.

Centering the map on a user

To directly jump to a specific user's location without scrolling the map around, go to the user list, locate the user and tap the On map  icon for that user. This feature becomes indispensable if you have hundreds of users in your TASSTA network.

To jump to your own location while the map is open, tap the On map  icon, which is located above the map view.

Guard tour

T.Flex provides features for organizing, logging and performing guard tours and security patrols, helping you accomplish your tasks within predefined time intervals.

The routes for the guard tours are configured and assigned by the T.Rodon operator. T.Flex is responsible for helping you track your progress on the tour and providing ways to pass checkpoints.

The following methods are supported for passing a checkpoint:

- GPS
  Simply arrive in the vicinity of the checkpoint
- QR
  Scan a QR code located at the checkpoint
- NFC
  Tap an NFC tag located at the checkpoint

When a guard tour is assigned to you by the T.Rodon operator, you get a notification and a shield icon is displayed.

You can view your guard tour on the map. The operator sets timers for passing points (H:MM:SS time format). If you fail to arrive at the next point before the corresponding timer runs out, a warning is sent to the operator.

In the guard tour view, you can do the following:

- Start the guard tour
  Once you have started a guard tour, you cannot cancel it.

- See which checkpoints you have passed and which you have yet to pass
  A checkpoint has one of several states: "not visited", "in progress", "paused", "skipped" and "visited". The checkpoint that is "in progress" is the one you currently have to visit next.
- Check the time left for you to reach the next checkpoint
  The operator sets timers for passing points (H:MM:SS time format). If you fail to pass the next point before the corresponding timer runs out, a warning is sent to the operator.
- Pass the checkpoint by scanning a QR code (or bar code) if this is a QR-mode guard tour or by tapping an NFC tag if this is an NFC tour.
  In these modes, the QR scan and NFC buttons are available in the toolbar in guard tour view. To update your status from a QR code or barcode, tap the QR scan button and scan the code with the camera. To update the status from an NFC tag, tap the NFC button and then tap the phone on the NFC tag. If the scanned information is valid, your status is updated.
  For NFC guard tours, you have the Guard tours NFC scan in the background configuration option, intended primarily for NFC-capable devices without screens. It is also useful on touchscreen devices – it lets you complete a guard tour without even unlocking your phone as is runs the app in the background. If text-to-speech announcements are enabled for your user account, your NFC scan results are voiced.
  In addition, enabling the Send NFC scan results to chat option lets you automatically send a message with the tag ID, coordinates and Google Maps link to the Main group chat when you tap a checkpoint tag.
- Pause or resume the tour
  This pauses and resumes the countdown to the next checkpoint.
- Skip a checkpoint
  This action has to be approved by the operator.
- Stop the tour
  This action has to be approved by the operator.

Mapbox-specific features

Some functionality is available only if Mapbox is used as the map provider in your environment. To check if that is the case, look for the Mapbox logo in the lower left corner of the map.

With Mapbox, you can do the following:

-  Show and hide grid lines
-  Switch to dark mode
-  Enter precise comma-separated GPS coordinates to navigate to a specific point
-  Turn on the compass (by long-tapping the icon)
-  Turn on Follow selection mode (in the top bar)
  After enabling this mode, you need to tap the marker of the user you need, and then the map remains centered on that user as they move about.

-  Take a snapshot of the map (in the top bar)

Waypoints

Mapbox lets you leave annotated marks and routes on the map, called *waypoints*. Waypoints are intended for your personal use and stored on the server.

To go into waypoint editing mode, long tap a spot on the map. The first point is placed at that spot. In the menu that appears, add a title and description and choose a color for the new waypoint.

To add the next point in this mode, tap Add and then long tap in the new spot. You are prompted to provide a name, color and description for the new point. Repeat this without leaving placement mode to draw a route.

To reposition the current point, long-tap in a different spot. To remove the current point and go back to the previous one, tap Remove.

To apply your changes, tap OK.

Using integrated indoor localization features

T.Flex supports two approaches to indoor localization, depending on the way it is configured in your environment. Indoor location representations are integrated into the main map view using either of the following:
- Infsoft indoor localization
- Indoor localization based on fixed beacon locations

If one of the methods is used in your TASSTA network and enabled for you, then switching to indoor localization mode is simply a matter of zooming in enough for the indoor location map to appear. The indoor location becomes represented by a 3D floor plan (in the case of Infsoft technology) or by a custom set of images that correspond to the location levels.

When you are in indoor mode, only the indoor location is shown distinctly, and the rest of the map is dimmed. Additional controls appear on the left to let you switch location floors, if any.

Task management and control

The TASSTA Task Manager system provides users issue management capabilities found in any modern CRM system.

It includes manual and automated processing algorithms with real-time status updates, user management, positioning, reporting, and administrative information. What's more, the data can be integrated into other TASSTA services, web clients, and external databases. The Task Manager system is highly flexible and feature-rich. An issue can be renamed or transformed into an order, task, item, client or any other tracker type. The main features are as follows:

- Adaptable to a variety of purposes
- Tracking of tasks, orders and issues in real time
- Customer service data
- Centralized database
- Status updates through QR codes or barcodes

For example, taxi and logistics companies use Task Manager to integrate order response with voice and data communication. The TASSTA Task Manager helps them create and track the order, follow the order status and preserve customer data.

Data exchange between the Task Manager server and the client uses the HTTPS protocol, which makes communication more reliable and secure.

The complete Task Manager solution is based on T.Rodon and T.Flex. T.Rodon is responsible for most of the control and management. The T.Rodon operator creates and assigns issues, orders and tasks. T.Flex users can change status, add notes, take pictures, attach files and add signatures.

Each issue/order/task has the following attributes:

- ID
- Name
- Description
- Title
- Priority
- Tracker
- Progress
- Author
- Assignee
- Created date and time
- Notes
- Last status update

In addition, the issue/order/task can have custom fields that are configured by the operator in T.Rodon.

It can also contain attached files (documents, signatures and so on). In addition, the schema can be extended by custom fields for storing specialized information in the system.

When the T.Rodon operator creates an issue and assigns it to you, you get a T.Flex notification in the phone's task bar.

To see all issues assigned to you, tap Task Manager in the navigation drawer.

To work with a specific issue, tap that issue in the list. The following tools become available:

Icon or action	Meaning
	Change the status of the task (New, In progress, Resolved, Feedback, Closed, Rejected)
	View detailed information about the task and get access to some additional actions: Edit  , Add note  , and the following actions under the More  button: Attach a file and Live picture
	Add a signature

Remote media capture

To ensure higher safety, T.Flex provides the possibility of remote capture of audio, video and pictures from other users' mobile devices. For example, if a user fails to get in touch, remote media capture can help you assess the situation that the user is in.

This can be very important in critical environments such as security services or the military where the person can be attacked or works in high-risk conditions.

NOTES:

- Remote media capture gives you undetected access to the current working situation of your teammate. Always respect the privacy of your colleagues. These features are designed strictly to meet security requirements. In addition, applicable legislation and company policy must be considered.
- Due to continuous software and hardware upgrades, TASSTA functionality may be incompatible with some mobile cameras. Please consult TASSTA if in doubt.
- Remote media capture is not E2E encrypted. If the other user has turned on E2E encryption, you can still get media from their device.
- Remote media capture stops when the user presses PTT or an individual call is made to or by the user.
- Remote access to a particular user's camera and microphone can be denied by the administrator in T.Commander. However, you can still request a remote photo from such a user in the event of an emergency call.

Remote listening

You can access the microphone of a specific user remotely, unless this is denied by the administrator. To activate remote listening, tap the user in the user list, go the options menu and select Remote listening ON. Remote listening mode is activated, and the appropriate icon is displayed. To deactivate ambience listening, go the options menu and select Remote listening OFF.

T.Flex users may not be made aware of ambience listening, and this can be used for assessing the situation undetectedly. Whether or not the user is notified is configured by the administrator in T.Commander.

If such notifications are enabled for your user account, you can use the Accept incoming remote listening requests option in T.Flex settings to control whether you want to be able to reject the requests.

Remote picture

You can access the snapshot functionality of a specific user's camera remotely, unless this is denied by the administrator. For example, if you get a Man Down alarm from a user, it might be a good time to try and get a picture from the user's camera in case it helps find out what happened.

To take a remote picture, tap the user in the user list, go the options menu and select Remote picture (back camera) or Remote picture (front camera). This opens a popup window with the snapshot.

T.Flex users may not be made aware of snapshots being taken remotely, and this can be used for assessing the situation undetectedly. Whether or not the user is notified is configured by the administrator in T.Commander.

If such notifications are enabled for your user account, you can use the Accept incoming remote camera requests option in T.Flex settings to control whether you want to be able to reject the requests.

The quality of the snapshot depends on the mobile device, position of the camera and light conditions.

> NOTE:
>
> Generally, the resulting snapshot is unlikely to be informative. For example, if the user's phone is lying lens down, the picture from either camera is useless.

Remote video

You can access the video stream from a specific user's camera remotely, unless this is denied by the administrator.

For that, tap the user in the user list, go the options menu and select Remote video (back camera) start or Remote video (front camera)start. This opens a popup window with the video stream. To deactivate remote video, go the options menu and select Remote video (back camera) stop or Remote video (front camera)stop.

T.Flex users may not be made aware they are streaming video, and this can be used for assessing the situation undetectedly. Whether or not the user is notified is configured by the administrator in T.Commander.

If such notifications are enabled for your user account, you can use the Accept incoming remote video requests option in T.Flex settings to control whether you want to be able to reject the requests.

Direct mode

T.Flex can operate in a serverless Wi-Fi direct mode that provides only push-to-talk (group call) functionality and works only within the reach of a single wireless network. To enable direct mode, log out of the TASSTA network (if you haven't already), go to the application settings and tap Operation mode | WiFi direct mode. Direct mode becomes enabled, and all operational views and configuration settings that are not applicable become hidden.

To log in with direct mode enabled, go to the login screen and specify the following:

- The desired user name
- The port number, which doubles as your group ID; this is the port that your group calls will use, and you will only be able to talk to users that have specified the same port

After that, tap Connect.

In direct mode, there is no authentication and no centralized user and channel directory. Any T.Flex user is free to connect with an arbitrary user name. Furthermore, user names don't have to be unique. If there are identical user names in a direct-mode ad-hoc network, you can distinguish them by the IP addresses shown next to them in the user list.

In direct mode, the PTT screen has a green notification line at the top, saying that only group calls are available.

To talk in the channel, tap the PTT button.

Logging out in direct mode is no different from logging out in server mode – open the navigation drawer and tap Logout.

Increasing battery life

The battery life of client devices (radios and smartphones running T.Flex) is greatly affected by the TASSTA network features enabled on the server side. The more features enabled, the faster the battery drains due to multiple services exchanging information frequently.

If you find that your battery drains too quickly after installing T.Flex, try the following workarounds (one or more):

- Disable client features you do not use or those which are not required by this particular user. Pay special attention to the following features:
  - Indoor localization - enable it only for users who need indoor positioning. Otherwise, keep it disabled.
  - Share indoor position - enable it only for users who need indoor positioning. Otherwise, keep it disabled.
  - Map - enable it only for users who need to access a map from T.Flex. Otherwise, keep it disabled.
  - Share location - enable it only for users whose position you want to track. Otherwise, keep it disabled.
- Completely disable Mapbox geodata provider for the user. Switch **Geodata provider** in user settings to *OpenStreetMap / Apple Maps (iOS)*.
- Increase the location sharing interval parameter to 60 seconds or more.
- Allow **Battery optimization** for **TASSTA** app in Android settings.
- Turn off **Disable Battery Optimization** in T.Flex Settings.

Annex B: Pinning the app

You can pin T.Flex on the screen to keep it in view until you unpin it.

How to pin the app

There are 2 ways to pin T.Flex on the screen:

Using app settings

> NOTE:
>
> This method only works if the user is allowed to change T.Flex settings (Self-manage settings in T.Commander is set to *Allowed all*).

1. Sign in to T.Flex.
2. Open the app's Look-and-feel settings.
3. Turn on **Pin the application**.

Using Android pinning

> NOTE:
>
> This method will work even if the user is not allowed to change T.Flex settings.

Allow app pinning in Android:

1. Open your mobile device **Settings**.
2. Tap **Security** or **Security & location** > **Advanced** > **App pinning**.
   NOTE: If this setting is missing, get help from your device manufacturer.
3. Turn on **App pinning**.

When app pinning is enabled, you can pin T.Flex on the screen at any moment:

1. Go to the screen you want to pin.
2. Swipe up to the middle of your screen.
3. At the top of the image, tap the app's icon.
4. Tap `Pin`.

> NOTE:

> If the instruction above does not work, get help from your device manufacturer.

Important considerations

- T.Flex cannot control whether or not display of battery status in the notification bar while in pinned mode. This is managed by the system.
  WORKAROUND: Check with your device manufacturer to see if it is possible to display the entire notification bar in pinned mode.
- While T.Flex is in pinned mode, the system may restrict access to certain features provided by third party applications such as image viewer (Gallery), file browser, and others (depending on the device/firmware).
  WORKAROUND: Unpin the app before opening images from T.Flex.
- T.Flex cannot prevent exiting the pinned mode - it is controlled on the Android system level.

TASSTA

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