SmartPTT Express 2.5.1

elcomplus

SmartPTT Express Installation and Configuration Guide

December 2021

Revision History

Revision	Description	Date
2.5.2	Ninth release of the document. The document is compliant with SmartPTT Express 2.5.1. Updated: • [Antivirus & Firewall Configuration](#) on page 30. • [DIMETRA Express Configuration](#) on page 19. • Minor improvements. Removed: • Switching to Redundant DIMETRA Express Connection.	December 2021
2.5.1	Eighth release of the document. The document is compliant with SmartPTT Express 2.5. • Minor readability improvements.	March 2021
2.5	Seventh release of the document. The document is compliant with SmartPTT Express 2.5	August 2020
2.4	Sixth release of the document. The document is compliant with SmartPTT Express 2.4	April 2020
2.3	Fifth release of the document. The document is compliant with SmartPTT Express 2.3.	February 2020
2.2	Fourth revision of the document. The document is compliant with SmartPTT Express 2.2.	October 2019
2.1.1	Third revision of the document. The document is compliant with SmartPTT Express 2.1.17.	August 2019
2.1.0	Second revision of the document. The document is compliant with SmartPTT Express 2.1.	June 2019

| 1.0 | Initial revision of the document. The document is compliant with SmartPTT Express 2.0. | March 2019 |

Revision History Conventions

Each document has its own revision number. Revision number of the initial release is 1.0. For the following releases, it consists of three numbers separated with dots.

The first and the second numbers represent the product version the document complies with. The third number (edition) indicates that the document content is modified if compared with the previous revision. Modifications can include various enhancements, issue fixes and more. Changes between document revisions are available in the table for a limited number of editions.

With each new release, revision history provides edition updates only for the editions of that release.

Contents

About This Document

The document explains how to install and configure SmartPTT Express, a client-server dispatch software for DIMETRA Express. It informs system administrators about the necessary configuration changes in computer operating system and provides brief information on how to maintain the software.

Conventions & Assumptions

The document uses the following conventions:

Convention	Example
Named user interface elements	the **Save** button
Values and expandable list items	the *Always* option
File names/paths or strings that must be typed exactly as given	type `net start "SmartPTT Express Server"`
Hyperlinks	https://smartptt.com/products/smartptt-express/
Cross-references	See Glossary on page 154.
Other documents	*SmartPTT Express User Guide*

The document assumes the following:

- Customer hardware, software, and network equipment can be properly configured by the system administrator who has his/her own approach to operating system configuration.
- DIMETRA Express has been properly configured as a radio system or can be properly configured by the Customer-assigned engineer.

Related Information

The document does not cover other products configuration until it is explicitly required. In such cases, a reference to other manuals is provided with information on what must be performed.

SmartPTT Express Documentation

Information about SmartPTT Express Client configuration and operation is available in *SmartPTT Express User Guide*. *SmartPTT Express Quick Start Guide* provides a brief overview of SmartPTT

Express installation and configuration. *RG-1000e Configuration for SmartPTT Express* provides instructions on configuring RG-1000e radio gateway for use with SmartPTT Express.

Motorola Solutions Documentation

This document refers to the following Motorola Solutions resources:

- DIMETRA Express Maintenance Guide (must be received from Motorola Solutions).

- DIMETRA Express embedded help (available in DIMETRA Network Manager).

Windows Administrator Notes

The following references are provided for Customer's system administrator for purposes of quick configuration overview:

- Authorization
  (https://docs.microsoft.com/en-us/windows/desktop/secauthz/authorization-portal)

- Managing Groups
  (https://docs.microsoft.com/en-us/windows/desktop/ad/managing-groups)

- Managing Users
  (https://docs.microsoft.com/en-us/windows/desktop/ad/managing-users)

- Power Management
  (https://docs.microsoft.com/en-us/windows/desktop/power/power-management-portal)

- Windows Time Service
  (https://docs.microsoft.com/en-us/windows-server/networking/windows-time-service/windows-time-service-top)

Chapter 1. Overview

SmartPTT Express is a dispatch software for DIMETRA™ Express, a multisite trunked radio system from Motorola Solutions. DIMETRA is Motorola's brand name for TETRA-compliant radio systems. For more information on DIMETRA Express, see https://www.motorolasolutions.com/en_xu/products/tetra/infrastructure/tetra-core-network/dimetra-express.html.

SmartPTT Express is a client-server software that supports standalone and collocated installation of its server and client components.

Figure 1: SmartPTT Express Overview

Note that only one DIMETRA Express Server is currently supported.

1.1 Components

SmartPTT Express includes the following components: SmartPTT Express Server, SmartPTT Express Configurator and SmartPTT Express Client.

1.1.1 SmartPTT Express Server & SmartPTT Express Configurator

SmartPTT Express Server is the software's server component. It provides access to DIMETRA Express radio users and talkgroups. On the computer, it appears as a Windows service named SmartPTT Express Server.
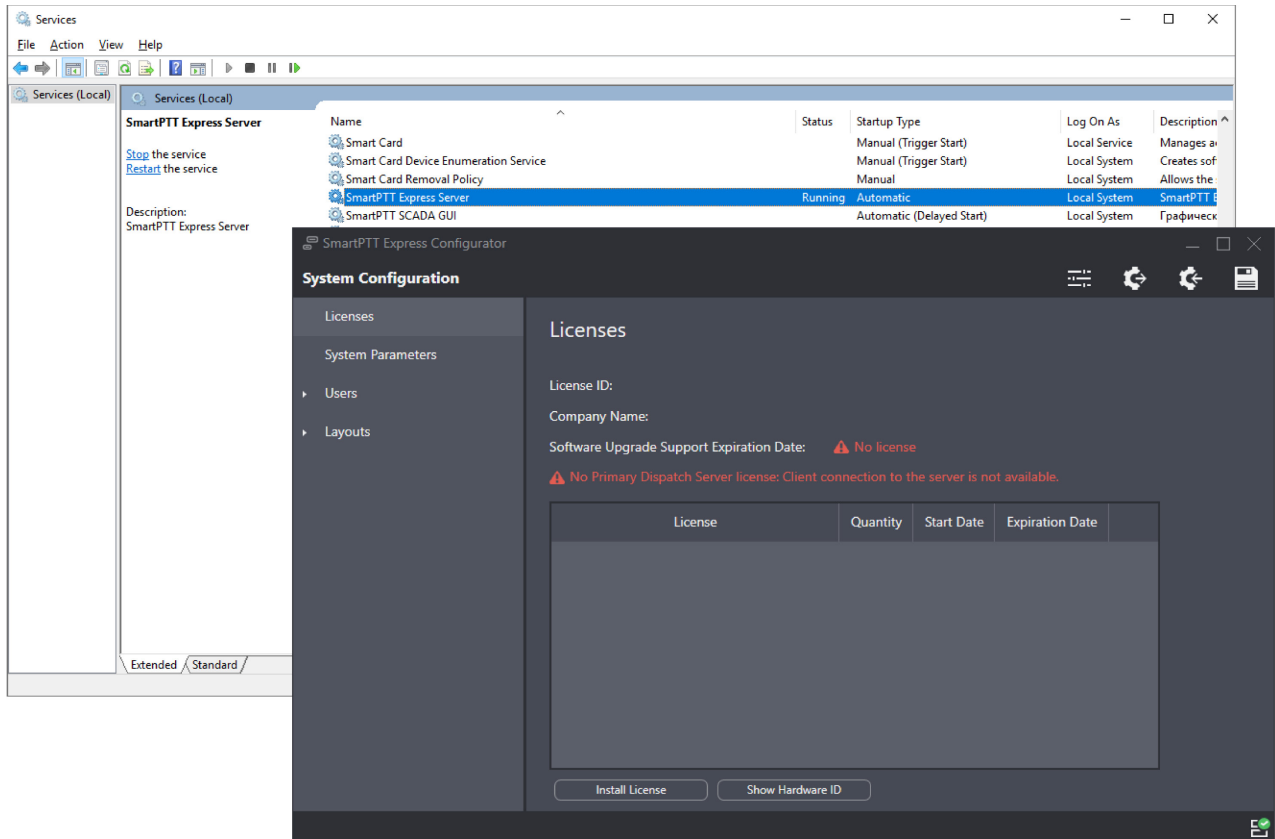
Figure 2: SmartPTT Express Server Service and SmartPTT Express Configurator

Most SmartPTT Express settings can be modified with the SmartPTT Express Configurator application. It is a GUI-based Windows application that accesses SmartPTT Express settings. It provides input validation, export and import of configuration settings, license management, and saves changes.

1.1.2 SmartPTT Express Client

SmartPTT Express Client is dispatch console software that provides dispatch features using a graphical user interface as well as audible and visual event indication.
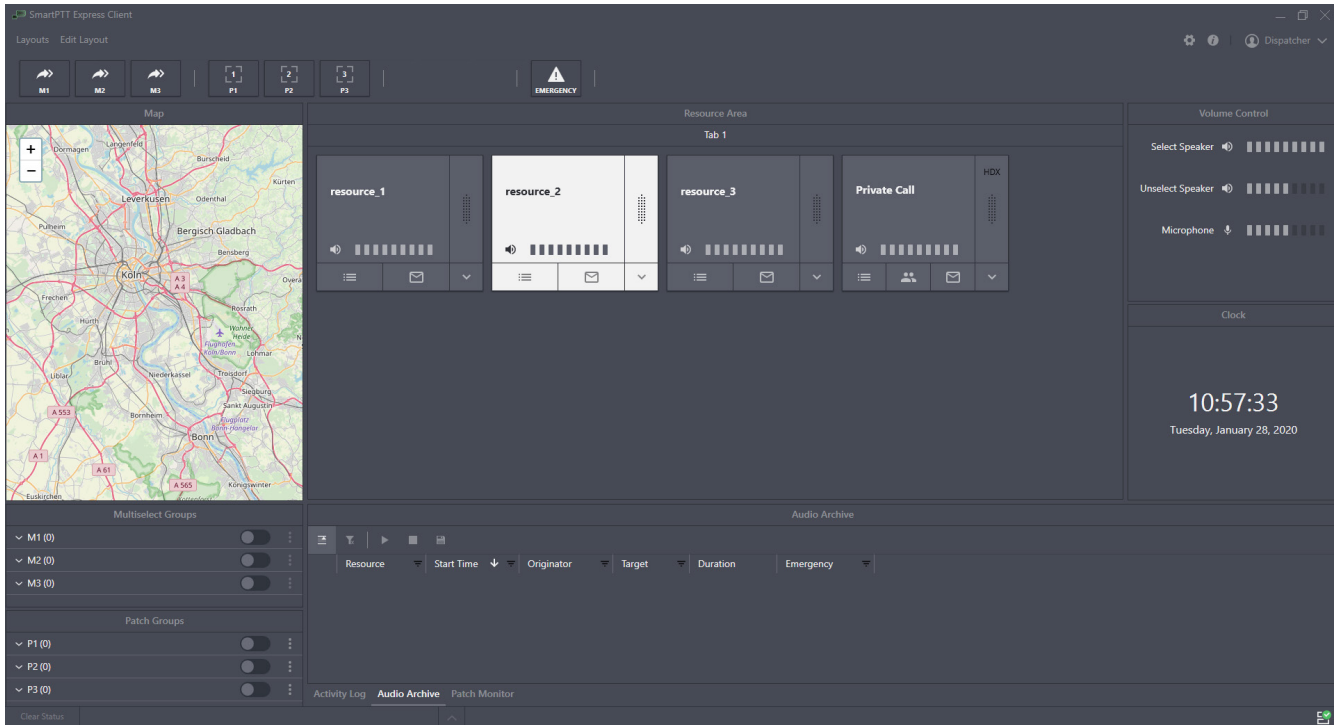
Figure 3: SmartPTT Express Client Overview (Example)

SmartPTT Express Client requires a continuous connection to SmartPTT Express Server. If the connection is lost and cannot be reestablished within 5 seconds, SmartPTT Express Client logs off the user to prevent data desynchronization.

1.1.3 Other Software

SmartPTT Express installation file includes the necessary versions of Microsoft .NET Framework, Visual C++ Redistributable package, and PostgreSQL. They are installed automatically if required.

SmartPTT Express includes a number of software packages covered by open-source licenses. All such software is listed in Appendix B. on page 138.

1.2 Features

SmartPTT Express provides multiple features.

Dispatch features

- Access to DIMETRA radio users and talkgroups over DIMETRA Express.

- Access to any radio systems over RG-1000e or CCGW gateway (4-wire E&M connection).

- Incoming and outgoing group calls (Group PTT).

- System-wide call.

- Call parties identification.

- Half-duplex and full-duplex private calls (individual calls).

- Ambience listening (remote monitor).

- Various transmit priorities: General Transmit, Instant Transmit, All-Points Bulletin (APB) Transmit.

- Single & multiple talkgroup selection.

- Incoming emergency alarms and emergency calls.

- Patching among talkgroups and donor radios connected via CCGW radio gateway.

- Voice logging, records playback and export to audio files.

- Receiving radio user coordinates from DIMETRA Express.

- Showing radio user locations on a map in OpenStreetMap format (accessed via HTTP protocol or stored as files).

- Showing radio user location history (tracks).

- Additional positioning information (speed and direction of movement, coordinates accuracy and more).

- Text messaging (group and individual, short and long messages).

- Bridges between donor radios connected via RG-1000e radio gateway.

- Incoming Radio Status support.

User Features

- Tile-based design.

- System and per-call volume control.

- Console activity log and call log.

- Contact list for private calls.

- Built-in voice record player.

- Workplace/layout customization: buttons, panels, tabs and tiles.

- Multilingual user interface.

PTT Accessories Support

- Footswitch FS22A-JSB by Kinesis

- Imtradex TM-2

- Imtradex PTT13-USB PTX-QD

- Peitel PS12 (pei tel PTC USB)

- Plantronics C310-M

- Plantronics C320-M

- XK-3 Switch Interface Thumb

- PTT Headset Adapter

- Kinesis JoyStick Controller

Administration features

- Backing up and restoring configuration.

- Backing up and restoring audio archive and GNSS data.

- Flexible role model with editable permissions.

- Centralized layout storage and loading.

- Runtime application of configuration changes.

SmartPTT Express requires licenses to unlock features. To order licenses, contact the Elcomplus LLC representative in your region.

1.3 Capacity

SmartPTT Express provides the following capacity:

- Single active radio system (DIMETRA Express).

- Up to 120 talkgroups; up to 60 talkgroups per dispatch console.

- Up to 10 simultaneous full-duplex and/or half-duplex private calls (one private call per dispatch console).

- Up to 11 multiselect groups (1 active at a time); each may include up to 16 talkgroups.

- Up to 11 patch groups that can be active simultaneously; each group may include up to 16 talkgroups.

- Up to 100 dispatch consoles, 10 of which can initiate and receive voice calls (limited by DIMETRA Express).

1.4 System Requirements

SmartPTT Express states certain requirements to be satisfied to install, configure and use it as a dispatch software. This includes hardware requirements, software requirements, networking requirements and audio accessory requirements. These are given in the following sections of the document.

1.4.1 Radio System Compatibility

SmartPTT Express supports DIMETRA™ Express 1.2, 1.3, 1.5, 1.7, and 2.0 radio systems.

Non-DIMETRA radio system connection is supported via RG-1000e radio gateway and/or Conventional Channel Gateway (CCGW).

For details on RG-1000e, see https://smartptt.com/products/smartptt-rg-1000e/; for details on CCGW, contact Motorola Solutions representative in your region.

1.4.2 Hardware Requirements

Computer hardware intended to host SmartPTT Express software must comply with the minimum requirements provided in Table 1.

> **IMPORTANT**:
> SmartPTT Express cannot be installed on a virtual machine.

Table 1: Hardware Requirements

Parameter	Value
Processor	dual-core processor with 3.4 GHz clock frequency
	quad-core processor with 4.1 GHz clock frequency with SmartPTT Express SCADA and DBMS installed on the same computer
	Multithread: Required
Memory	8 GB
	16 GB with SmartPTT Express SCADA and DBMS installed on the same computer
Disk	Space: 256 GB and more

Parameter	Value
	512 GB and more with SmartPTT Express SCADA and DBMS installed on the same computer
	Read/write speed: 600 MB/s
	SSD/EFD with SmartPTT Express SCADA and DBMS installed on the same computer
Audio (SmartPTT Express Client hosts only)	High-definition 2.0 audio
Graphics (SmartPTT Express Client hosts only)	GDDR5 with 2 GB memory
Monitor	Display Size: 19″ and more
	Screen Resolution: 1280×1200 px and more
LAN	10/100/1000 Base T
I/O Ports	1 video output
	2-channel audio output (SmartPTT Express Client hosts only)
	1 microphone input (SmartPTT Express Client hosts only)
	1 keyboard input, and/or 1 mouse input, and/or touchscreen

For better performance, Solid State Drives (SSD) or Enterprise Flash Drives (EFD) are recommended instead of Hard Disk Drives (HDD).

IMPORTANT:
These hardware specifications have proven sufficient under testing conditions. However, with a larger radio system they may not be enough.

For details on the software operation under the Customer's workload, contact Elcomplus LLC representative in your region.

1.4.3 Software Requirements

SmartPTT Express is a Windows-only software. Customer's operating system and database management system (DBMS) must comply with the requirements provided in Table 2.

Table 2: Operating System and DBMS Requirements

Parameter	Value
OS Editions	Windows 10 Pro, version 1803 and 1809
	Windows 10 Enterprise, version 1803 and 1809
	Windows 10 Enterprise LTSC 2016
	Windows Server 2016
	Windows Server 2019
OS Type	64-bit
DBMS Version	PostreSQL 12.X

For more information on LTSC versions of Windows 10, see https://docs.microsoft.com/en-us/windows/whats-new/ltsc/.

1.4.4 Network Environment Requirements

When SmartPTT Express is configured and operable, the network it uses must comply with the requirements provided in Table 3.

Table 3: Network Environment Requirements

Parameter	Value
IP Addressing	IPv4 only
Maximum Packet Loss	1 %
Maximum Two-Way Delay	150 ms
Maximum Jitter	100 ms

Chapter 2. Environment Preparation

Customer infrastructure that complies with SmartPTT Express system requirements must be properly configured. This chapter provides information on both necessary and recommended configurations.

2.1 DIMETRA Express Configuration

To interact with SmartPTT Express, DIMETRA Express must be configured to support dispatch consoles or voice logging that use its API. The configuration is possible if specific licenses are installed in DIMETRA Express. License permissions are provided in Table 4.

Table 4: License Permissions in DIMETRA Express

Name	Necessity	Description
DIMETRA Express Core	required	Core license.
Dispatch Console Position	optional	Limits the number of dispatch console connections with voice call, emergency alarm, patching and other functionality.
Voice Logging Capacity	optional	Supports SmartPTT Express Server connection as an external voice logger and limits the number of simultaneous transmissions that can be recorded.
Radio User	required	Limits the number of radio users and console users in DIMETRA Express. Each console user refers to an authorized SmartPTT Express dispatcher.
Analog Gateway Channel	optional	Limits the number of donor radios connected via CCGW radio gateway.

To establish a connection with DIMETRA Express, Dispatch Console Position or Voice Logging Capacity license must be installed.

DIMETRA Express configuration is performed via DIMETRA Express Network Manager, accessed by typing the IP address of DIMETRA Express in a web browser. Below is a brief description of the DIMETRA Express settings required for using SmartPTT Express. Detailed information is available in DIMETRA Express Network Manager embedded help.

Radio Users and Talkgroups

The following configuration actions are required for the system as a whole or certain SmartPTT Express features to work correctly:

- Each radio user and talkgroup must be assigned a unique ID. The ID pool is shared between talkgroups, radio users, dispatch consoles and Short Data Hosts.

- In order to support location service and text messaging, *Short Data* must be enabled for the desired radio users.

- In order to support patching, the desired talkgroups must have the *Patch Capable* parameter enabled.

Radio and talkgroup aliases must comply with the following requirements:

- 1-16 UTF-8 characters (non-latin characters are not allowed).

- The first character must be a letter or a numeral.

- The following characters are not allowed: ! @ _ " " & % $

NOTICE:
It is also recommended to enable the *Talkgroup Regroupable* parameter. DIMETRA Express will interpret transmissions routed via patch groups to talkgroups with this parameter disabled as originating from the dispatch console.

Dispatch Consoles

The following configuration actions are required for using voice dispatch features in SmartPTT Express:

- Dispatch console type must be set to *Express Console (API)*.

- IP address of SmartPTT Express Server host must be added to the console client list. SmartPTT Express Client IP addresses do not need to be specified anywhere in DIMETRA Express settings.

- Dispatch console user accounts must be added. The maximum number of these is limited by the *Dispatch Console Position* license. Multiple SmartPTT Express user accounts can be assigned to a single DIMETRA Express account, but only one of them can be logged on simultaneously.

- If you intend to use the Ambience Listening feature, enable it for the desired console user accounts.

- DIMETRA Express host names must be obtained from DIMETRA Express Network Manager embedded help (**System Settings → Dispatch Console**) and resolved to DIMETRA Express

IP address (Link 1 IP address). For details, see [Communication with DIMETRA Express](#) on page 23.

Voice Logging

The following configuration actions are required for using SmartPTT Express as an external voice logger:

- Logging client IP address and Corba TCP port number must be configured and provided to the person who will configure SmartPTT Express.

- Voice logger credentials must be configured and provided to the person who will configure SmartPTT Express.

- DIMETRA Express logging client host name must be obtained from DIMETRA Express Network Manager embedded help (**System Settings → Voice Logging**) and resolved to DIMETRA Express IP address (Link 1 IP address). For details, see [Communication with DIMETRA Express](#) on page 23.

IMPORTANT:
If you are not using the Voice Logging feature, do not specify SmartPTT Express Server IP address as the external voice logger address in DIMETRA Express. This will make it impossible to use the voice dispatch functionality.

Outdoor Location Support

The following configuration actions are required for using location service in SmartPTT Express:

- At least one Short Data Host must be configured in DIMETRA Express. Short Data Host names and passnumbers must be provided to the person who will configure SmartPTT Express.

- Radios must be configured to provide coordinates to the configured Short Data Hosts only. No other recipients must be configured.

- Radios must be configured to provide coordinates over the Location Information Protocol (LIP). No other protocols are supported.

For configuration details and assistance, contact Motorola Solutions representative in your region.

Text Messaging Support

Text message service in DIMETRA Express is implemented by means of the Short Data Transport Service (SDTS). For each dispatch console user added, a Short Data Host is automatically created with Short Data Host ID the same as the Console User ID.

IMPORTANT:
In DIMETRA Express 1.3, adding a dispatch console user may not result in the corresponding Short Data Host appearing on the SDTS Host list. It is still created, but cannot be assigned a passnumber or name. To connect to such host, any passnumber can be used.

In order to configure text messaging service for a dispatch console user, the corresponding SDTS Host ID and passnumber must be provided to the person who will configure SmartPTT Express.

Conventional Channel Gateway (CCGW) Configuration

In order to provide access to analog conventional channels, the CCGW gateway must be installed and configured; the desired donor radios must be connected to it. For configuration details and assistance, contact Motorola Solutions representative in your region.

2.2 RG-1000e Radio Gateway Configuration

This section provides a brief overview of RG-1000e configuration required for interaction with SmartPTT Express. A more detailed description of the gateway and its CPS can be found in the following documents:

- RG-1000e Configuration for SmartPTT Express

- RG-1000e Installation and Configuration Guide

IP Channels Assigned to Radios
- Connection mode must be set to *Client* and *TCP, RTP*.

- Gateway IP settings must be set to RG-1000e IP address, subnet mask and gateway. It is possible to use the same or different IP addresses for radios connected to the same gateway, whereas XCMP ports must be different between them.

- Remote Gateway IP settings must be set to the SmartPTT Express Server host IP address and port number that will be used for RG-1000e connection.

Radio Settings
- *Radio IO* mode must be selected.

- G711A voice codec (*A-Law 64 kbps*) with audio packet duration of 20 ms must be used.

2.3 Addressing Notes

SmartPTT Express, DIMETRA Express and RG-1000e radio gateway support IPv4 addresses only. IPv6 is not supported.

If SmartPTT Express will be used as both dispatch and voice logging software, SmartPTT Express Server host must have two IP addresses simultaneously. SmartPTT Express Server uses the first IP address to interact with DIMETRA Express as an API-type console and the second – as an external voice logger.

IMPORTANT:
SmartPTT Express Server and DIMETRA Express should be located in the same local area network. Having a NAT gateway between them may make connection impossible.

For communication with SmartPTT Express Server, RG-1000e radio gateway must be assigned a static IP address. If there is a NAT gateway between the two, port forwarding must be configured. For details, contact your system administrator.

2.3.1 Communication with DIMETRA Express

During communication with SmartPTT Express Server, DIMETRA Express uses both IP addresses and host names. Use of host names cannot be avoided due to DIMETRA Express limitations. DIMETRA Express host names must be resolved to the DIMETRA Express IP on the SmartPTT Express Server host. This can be done in the following ways:

- If a DNS server is used in the Customer Enterprise Network, host names must be added to the DNS server.

- If no DNS Server is used, host names must be added to the `<%WINDIR%>\System32\drivers\etc\hosts` file on the SmartPTT Express Server host.

Up-to-date host names are available in the embedded help of the DIMETRA Express Network Manager. For details, contact Motorola Solutions representative in your region.

2.4 Disk Space Management

SmartPTT Express requires you to plan free disk space for the following purposes:

- Manage event logging.

- Manage voice record and location data storage.

Event Logging

SmartPTT Express uses Windows logging services to store system events information. It is necessary for troubleshooting. The log is created on the SmartPTT Express Server host after the corresponding SmartPTT Express component is installed. The log name is `G2.SmartPTT System Event Log`, and it is available via the standard Windows Event Viewer on the "Applications and Services Logs" tab.

Initial log size is 1028 KB. You should increase the log size with 1 GB per week (168 hours) as a reference point. During configuration, users must configure log retention policy, backup rules, and more. For details, contact your system administrator.

Voice Record and Location Data Storage

Voice records and location data are stored in SmartPTT Express database. Database location is specified during SmartPTT Express installation.

Plan disk space using ~33 KB per one-minute call and ~7.5 KB per 100 GNSS reports as reference points. Calculate the required disk space using the expected rate of calls and location updates, number of simultaneous voice calls, and the storage retention timeout. For details, contact your system administrator.

2.5 System Roles & Authorization

SmartPTT Express supports the following authorization modes:

Local Groups Authorization
    In this mode, each SmartPTT Express system role must be associated with a Windows user group that exists on SmartPTT Express Server host.

Domain Authorization
    In this mode, each SmartPTT Express system role must be associated with a user group that exists in the domain to which SmartPTT Express Server host belongs.

If the same group is assigned to multiple system roles, the most privileged role will apply. Similarly, if a user account belongs to multiple groups at once, it receives the most privileged role.

The account used for logging on to SmartPTT Express does not have to be the one currently logged on to Windows.

Required User Account Settings

SmartPTT Express has the following requirements to Windows user accounts:

- User accounts must be enabled.

- User password must not be expired at the moment of use.

- Users must not be required to change their passwords at next logon.

IMPORTANT:
User groups and accounts must be configured before installing SmartPTT Express. If no valid administrator account exists, it will be impossible to log on to SmartPTT Express Configurator.

SmartPTT Express provides the following user roles:

Operators

Can log on to SmartPTT Express Client only. Can only use the limited set of layouts and features provided for them.

Privileged Operators

Are granted all operator permissions. Additionally, can edit the opened layout by adding / removing tabs, panels, buttons and tiles, but cannot save changes.

Supervisors

Are granted all privileged operator permissions. Additionally, can change audio settings, create and edit layouts, save layout changes, and have access to Patch Monitor feature. Instant Transmit and APB Transmit initiated by supervisors override those initiated by Operators.

Administrators

Are granted all supervisor permissions. Additionally, can access any layout and talkgroup available in SmartPTT Express. Moreover, administrators are able to authorize in SmartPTT Express Configurator to change SmartPTT Express settings.

For details on the system roles configuration, see

2.5.1 Creating Windows Users

Follow the procedure to create Windows user accounts for SmartPTT Express.

NOTICE:
The procedure is written for Windows 10 Pro. In other versions of Windows, some steps may be slightly different.

Prerequisites:

Log on to SmartPTT Express Server host as a Windows administrator.

Procedure:

1. Right-click the **Start** button.
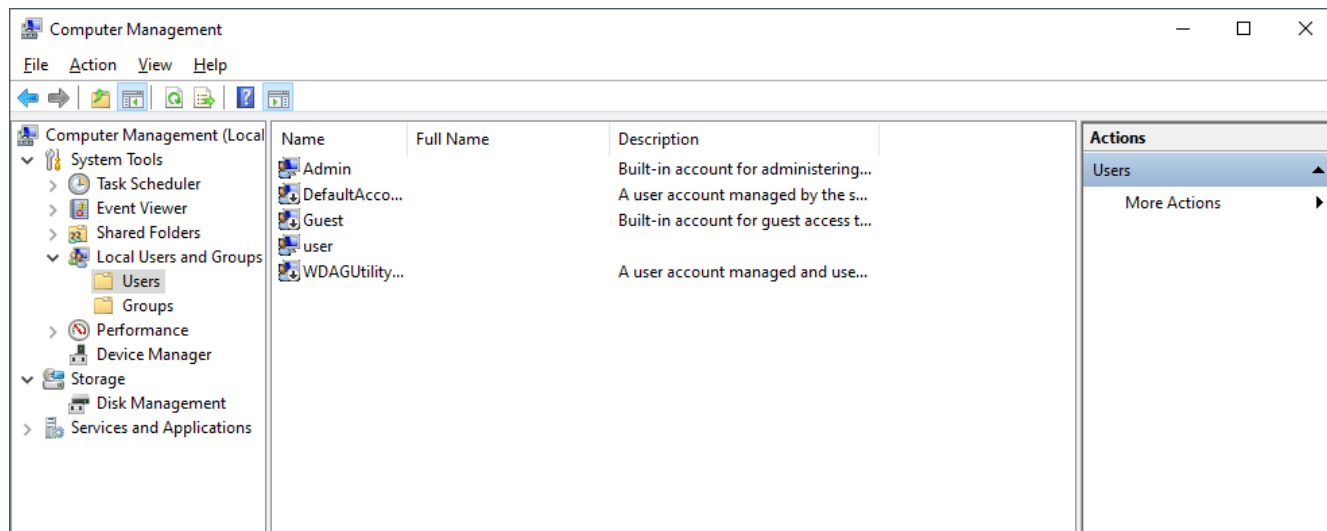   The shortcut menu appears.

Figure 4: Computer Management App

2. From the shortcut menu, select **Computer Management**.

3. In the **Computer Management** window, on the left pane, expand **System Tools → Local Users and Groups** and click **Users**.

4. On the right pane, click **More Actions** and select **New User**.
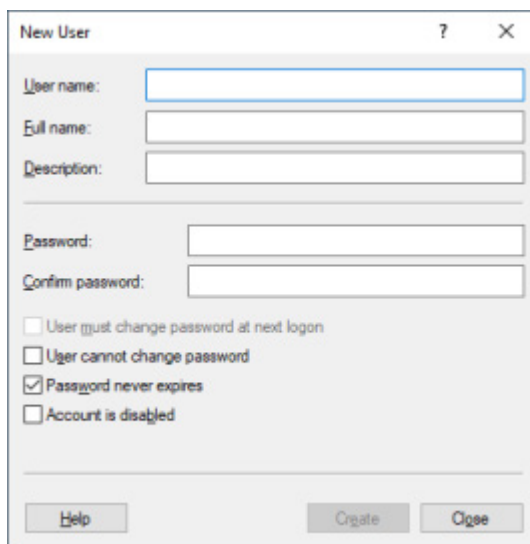   The **New User** window appears.

Figure 5: New User window

5. Configure the new user account:

    a. In the **User name** field, type the user name (login).

    b. In the **Password** field, type the user password.

    c. In the **Confirm password** field, type the password again.

    d. Clear the **User must change password at next logon** check box.

    e. Clear the **Account is disabled** check box.

    f. (Optional) To deny the user the ability to change their password, select the **User cannot change password** check box.

    g. (Optional) To avoid password expiration problems, select the **Password never expires** check box.

    h. At the bottom of the window, click **Create**.

6. Repeat the previous step to create another user account.

7. At the bottom of the window, click **Close** to close it.

2.5.2 Creating Local User Groups

Follow the procedure to create Windows user groups for SmartPTT Express system roles.

NOTICE:
The procedure is written for Windows 10 Pro. In other versions of Windows, some steps may be slightly different.

Prerequisites:

- Log on to SmartPTT Express Server host as a Windows administrator.

- Create the desired Windows user accounts. For details, see Creating Windows Users on page 25.

Procedure:

1. Right-click the **Start** button.
    The shortcut menu appears.

2. From the shortcut menu, select **Computer Management**.

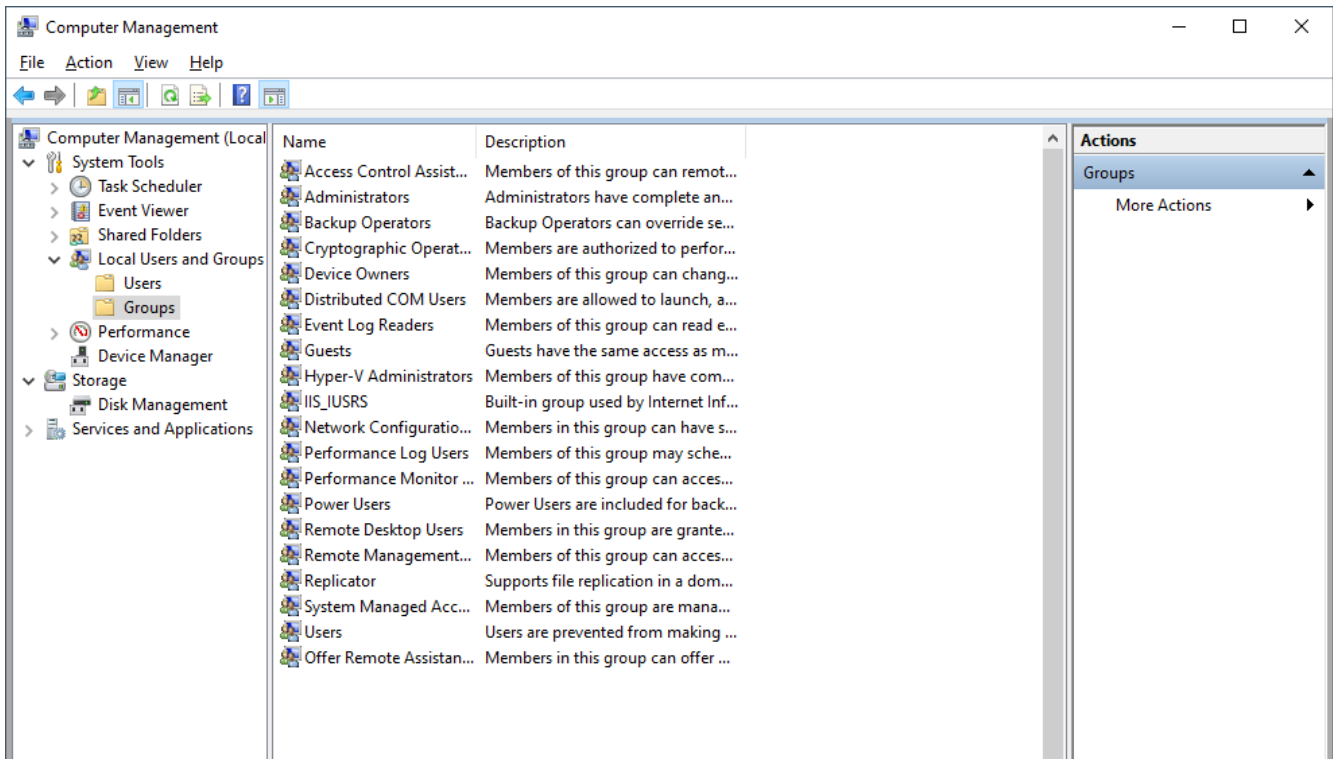Figure 6: Computer Management App

3. In the **Computer Management** window, on the left pane, expand **System Tools → Local Users and Groups** and click **Groups**.

4. On the right pane, click **More Actions** and select **New Group**.
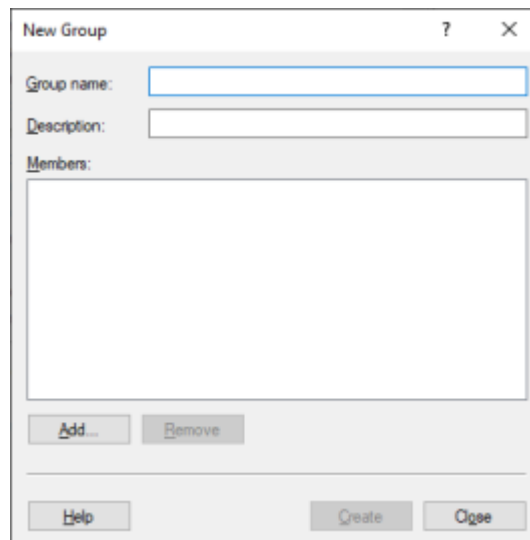   The **New Group** window appears.

Figure 7: New Group window

5. In the **Group name** field, enter a name for the group.

6. Add users to the group:

a. In the **New Group** window, click **Add**.

b. In the window that appears, click **Locations**.

c. In the dialog that appears, select the local computer and click **OK**.

d. In the **Enter the object names to select** field, type the desired Windows user name and click **Check Names**.
   The user name appears in the field in the `<hostname>/<username>` format and is underlined.

e. (Optional) To add another user, type their name in the **Enter the object names to select** field without a preceding space or punctuation mark.

f. In the **Select Users** window, click **OK**.

7. In the **New Group** window, click **Create**.

Postrequisites:

Repeat the procedure to create more groups.

2.6 Power-Saving Mode Turnoff

Operating system may initiate power-saving mode after an inactivity timeout. This practically stops the operating system and, therefore, all of its running services and application.

Computers intended to host SmartPTT Express Server must not enter power-saving mode. This includes prevention of the following actions:

- Entering sleep mode.

- Entering hibernation.

- Turning off automatically.

For details, contact your system administrator.

2.7 Network Time Synchronization

Network time synchronization can be organized on SmartPTT Express hosts for event database coherence. Since all SmartPTT Express hosts are Windows computers, Windows Time Service can be used. For details, see https://docs.microsoft.com/en-us/windows-server/networking/windows-time-service/windows-time-service-top ("Windows Time Service" at *Windows IT Pro Center*).

If DIMETRA Express uses an external NTP Server, it is recommended to synchronize all SmartPTT Express hosts with the same NTP Server. If DIMETRA Express does not utilize time synchronization, the synchronization for SmartPTT Express hosts can be organized in another way. For details, contact your system administrator.

2.8 Date & Time Format Adjustment

SmartPTT Express uses Windows long date format and long time format to show date and time on the dedicated panels of SmartPTT Express Client. Short date and short time format are used in the Activity Log and Audio Archive. Adjust the corresponding date and time formats before you start using SmartPTT Express Client.

No changes are applied in runtime. If you modify the format while SmartPTT Express Client is opened, you must reopen it to apply changes.

2.9 Antivirus & Firewall Configuration

At some configurations, customer antivirus or firewall software may consider SmartPTT Express a suspicious software. Actions they perform (file and network traffic scanning) may cause SmartPTT Express inoperability or low-performance state.

To avoid this, system administrators must perform the following actions:

- Add all SmartPTT Express executable files to the antivirus ignore list. For details, see Table 5.

- Unlock network traffic for specific port numbers in the firewall software. For details, see Table 6.

Table 5: Root Directories with Executable Files and Subfolders (default)

Host	Default path
SmartPTT Express Server host	C:\Program Files\SmartPTT Express\Server\
SmartPTT Express Server host	C:\Program Files (x86)\SmartPTT Express\Configurator\
Dispatch console hosts	C:\Program Files (x86)\SmartPTT Express\Client\

Table 6: Firewall Ignore List for Network Ports

Default port & protocol	Host	Description
54000 (TCP)	SmartPTT Express Server	Control interface between SmartPTT Express Server and SmartPTT Express Configurator. For details, see Re-Configuring SmartPTT Express Server on page 92.
53000 (TCP)	SmartPTT Express Server	Control interface between SmartPTT Express Server and SmartPTT Express Client applications. For details, see Configuring SmartPTT Express Server Interfaces on page 53.
55000* (UDP)	SmartPTT Express Server	Voice traffic between SmartPTT Express Server and SmartPTT Express Client applications.
55001-55002 (UDP)	SmartPTT Express Server	Voice traffic between SmartPTT Express Server and SmartPTT Express Client applications.
7101 (TCP)	SmartPTT Express Server	Control interface between SmartPTT Express Server and DIMETRA Express. For details, see Adding & Editing DIMETRA Express Connection on page 59.
61000 (UDP)	SmartPTT Express Server	Voice records reception from DIMETRA Express. For details, see Connecting to DIMETRA Express Voice Logging Service on page 70.
58301 (UDP)	SmartPTT Express Server	Voice traffic between SmartPTT Express Server and DIMETRA Express.
62000 (UDP)	SmartPTT Express Server	Voice traffic between SmartPTT Express Server and DIMETRA Express.
6006* (TCP)	SmartPTT Express Server	Radio user coordinates reception from DIMETRA Express. For details, see Configuring Coordinates Reception from DIMETRA Express on page 74.
52000 (UDP)	SmartPTT Express Server	LIP and SDTS traffic (coordinates) reception from DIMETRA Express.
30010 (TCP)	SmartPTT Express Server	Control interface between SmartPTT Express Server and RG-1000e radio gateway. For details, see Configuring RG-1000e Connection on page 81.

Default port & protocol	Host	Description
ANY (TCP)	dispatch console	Control interface between SmartPTT Express Server and SmartPTT Express Client.
ANY (UDP)	dispatch console	Voice traffic between SmartPTT Express Server and SmartPTT Express Client.

Ports marked with an asterisk (*) must not or cannot be changed.

If antivirus or firewall software is causing problems after performing the steps described in this section, contact SmartPTT Express technical support for assistance. For details, see Contact Information on page 152.

2.10 Map Providers

SmartPTT Express uses the OpenStreetMap (OSM) format of maps to show radio user location and location history. The source of maps (map provider) can be an external HTTP server or locally stored files. No other protocols and formats are supported.

Only one map provider can be configured in SmartPTT Express. It is not possible to configure different map sources for different SmartPTT Express Client applications.

IMPORTANT:
SmartPTT Express does not contain built-in map files or any software for HTTP server organization.

2.10.1 Offline Maps

A map in the OpenStreetMap (OSM) format can be stored as a collection of .png files to be accessed by SmartPTT Express Client applications. Information about preparing offline maps is available on the web site of SmartPTT Technical Support Center: http://support.smartptt.com/hc/en-us/articles/360007705159-How-to-Create-an-Offline-Map-for-SmartPTT-EXPRESS.

The path to map storage is entered in the following format:
`atlas://[host]/<path>/{z}/{x}/{y}/.png`

If the map is stored locally on SmartPTT Express Client hosts, the map files must be copied to each of them using the same path (for example, `D:/Map`).

For Location Service configuration details, see <u>Configuring Location Service in SmartPTT Express</u> on page 75.

2.10.2 HTTP-based Maps

SmartPTT Express can be configured to use an external HTTP/HTTPS server as a source of maps in the OpenStreetMap (OSM) format.

The URL address of the OSM map provider must contain substitutions for provider ID, zoom, latitude, and longitude. Depending on the provider, the URL address must appear in one of the following ways:

- OSM-like: http://{s}.maps.example.com/folder/{z}/{x}/{y}.png

- Custom: http://maps.example.com/folder/{s}/{z}/{x}/{y}.png

Substitutions are described in <u>Table 7</u>.

Table 7: Substitutions in Map Provider URL Addresses

Substitution	Description
{s}	Provider-specific identifier.
{z}	The initial zoom of the map in a layout.
{x}	The initial latitude of the map in a layout.
{y}	The initial longitude of the map in a layout.

For more information on the OpenStreetMap provider URL address, contact your OSM map provider.

SmartPTT Express supports the following types of authentication in OSM map servers:

- Public servers that do not require authentication.

- Private servers with HTTP Basic authentication.

- Private servers that require credentials in the URL.

To support SmartPTT Express, map servers must be able to simultaneously authenticate multiple users with the same credentials. SmartPTT Express does not allow setting individual credentials for each dispatch console.

If authentication credentials must be provided in the URL, additional substitutions must be used. They are described in <u>Table 8</u>.

Table 8: Authentication Substitutions in Map Provider URL Addresses

Substitution	Description
{login}	User login.
{password}	User password.

As a result, the URL address of an OSM map provider with authentication may appear as follows:

```
http://{s}.maps.example.com/folder/{z}/{x}/{y}.png?token=50029210&login={login}&pass={password}
```

For Location Service configuration details, see Configuring Location Service in SmartPTT Express on page 75.

Chapter 3. Software Installation

SmartPTT Express installation file includes all the necessary software components to install, start and use it.

3.1 Essential Actions before Installing SmartPTT Express

Before installing SmartPTT Express, make sure that the configuration actions outlined below have been undertaken and the necessary information has been obtained.

- Obtain the IP address of SmartPTT Express Server host.

- If you intend to connect to DIMETRA Express, ensure that it has been correctly configured to work with SmartPTT Express. For details, see DIMETRA Express Configuration on page 19.

- If you intend to use local groups authorization in SmartPTT Express, perform the following actions:

  - Create at least one Windows user account on SmartPTT Express Server host to serve as SmartPTT Express administrator (an existing account can be used).
    For details, see Creating Windows Users on page 25.

  - Create at least one user group on SmartPTT Express Server host to fill the administrator role in SmartPTT Express (an existing group can be used) and add the desired user account(s) to it.
    For details, see Creating Local User Groups on page 27.

- If you intend to use domain authorization, perform the following actions:

  - In the domain to which SmartPTT Express Server host belongs, create at least one group to fill the administrator role in SmartPTT Express (an existing group can be used).

  - Add the desired domain user accounts to the groups corresponding to their intended role in SmartPTT Express.
    For details and assistance, contact your system administrator.

IMPORTANT:
The administrator group needs to be specified during SmartPTT Express installation. Four groups are required to fill all SmartPTT Express user roles. If there is no valid user with SmartPTT Express administrator privileges, it will not be possible to log on to SmartPTT Express Configurator. For details, see System Roles & Authorization on page 24.

3.2 Installing SmartPTT Express

Follow the procedure to install SmartPTT Express on a computer.

Prerequisites:

- Ensure that you have performed all the necessary actions and obtained the information outlined in <u>Essential Actions before Installing SmartPTT Express</u> on page 35.

- Make the installation file (default name is `SmartPTTExpressSetup.exe`) available on the SmartPTT Express host using local or network storage.

Procedure:

1. Extract SmartPTT Express installation file from the archive.

> **IMPORTANT**:
> Running the installation file from archive without extracting will make it impossible to modify, configure, repair, or uninstall SmartPTT Express via Windows **Apps and Features**. These operations will only be possible via the installation file.

2. Run the installation file from the SmartPTT Express host.
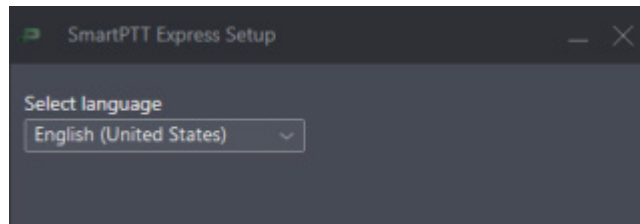   Language selection window appears.

Figure 8: Language selection in the Installation Program

3. From the drop-down list, select the language that will be used during installation and set as the initial language of SmartPTT Express Client and SmartPTT Express Configurator. Then click **Next**.
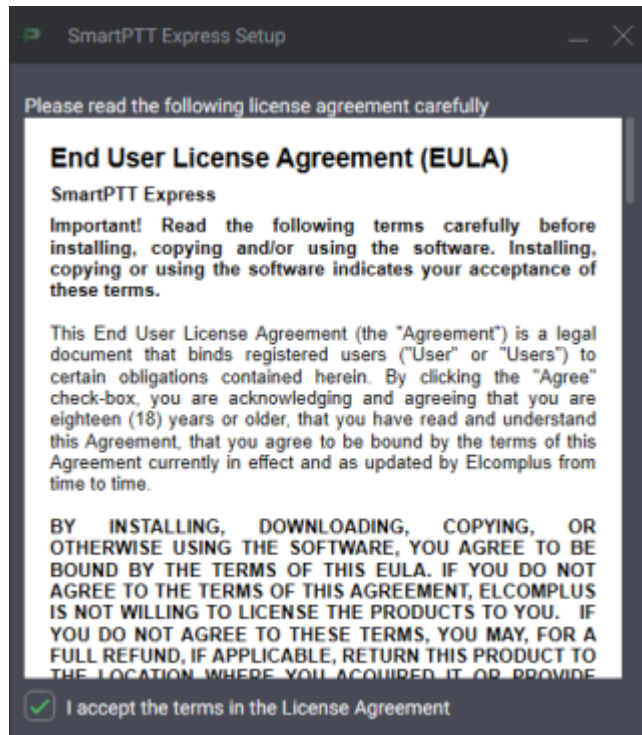   End-User License Agreement (EULA) appears.

Figure 9: EULA in the Installation Program

4. In the window that appears, read the License Agreement and select ☑**I accept the terms in the License Agreement**. Then click **Next**.
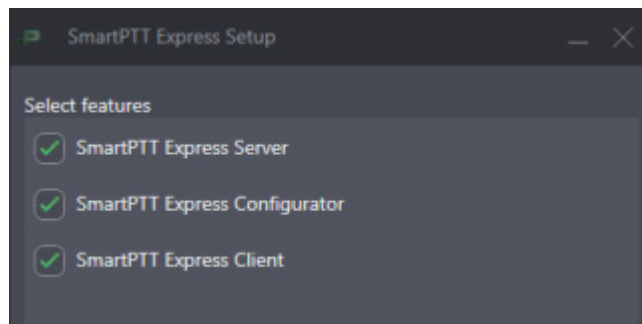   The list of software components appears.

Figure 10: Software Components in the Installation Program

5. In the window that appears, select the components to be installed. Then click **Next**.
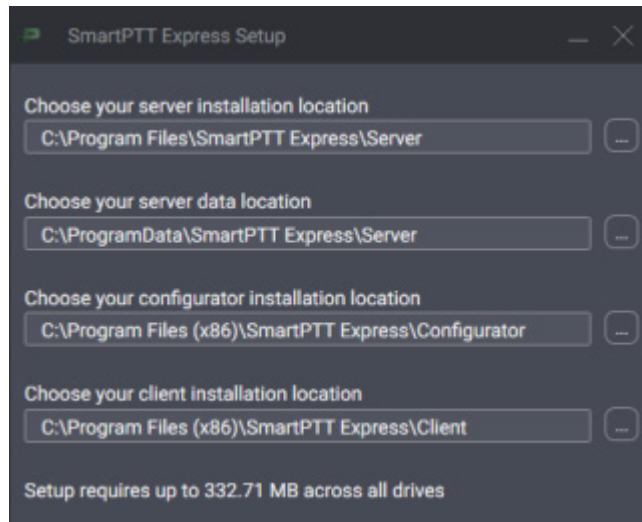   Installation paths appear.

Figure 11: Software Installation Paths

6. (Optional) Change the installation path by typing or copying and pasting, or via the **Browse** dialog. Then click **Next**.
   If SmartPTT Express Server is being installed, PostgreSQL settings appear. Otherwise, proceed to step 10.
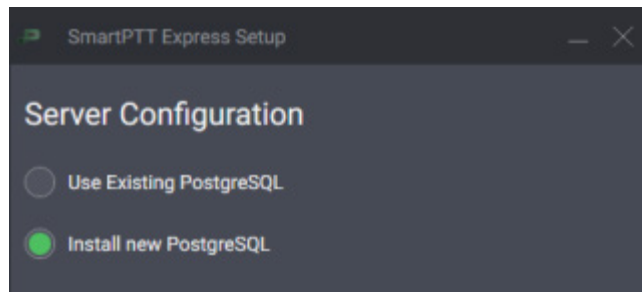

Figure 12: PostgreSQL Options

7. In the window that appears, perform one of the following actions:

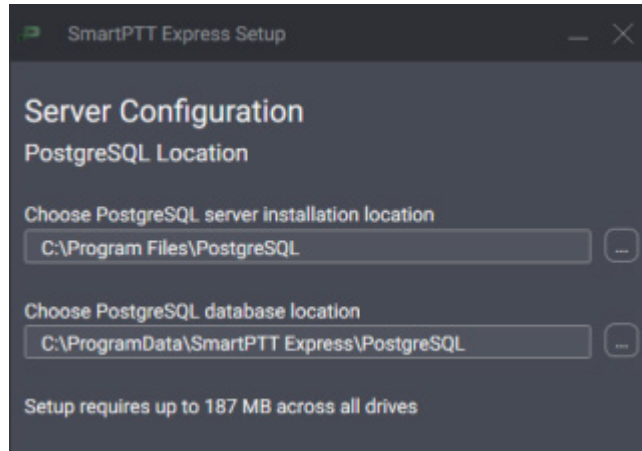|	
To use an existing installation of PostgreSQL (local or remote),	select **Use Existing PostgreSQL**. Then click **Next**. PostgreSQL Server settings appear (proceed to step 8).
To install new PostgreSQL,	select **Install new PostgreSQL**. Then click **Next**. PostgreSQL installation paths appear.

Figure 13: PostgreSQL Installation Paths

8. Enter the desired installation paths for PostgreSQL server and the database. Then click **Next**.

   PostgreSQL Server settings appear.

IMPORTANT:

If you are planning to maintain a large audio and/or GNSS data archive, it is advised to select a non-system drive with ample free space for database location.
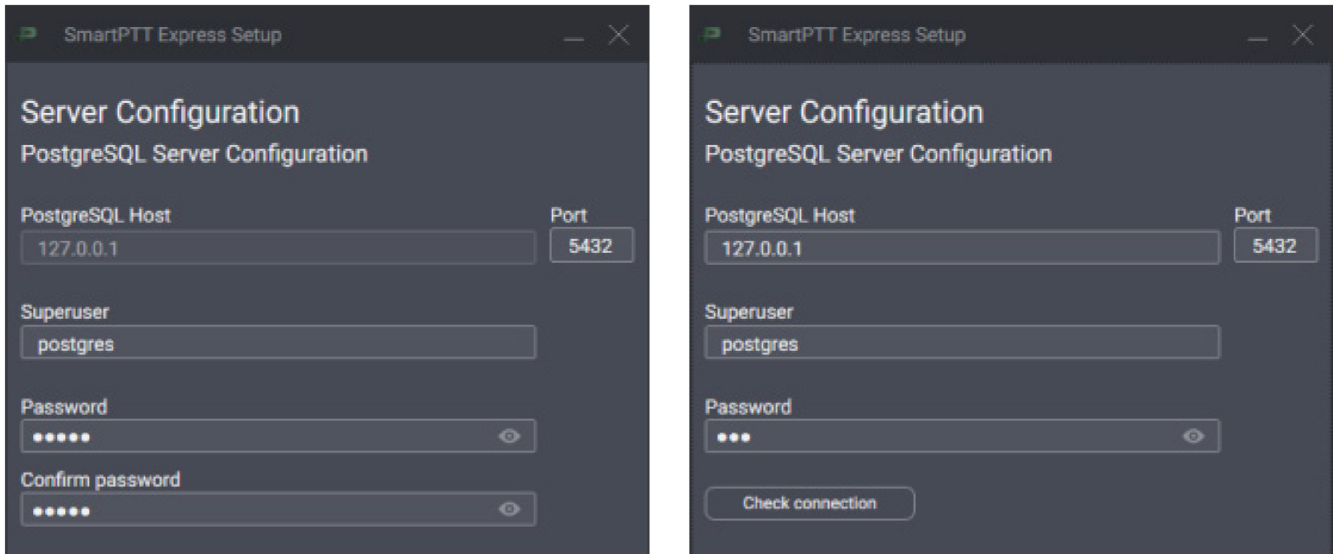

Figure 14: PostgreSQL Server settings for new (left) and existing (right) PostgreSQL

9. Configure PostgreSQL Server:

For a new installation of PostgreSQL,	perform the following actions:
	1. In the **Port** field, enter the desired port number for database connection.

2. In the **Superuser** field, enter the desired name for the PostgreSQL Server superuser account.

3. In the **Password** and **Confirm password** fields, enter the desired password for the PostgreSQL Server superuser account.

4. At the bottom of the window, click **Next**.

For an existing PostgreSQL,	perform the following actions:

1. In the **PostgreSQL Host** and **Port** fields, enter PostgreSQL Server IP address and port number.

2. In the **Superuser** and **Password** fields, enter PostgreSQL Server superuser account credentials.

3. Click **Check connection**.
   If all parameters have been entered correctly, the **Next** button becomes active. Otherwise, an error message appears.

4. At the bottom of the window, click **Next**.

Database settings appear.

Figure 15: PostgreSQL Database Settings

9. Configure SmartPTT Express database. Then click **Next**.
   Initial authentication settings appear.

NOTICE:

The parameters on this screen are used internally by SmartPTT Express Server and need be memorized only if you plan to access the database with third-party tools.
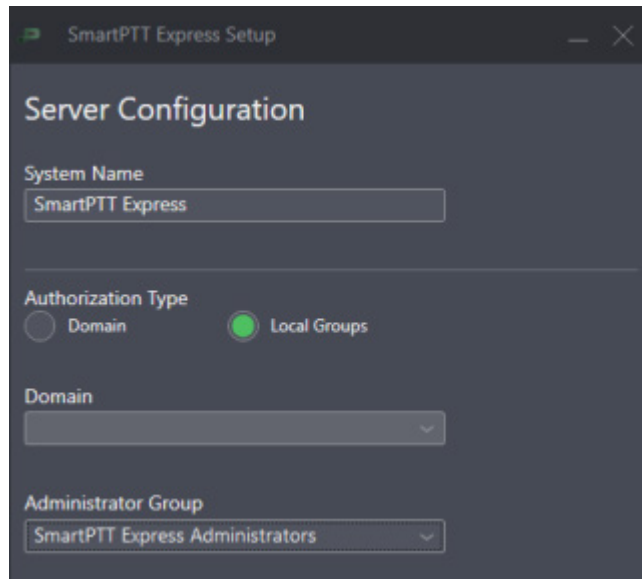
Figure 16: Authentication Settings

10. (Optional) In the window that appears, in the **System name** field, enter a name for the SmartPTT Express system.

11. Select user authorization method:

To set domain authorization,	perform the following actions:
	1. Click ◉**Domain**.
	2. From the **Domain** list, select the domain name.
To set local authorization,	click ◉**Local Groups**.

12. From the **Admin Group** list, select the user group whose members will be granted administrator permissions in SmartPTT Express. Then click **Next**.
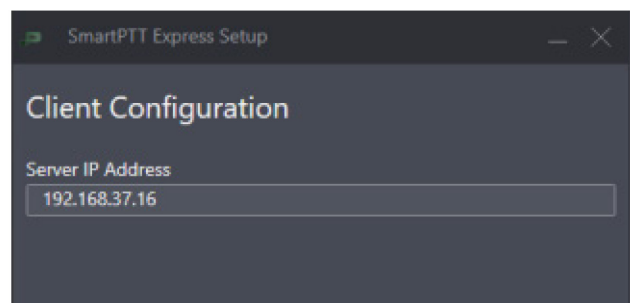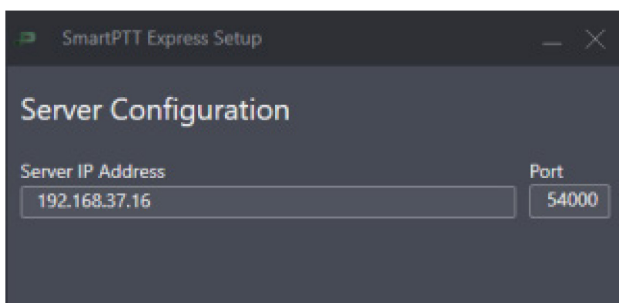Initial SmartPTT Express Configurator or SmartPTT Express Client settings appear.

Figure 17: Initial SmartPTT Express Configurator and SmartPTT Express Client Settings

13. In the window that appears, perform the following actions:

a. In the **Server IP Address** field, enter the IP address that will be used for connection between SmartPTT Express Server and SmartPTT Express Configurator as well as

SmartPTT Express Client applications. By default, the current computer IP address is used.

    b. (Optional) If the **Port** field appears, enter the TCP port of the SmartPTT Express Server host.

    c. Click **Next**.

14. Perform one of the following actions:

If the **Client Configuration** window appears,	in the **Server IP Address** field, enter the IP address of the computer that will be used to connect SmartPTT Express Client applications.
If another window appears,	proceed to the next step.

15. In the window that appears, select the required check boxes to add shortcuts to Windows Desktop. Then click **Next**.
    Installation summary appears.

16. In the window that appears, look through the installation summary. If the information is correct, click **Install**.

IMPORTANT:
Do not start SmartPTT Express software until you restart the computer.

Postrequisites:

Change SmartPTT Express Server Event Log size. For details, see Disk Space Management on page 23.

3.3 Installing Standalone SmartPTT Express Client

Follow the procedure to install SmartPTT Express Client on a dedicated computer. This procedure is the shortened text-only version of the full installation procedure. For details, see Installing SmartPTT Express on page 36.

Prerequisites:

- Ensure that you have performed all the necessary actions and obtained the information outlined in Essential Actions before Installing SmartPTT Express on page 35.

- Make the installation file (default name is `SmartPTTExpressSetup.exe`) available on the dispatch console host using local or network storage.

Procedure:

1. Run the installation file.
   Language selection window appears (see).

2. From the drop-down list, select the language that will be used during installation and set as the initial language of SmartPTT Express Client and SmartPTT Express Configurator. Then click **Next**.
   End-User License Agreement (EULA) appears (see).

3. In the window that appears, read the License Agreement and select ☑**I accept the terms in the License Agreement**. Then click **Next**.
   List of software components appears (see).

4. In the window that appears, perform the following actions:

   a. Clear ☐**SmartPTT Express Server**.

   b. Clear ☐**SmartPTT Express Configurator.**

   c. Select ☑**SmartPTT Express Client**.

   d. Click **Next**.
   Installation path appears.

5. (Optional) Change the installation path:

   a. To the right of the text field with the default path, click **Browse** ▪.

   b. In the dialog box, select the required path. Then click **Open**.
   New path appears in the text field.

6. Click **Next**.
   SmartPTT Express Server IP address input appears (see).

7. In the window that appears, in the **Server IP Address** field, enter the IP address that is used (or will be used) by SmartPTT Express Server to connect SmartPTT Express Client applications.
   Shortcut creation settings appear.

8. In the window that appears, select the check box to add a shortcut on Windows Desktop. Then click **Next**.
   Installation summary appears.

9. In the window that appears, look through the installation summary info. Click **Install**.

IMPORTANT:
Do not start SmartPTT Express Client until you restart the computer.

3.4 Modification of the Installed Software

If you run the installation file on a computer with installed SmartPTT Express, the application offers the following options:
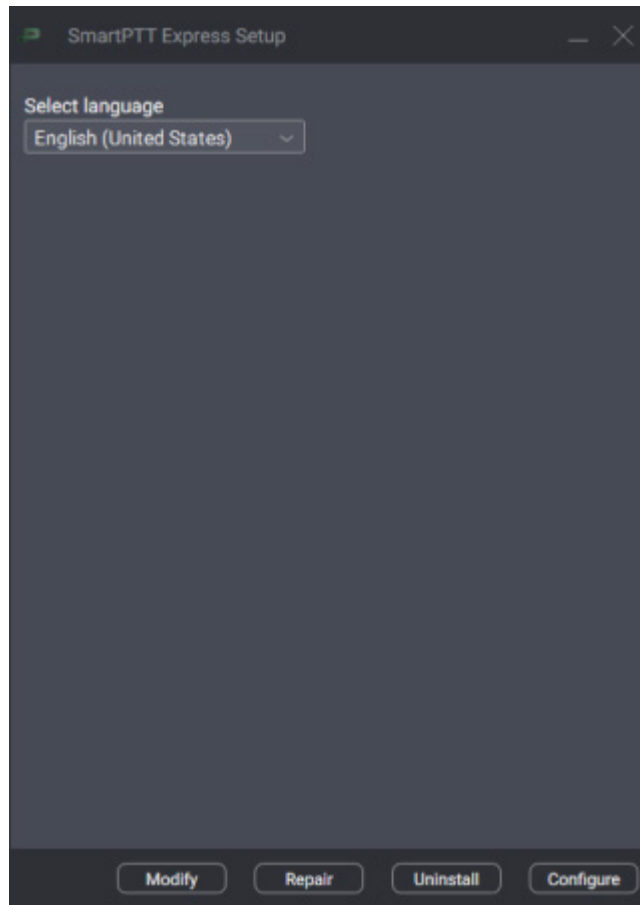
Figure 18: Installed Software Modification Options

Modify

The button starts a procedure similar to installation. During the procedure, the user is able to install components that are currently absent on the computer or uninstall ones that are no longer required on the computer.

Repair

The button starts software installation repair. This includes binary and executable file updates, registry entries checkout, and other actions.

Uninstall

The button starts the uninstallation procedure that deletes service files (if required). For details, see Uninstalling SmartPTT Express on page 94.

Configure

The button starts the modification of SmartPTT Express Server authentication and SmartPTT Express Server network interface update. For details, see Re-Configuring SmartPTT Express Server on page 92.

Chapter 4. SmartPTT Express Configuration

SmartPTT Express configuration is performed using the SmartPTT Express Configurator application. Once configuration is completed, SmartPTT Express Client will be able to successfully authorize its users.

4.1 Logging on to SmartPTT Express Configurator

Follow the procedure to log on to SmartPTT Express Configurator and access SmartPTT Express settings.

> **IMPORTANT:**
> After you log on to SmartPTT Express Configurator, you must finish SmartPTT Express configuration. Otherwise, you will be unable to save changes.

Prerequisites:

- Obtain SmartPTT Express administrator credentials (login and password). For details, see System Roles & Authorization on page 24.

- Obtain the SmartPTT Express Server IP address and TCP port. For details, see Installing SmartPTT Express on page 36.

- Start SmartPTT Express Server. For details, see SmartPTT Express Server Service Control on page 49.

Procedure:

1. Start SmartPTT Express Configurator.
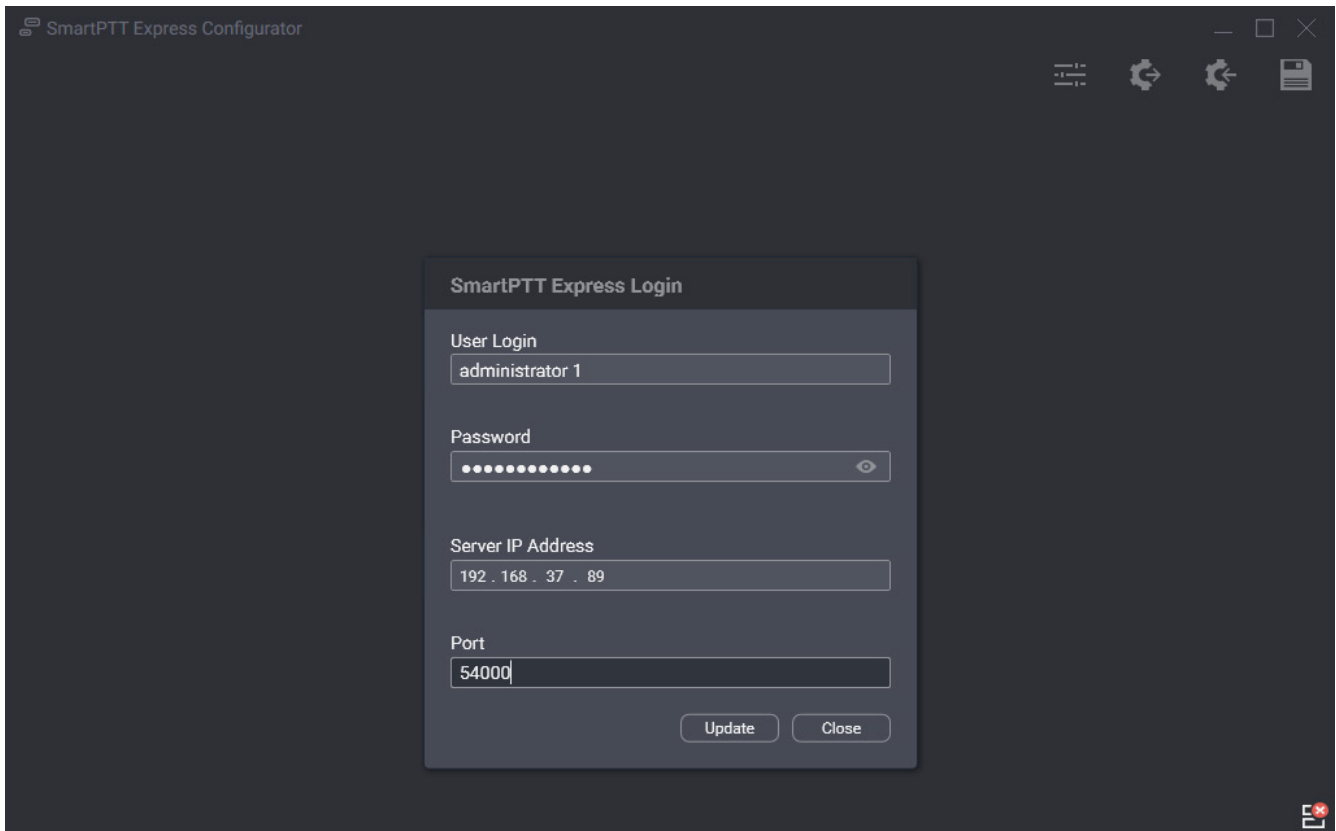   The main window of SmartPTT Express Configurator appears; the **SmartPTT Express Login** window appears.

Figure 19: Logging on to SmartPTT Express Configurator

2. If the **Disconnected** ⏚ icon appears in the Status Bar of the SmartPTT Express Configurator main window, perform the following actions:

   a. In the SmartPTT Express Login window, click **Server Connection**.

   b. In the **Server IP Address** field, type the SmartPTT Express Server IPv4 address in dot-decimal notation that was configured during installation.

   c. In the **Port** field, type the TCP port number that was configured during installation.

   d. Click **Update**.

   The **Connected** ⏚ icon should appear in the Status Bar.

NOTICE:
If the **Connected** ⏚ icon does not appear, modify the SmartPTT Express installation. For details, see Modification of the Installed Software on page 45.

3. In the **User Login** field, type the user login.

4. In the **Password** field, type the user password.

5. Click **Login**.
   The **SmartPTT Express Login** window disappears; SmartPTT Express settings appear in the main window of the SmartPTT Express Configurator.

Postrequisites:

If you are logging on to SmartPTT Express Configurator for the first time, perform the first start configuration. For details, see First Start Configuration on page 51.

4.2 Changing Language

Follow the procedure to change the interface language of SmartPTT Express Configurator.

Prerequisites:

Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, on the Toolbar, click **Configurator Settings** ⚏.
   The **Configurator Settings** window appears.
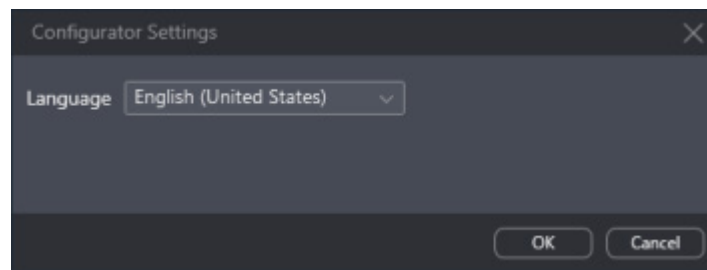
Figure 20: SmartPTT Express Configurator Language Selection

2. In the window that appears, from the **Language** list, select the desired language. Then click **OK**.

3. To apply changes immediately, reopen SmartPTT Express Configurator.

4.3 SmartPTT Express Server Service Control

SmartPTT Express Server is a regular Windows service that can be started, stopped, and restarted. Started service is required for configuration and dispatching.

To control the service, use one of the following methods:

- Use the **Stop SmartPTT Express Server** and **Start SmartPTT Express Server** shortcuts in the Start menu.

- Open Windows **Services** app or the **Services** tab of the **Task Manager** application, find **SmartPTT Express Server** in the list of services, right-click it and use commands from the menu that opens.

- Run Windows **Command Prompt** (`cmd.exe`) as administrator and type `net start` `"SmartPTT Express Server"` or `net stop "SmartPTT Express Server"`.

- Use other Windows system management tools and approaches.

4.4 Generating Hardware ID

Follow the procedure to generate SmartPTT Express Hardware ID that is required to order a license file. Alternatively, you can generate Hardware ID using a dedicated tool. For details, visit SmartPTT Technical Support Center.

Prerequisites:

- Install SmartPTT Express Server and SmartPTT Express Configurator.

- Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, click the **Licenses** tab.
   License information appears.
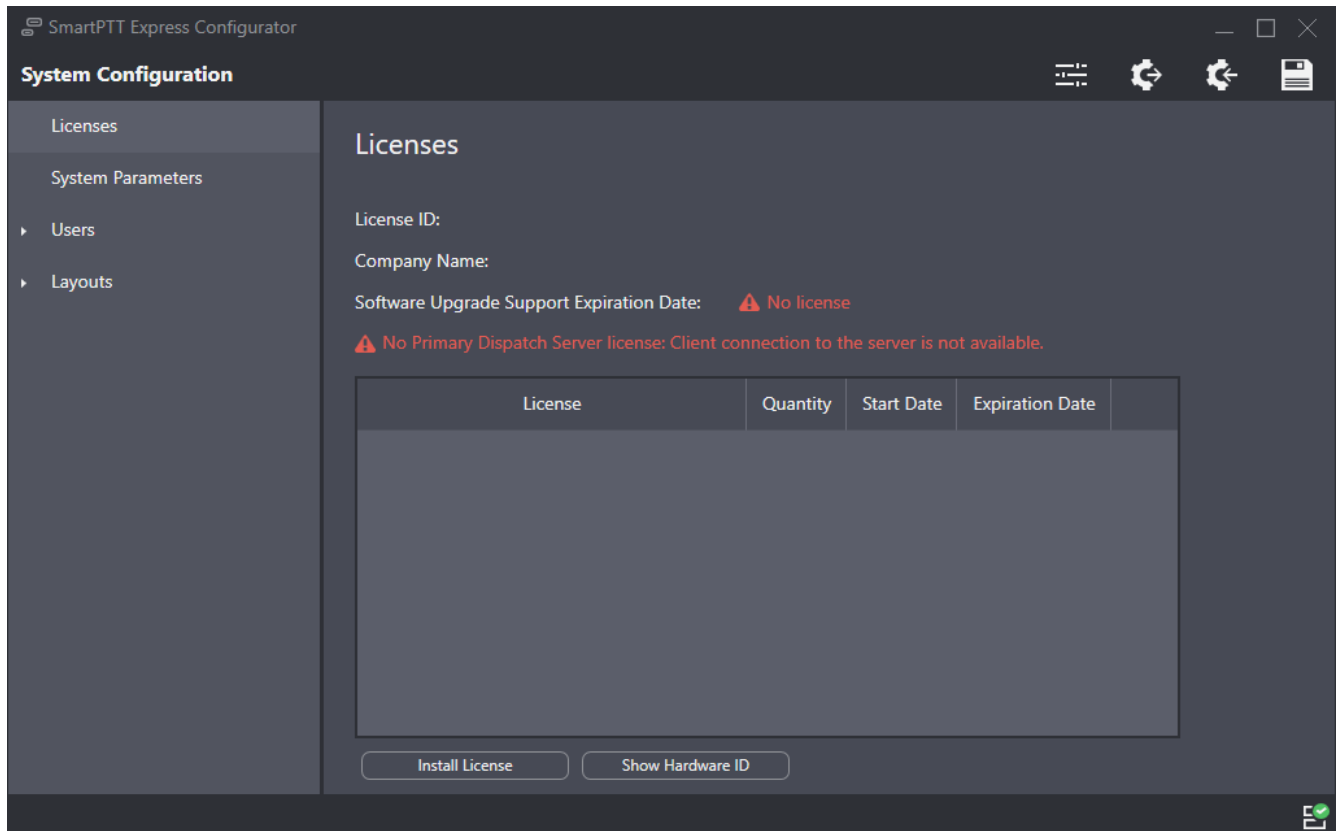
Figure 21: Accessing Licensing Settings

2. On the right pane, at the bottom of the table, click **Show Hardware ID**.
   The **Hardware ID** window appears.
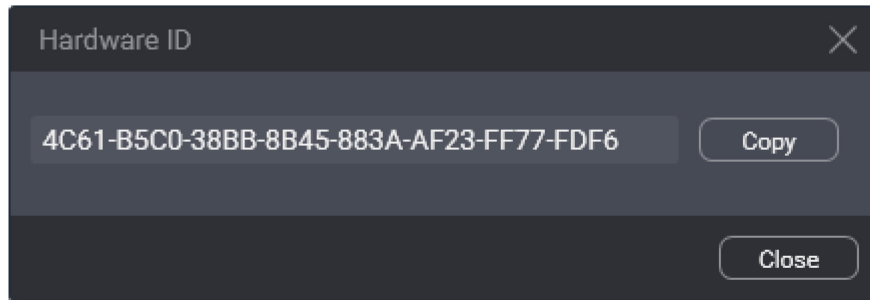
Figure 22: Viewing Hardware ID

3. In the window that appears, click **Copy** to copy the Hardware ID code to the clipboard.

4. In the window, click **Close**.

5. Deliver the Hardware ID code to the Elcomplus LLC representative. If demanded, add another relevant information.

Postrequisites:

Install the license file after you receive it. For details, see Installing License on page 51.

4.5 First Start Configuration

After acquiring the license file, the following actions must be performed:

- Install the license file. For details, see Installing License on page 51.

- Select user groups for supervisors, operators, and privileged operators. For details, see Assigning User Groups to System Roles on page 52.

- Determine SmartPTT Express Server addresses and ports. For details, see Configuring SmartPTT Express Server Interfaces on page 53.

Until these steps (except license installation) are completed, SmartPTT Express configuration changes cannot be saved.

4.5.1 Installing License

Follow the procedure to install the license file and unlock SmartPTT Express features.

Prerequisites:

- Receive the license file from Elcomplus LLC. Copy it to the SmartPTT Express Server host.

- Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, click the **Licenses** tab.
   Licensing information appears on the right pane (see Figure 21 on page 50).

2. On the right pane, click **Install License**.
   A dialog window appears.

3. In the dialog window, select the received .spttlx file. Then click **Open**.

4. On the right pane, view the table with licenses. Make sure that the information is correct.

Postrequisites:

- Assign user groups to system roles. For details, see Assigning User Groups to System Roles on page 52.

- Configure SmartPTT Express Server interfaces. For details, see Configuring SmartPTT Express Server Interfaces on page 53.

4.5.2 Assigning User Groups to System Roles

Follow the procedure to change the authentication settings in SmartPTT Express.

NOTICE:
Authorization method (domain or local groups) can be changed only via SmartPTT Express installation program. For details, see Modification of the Installed Software on page 45.

Prerequisites:

- Create user groups for the desired system roles. For details, see Creating Local User Groups on page 27.

- Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, click the **System Parameters** tab.
   System parameters appear on the right pane.

Figure 23: System Roles Configuration in SmartPTT Express Configurator

2. On the right pane, in the **System Roles** area, from the corresponding lists, select user groups for the four SmartPTT Express user roles.

NOTICE:
It is possible to assign the same user group to multiple roles. In such case, its members will receive the most privileged role.

3. Perform one of the following actions:

If you have completed first-start configuration,	on the Toolbar, click **Save configuration** 💾.
If you have not completed first-start configuration,	configure SmartPTT Express Server interfaces. For details, see Configuring SmartPTT Express Server Interfaces on page 53.
If you are not performing first-start configuration,	on the Toolbar, click **Save configuration** 💾.

4.5.3 Configuring SmartPTT Express Server Interfaces

Follow the procedure to configure SmartPTT Express Server communication interfaces with dispatch consoles.

Prerequisites:

- Obtain SmartPTT Express Server IP address, TCP and the corresponding UDP ports.

- Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, click the **System Parameters** tab. System parameters appear on the right pane.
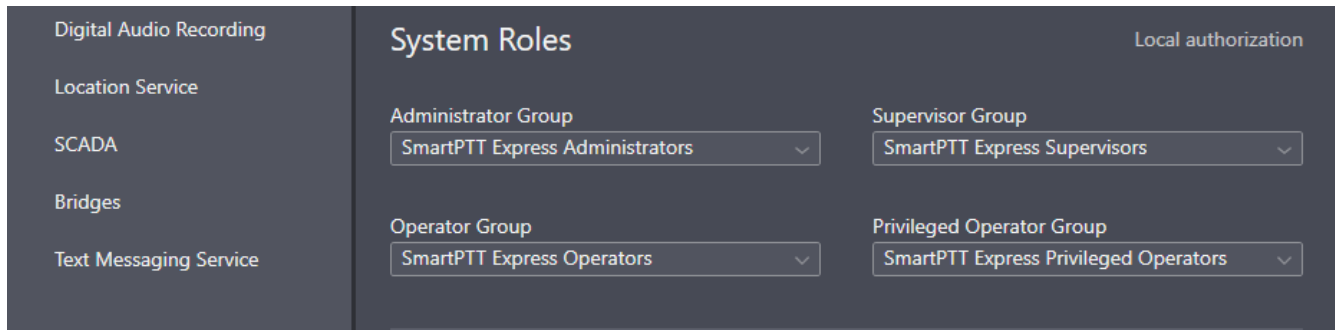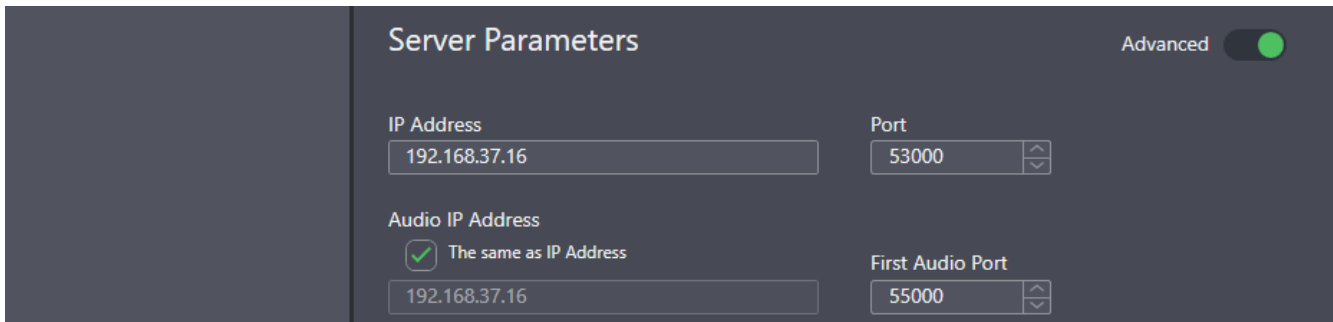

Figure 24: Interfaces Configuration in SmartPTT Express Configurator

2. (Optional) In the top right corner of the **Server Parameters** area, turn on the **Advanced** toggle to display all available settings.

3. In the **Main Server** area, in the **IP Address** field, type the SmartPTT Express Server IPv4 address in dot-decimal notation.

4. In the **Port** field, enter an unlocked TCP port number. For details, see Table 6 on page 31.

5. (Optional) To use a dedicated IP address for voice traffic between SmartPTT Express Server and SmartPTT Express Client applications, perform the following actions:

   a. In the **Server Parameters** area, under **Audio IP Address**, clear the **The same as IP Address** check box (visible if the **Advanced** toggle is turned on).

   b. In the field below the check box, type the desired IP address.

6. (Optional) In the **First Audio Port** field, enter the UDP port number to be used for voice traffic between SmartPTT Express Server and the first SmartPTT Express Client application that connects to it.

NOTICE:
Each subsequent SmartPTT Express Client application will increment this value by 1.

7. Perform one of the following actions:

If you have completed first-start configuration,	on the Toolbar, click **Save configuration** 🖫.
If you have not completed first-start configuration,	edit system roles. For details, see Assigning User Groups to System Roles on page 52.

If you are not performing first-start configuration,	on the Toolbar, click **Save configuration** 🖫.

4.5.4 Editing Miscellaneous Settings

Follow the procedure to edit miscellaneous SmartPTT Express settings.

Prerequisites:

Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, click the **System Parameters** tab. System parameters appear on the right pane.
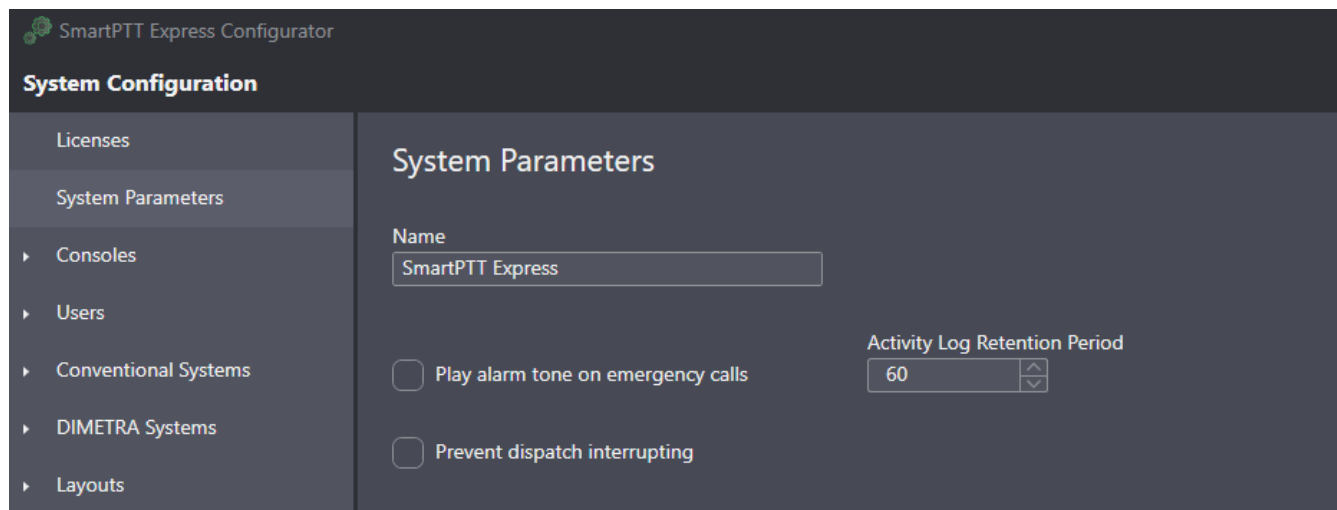

Figure 25: Miscellaneous SmartPTT Express Server Settings

2. On the right pane, in the **System Parameters** area, perform the following actions:

To play alarm tone in SmartPTT Express Client each time an emergency call is received,	select ☑ **Play alarm tone on emergency calls**.
To turn off the alarm tone for emergency calls,	clear ☐ **Play alarm tone on emergency calls**.

3. In the **Activity Log Retention Period** field, enter the retention period (in minutes) for activity log entries.

4. Perform the following actions:

To prevent SmartPTT Express Client users from interrupting incoming transmissions to start their own,	select ☑ **Prevent dispatch interrupting**.
To allow SmartPTT Express Client users to interrupt incoming transmissions to start their own,	clear ☐ **Prevent dispatch interrupting**.

5. (Optional) In the **Name** field, type a name for the SmartPTT Express system.

6. On the Toolbar, click **Save configuration** 💾.

4.6 Adding & Editing Consoles

Follow the procedure to add a new or edit an existing dispatch console in SmartPTT Express Configurator.

Prerequisites:

- Obtain the host name/computer name/system name of the dispatch console host.

- Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **Consoles** tab.
   The list of existing consoles and the **Add new** button appear under the tab.
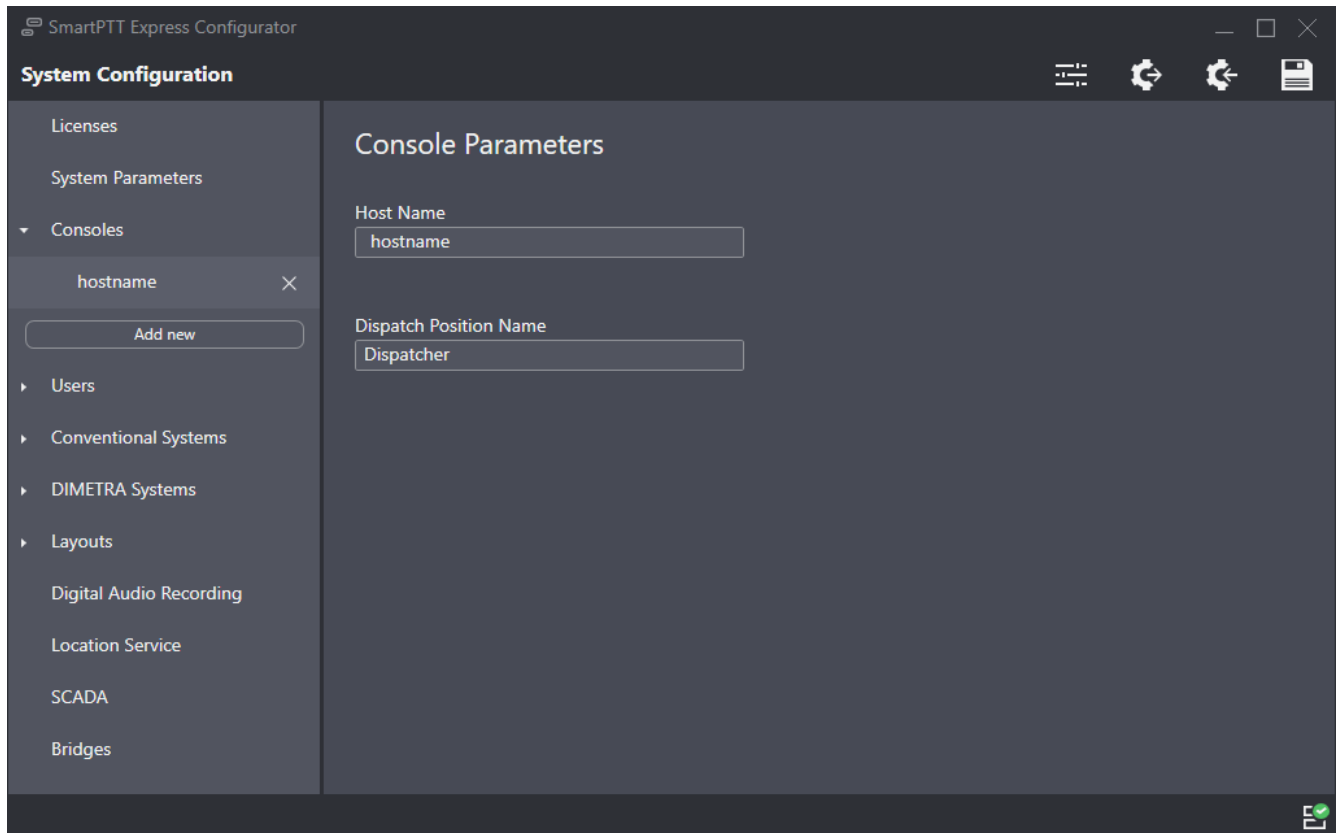
Figure 26: Console Configuration in SmartPTT Express Configurator

2. Perform one of the following actions:

To add a new console,	click **Add new**.
To edit an existing console settings,	click the desired console.

3. On the right pane, in the **Host Name** field, type the name of the dispatch console host (case insensitive).

4. (Optional) In the **Dispatch Position Name** field, type the console name that will appear in SmartPTT Express Client. If this field is left empty, the host name will be displayed in SmartPTT Express Client instead.

5. On the Toolbar, click **Save configuration** 🖫.

Postrequisites:

- Repeat the procedure to add other consoles.

4.7 Adding & Editing Users

Follow the procedure to add and/or edit SmartPTT Express users.

Prerequisites:

- Obtain logins of the relevant Windows users. For details, see System Roles & Authorization on page 24.

- Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **Users** tab.
   The list of users and the **Add new** button appear under the tab.
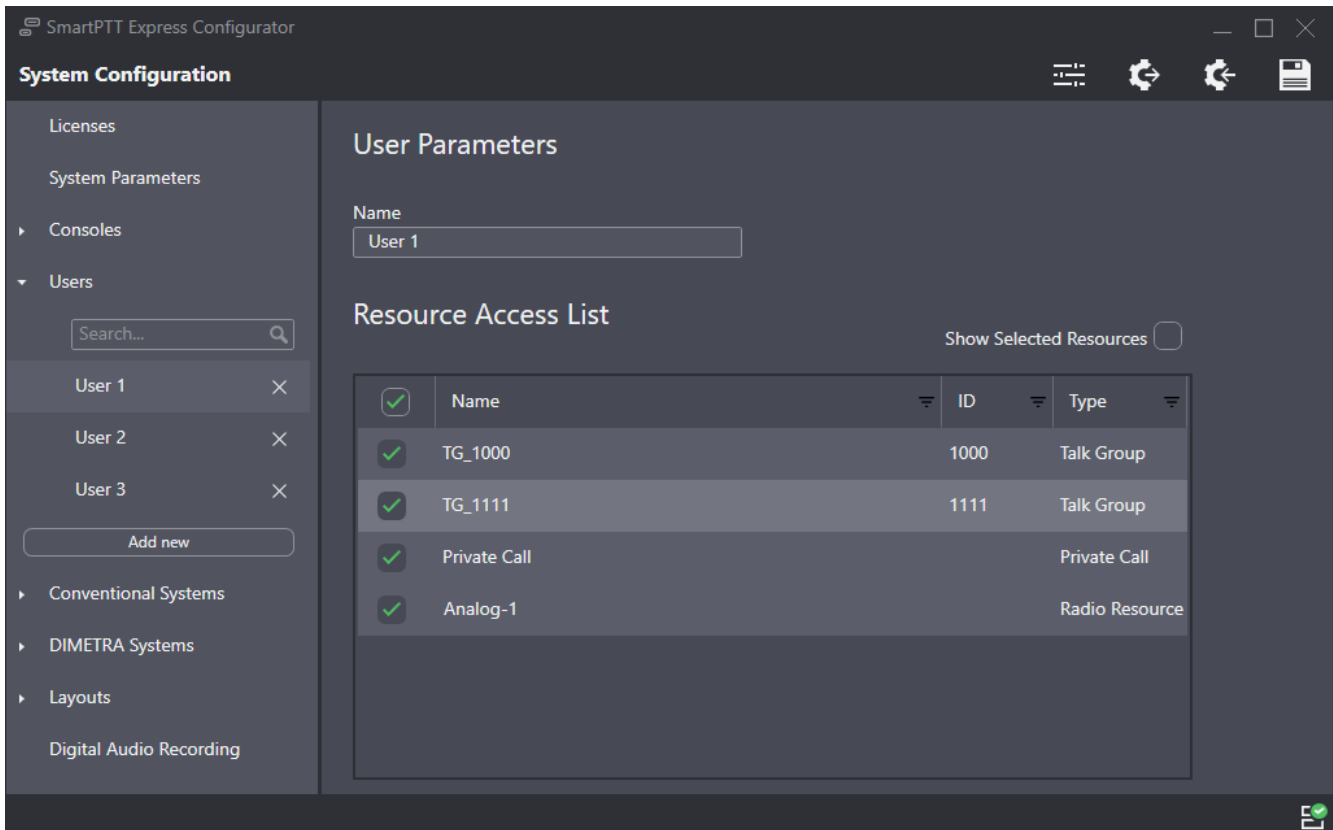
Figure 27: User Account Configuration

2. Perform one of the following actions:

To add a new user,	click **Add new**.
To edit an existing user settings,	click the required user.

3. On the right pane, in the **Name** field, enter the corresponding Windows user login.

4. If **Resource Access List** is available, configure the user's access to resources. For details, see Managing Resource Access on page 68.

NOTICE:
The **Resource Access List** table becomes available after SmartPTT Express Server synchronizes with DIMETRA Express.

5. On the Toolbar, click **Save configuration** 🖫.

Postrequisites:

Repeat the procedure to add other users.

4.8 DIMETRA Express Connection

Connection to the DIMETRA Express radio system includes the following mandatory actions:

- Resolving DIMETRA Express host names to its IP address. For details, see Communication with DIMETRA Express on page 23.

- Configuration of SmartPTT Express Server interfaces. For details, see Adding & Editing DIMETRA Express Connection on page 59.

- Account association. For details, see Configuring Associations between DIMETRA Express and SmartPTT Express User Accounts on page 62.

4.8.1 Adding & Editing DIMETRA Express Connection

Follow the procedure to add or edit a connection to DIMETRA Express.

Prerequisites:

- Ensure that the installed license includes **DIMETRA Express Connectivity**.

- Add console users in SmartPTT Express Configurator. For details, see Adding & Editing Users on page 57.

- Obtain DIMETRA Express IP address. For details, see DIMETRA Express Configuration on page 19.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the DIMETRA Systems tab.

2. Perform one of the following actions:

To add a radio system,	click **Add new**, and then select *DIMETRA Express* in the drop-down menu.

To edit connection settings, click a radio system name.
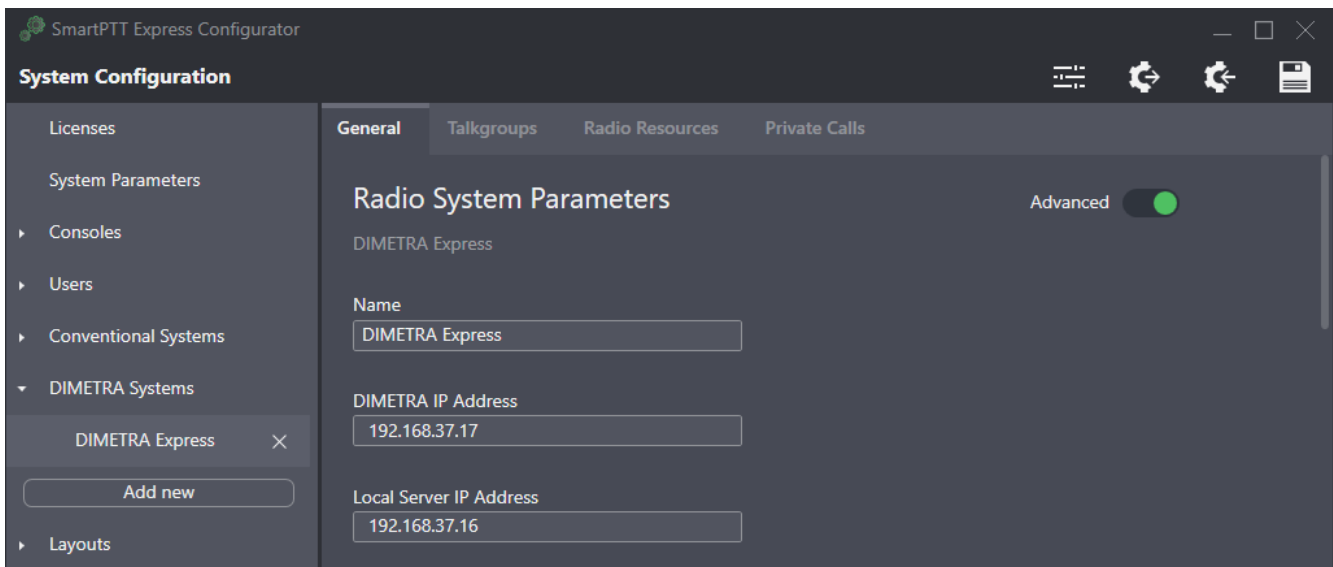
Figure 28: DIMETRA Express Connection Settings in SmartPTT Express Configurator

3. On the right pane, click the **General** tab.

4. In the **Radio System Parameters** area, enter DIMETRA Express interface parameters:

   a. (Optional) In the top right corner of the area, turn on the **Advanced** toggle to display all available settings.

   b. (Optional) In the **Name** field, type a name for the radio system.

   c. In the **DIMETRA IP Address** field, type DIMETRA Express IP address.

5. On the Toolbar, click **Save configuration** 💾.

4.8.2 Configuring Voice Dispatch

Follow the procedure to configure voice dispatch parameters.

Prerequisites:

- Configure DIMETRA Express connection. For details, see Adding & Editing DIMETRA Express Connection on page 59.

- Ensure that the installed license includes **Dispatcher Voice Channel**.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **DIMETRA Systems** tab and click the radio system name.
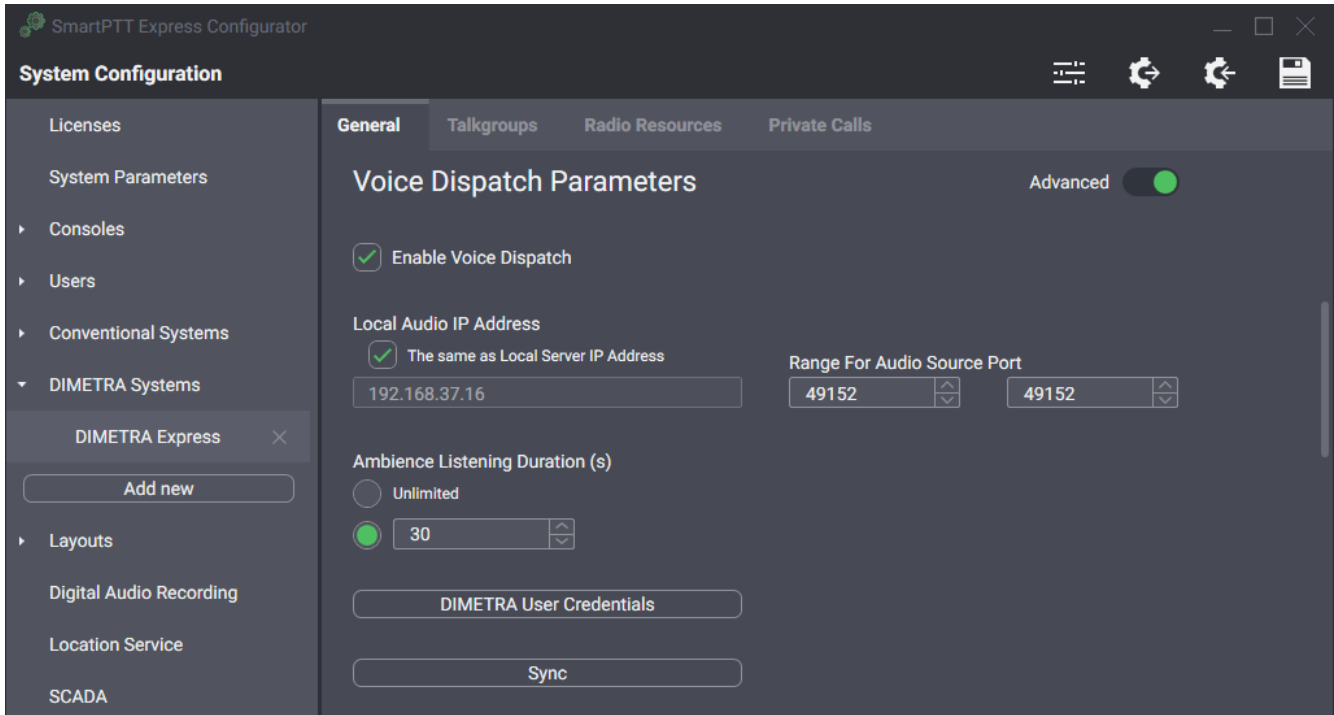
Figure 29: Voice Dispatch Parameters in SmartPTT Express Configurator

2. On the right pane, click the **General** tab.

3. In the **Voice Dispatch Parameters** area, select the **Enable Voice Dispatch** check box.

4. (Optional) In the top right corner of the area, turn on the **Advanced** toggle to display all available settings.

5. Leave the values in the **Local Audio IP Address** and **Range For Audio Source Port** fields (visible if the **Advanced** toggle is turned on) unchanged.

6. (Optional) If ambience listening is licensed, configure its duration:

To make ambience listening end only when manually aborted by the SmartPTT Express Client user,	in the **Ambience Listening Duration (s)** area, select the **Unlimited** option.
To make ambience listening end after a set interval,	in the **Ambience Listening Duration (s)** area, perform the following actions: 1. Select the lower option. 2. In the field next to the option, enter the desired timeout.

8. Synchronize DIMETRA Express and SmartPTT Express user accounts. For details, see Configuring Associations between DIMETRA Express and SmartPTT Express User Accounts on page 62.

9. At the bottom of the area, click the **Sync** button.
   Connection and synchronization with DIMETRA Express starts; when it is completed, the corresponding dialog box appears.

10. On the Toolbar, click **Save configuration** 💾.

Postrequisites:

- Configure resource availability to SmartPTT Express users. For details, see Managing Resource Access on page 68.

4.8.3 Configuring Associations between DIMETRA Express and SmartPTT Express User Accounts

Follow the procedure to associate DIMETRA Express user accounts with SmartPTT Express Client user accounts.

NOTICE:
Multiple SmartPTT Express Client user accounts can be assigned to a single DIMETRA Express user account, but only one of them can be authenticated simultaneously.

Prerequisites:

- Obtain DIMETRA Express user credentials. For details, see DIMETRA Express Configuration on page 19.

- Ensure that the installed license includes **Dispatcher Voice Channel**.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **DIMETRA Systems** tab and click the radio system name.
   The selected radio system settings appear on the right pane.

2. On the right pane, click the **General** tab.

3. In the **Voice Dispatch Parameters** area, click **DIMETRA User Credentials**.
   The **DIMETRA User Credentials** window appears.
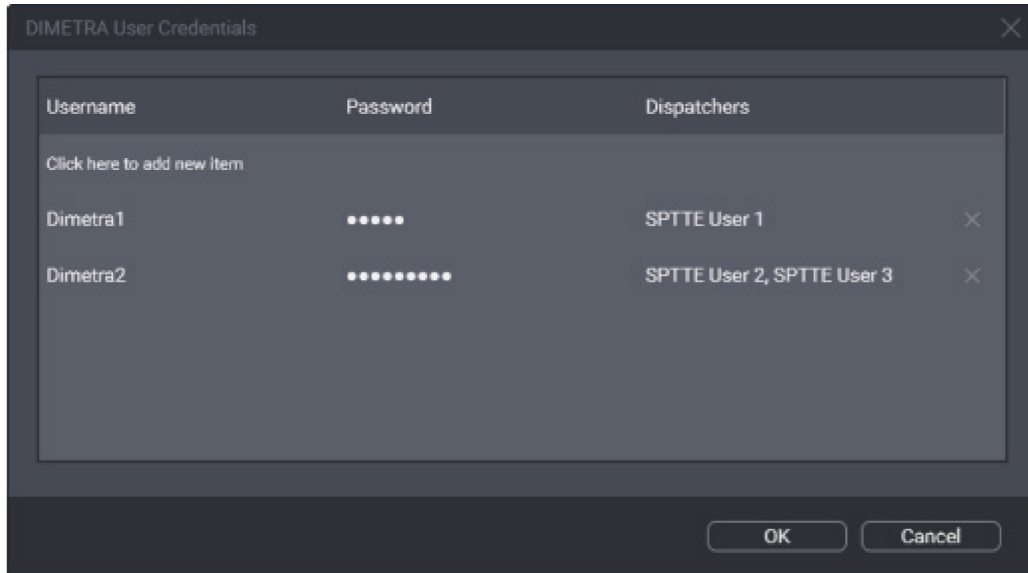
Figure 30: User Accounts Synchronization in SmartPTT Express Configurator

4. In the window that appears, perform account association:

    a. Perform one of the following actions:

To add a new association,	click the **Click here to add new item** entry at the top of the table.
To edit an existing association,	double-click the desired entry.

    b. In the entry, in the **Username** column, type a DIMETRA Express console user name exactly as in DIMETRA Express. You can use the same name only once.

    c. In the **Password** column, type the user password exactly as in DIMETRA Express.

    d. (Optional) In the same column, press and hold **View Password** ◉ to show password symbols and check their correctness.

    e. In the **Dispatchers** column, from the list, select one or multiple SmartPTT Express Client users.

    f. In the right part of the entry, click **OK**.

5. Repeat the previous step for other accounts.

6. In the **DIMETRA User Credentials** window, click **OK**.

7. On the Toolbar, click **Save configuration** 💾.

4.8.4 Configuring Talkgroups and Private Calls

Follow the procedure to edit talkgroup and private call settings.

Prerequisites:

Synchronize with DIMETRA Express. For details, see Adding & Editing DIMETRA Express Connection on page 59.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **DIMETRA Systems** tab and click the radio system name.

2. On the right pane, click the **Talkgroups** tab.

Figure 31: Talkgroup Configuration

3. On the right pane, in the table, for each of the desired talkgroups, perform the following actions:

   a. In the **Name** and/or **ID** column, view the talkgroup name and/or ID.

   b. In the **Voice** column (available only if the installed license includes **Dispatcher Voice Channel**), select the check box to make the talkgroup available for voice dispatching in SmartPTT Express.

   c. In the **Audio Recording** column (available only if the installed license includes **Digital Audio Recording**), select the check box to record the group's calls.

d. In the **Text Messages** column (available only if the installed license includes **Text Messaging**), select the check box to enable sending and receiving text messages to/from the group.

e. In the **Users** column (available only if the installed license includes **Dispatcher Voice Channel**), click the cell.
   User list appears.

f. To grant or deny a user access to the talkgroup, click that user's login in the list.

NOTICE:

The System-wide Call feature is present in the list as a talkgroup named *SWC-TG*. Its availability can be configured in the same way as that of any talkgroup.

4. On the right pane, click the **Private Calls** tab.
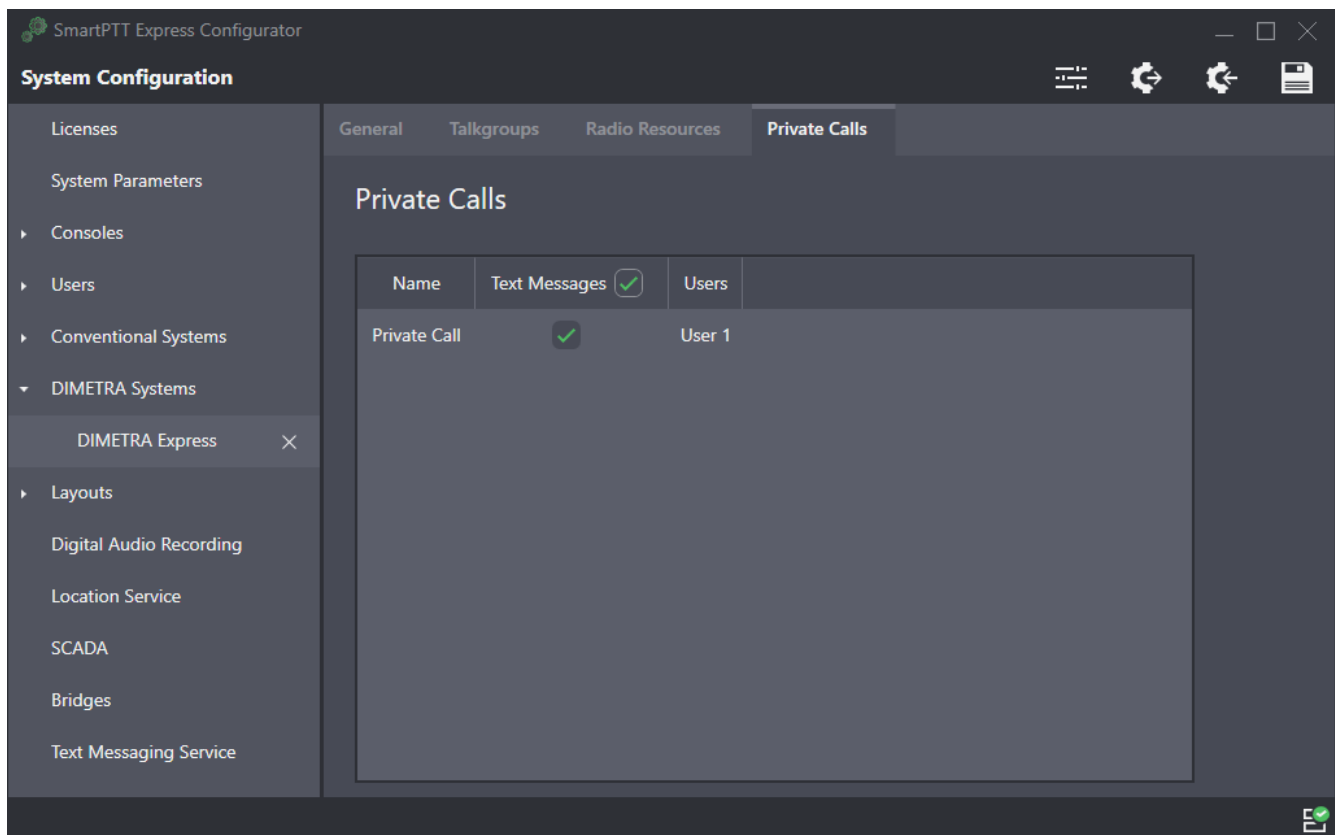
Figure 32: Private Call Configuration

5. On the right pane, in the **Text Messages** column (available only if the installed license includes **Text Messaging**), select the check box to enable sending and receiving individual text messages.

6. In the **Users** column (available only if the installed license includes **Dispatcher Voice Channel**), click the cell.
   User list appears.

7. To grant or deny a user the ability to initiate and receive private calls (including ambience listening), click that user's login in the list.

8. On the Toolbar, click **Save configuration** 🖫.

4.8.5 Configuring Analog Channels

Follow the procedure to configure donor radios connected via CCGW radio gateway.

Prerequisites:

- Ensure that the installed license includes **Wireless Gateways**.

- Configure the CCGW radio gateway and connect the desired donor radios to it. For details, see

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **DIMETRA Systems** tab and click the radio system name.

2. On the right pane, click the **Radio Resources** tab.
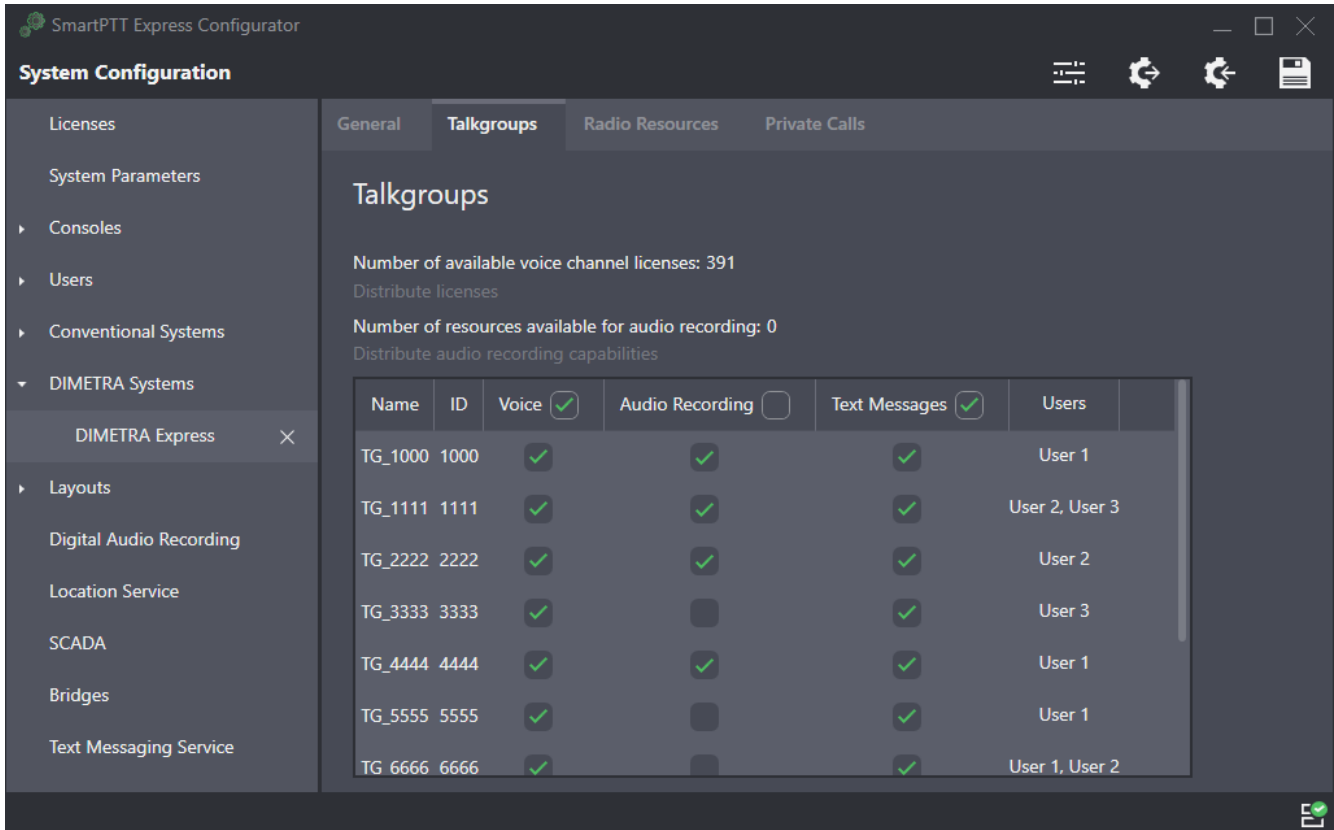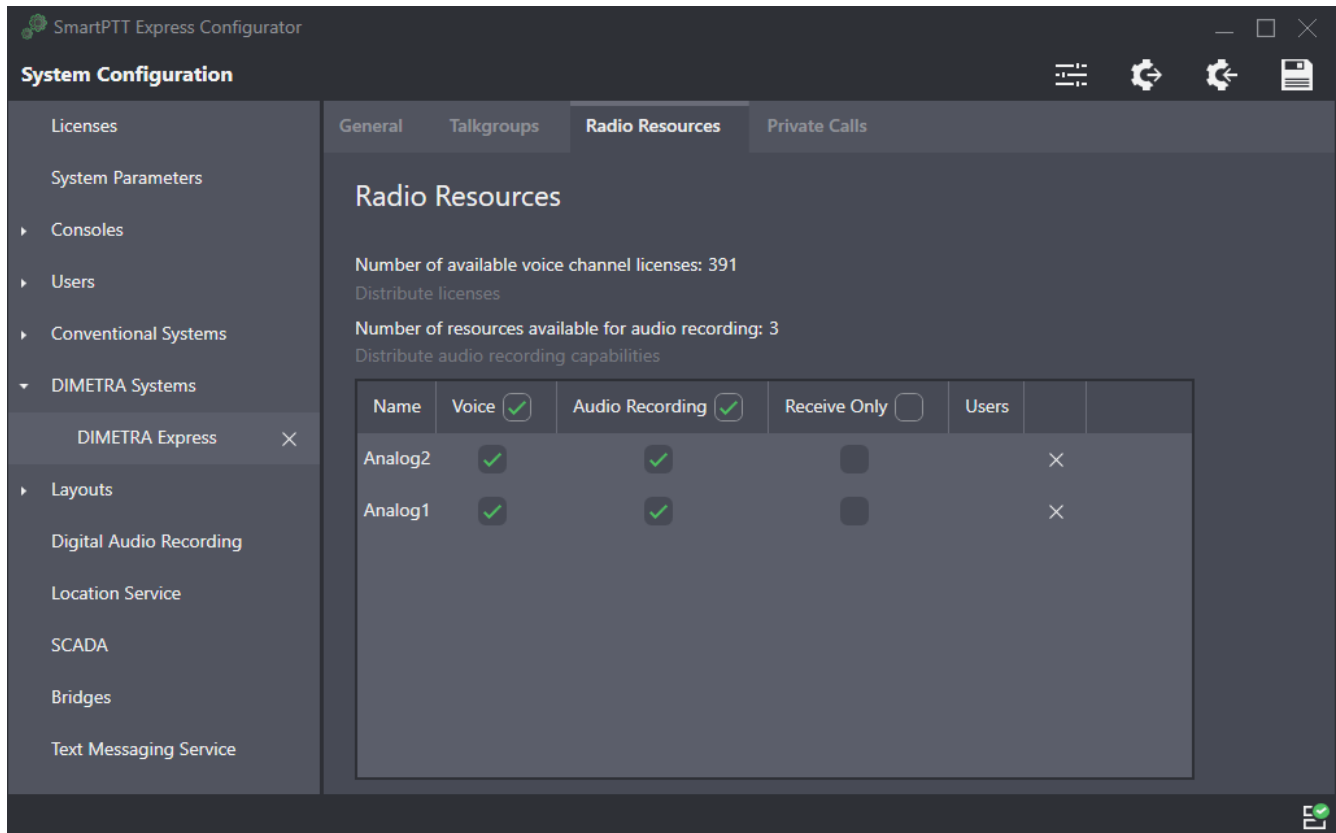
Figure 33: Analog Channel Configuration

3. On the right pane, in the table, for each of the desired donor radios, perform the following actions:

   a. In the **Name** and/or **ID** column, view the donor radio name and/or ID.

   b. In the **Voice** column (available only if the installed license includes **Dispatcher Voice Channel**), select the check box to make the radio available for voice dispatching in SmartPTT Express.

   c. In the **Audio Recording** column (available only if the installed license includes **Digital Audio Recording**), select the check box to record the radio's calls.

IMPORTANT:
For this to become available, connection to DIMETRA AIS service must be configured. For details, see Connecting to DIMETRA Express Voice Logging Service on page 70.
Furthermore, DIMETRA audio recording capacity must not be exceeded. The **Number of resources available for audio recording** is displayed above the table.

   d. (Optional) If necessary to have the donor radio route voice transmissions only from, but not to its radio system, select the check box in the **Receive Only** column.

e. In the **Users** column (available only if the installed license includes **Dispatcher Voice Channel**), click the cell.

    User list appears.

f. To grant or deny a user access to the donor radio, click that user's login in the list.

4. On the Toolbar, click **Save configuration** 🖫.

4.8.6 Managing Resource Access

Follow the procedure to manage resource availability to users.

Prerequisites:

- Ensure that the installed license includes **Dispatcher Voice Channel**.

- Synchronize SmartPTT Express Server with DIMETRA Express. For details, see Adding & Editing DIMETRA Express Connection on page 59.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **Users** tab and select the desired user.

    User settings appear on the right pane.
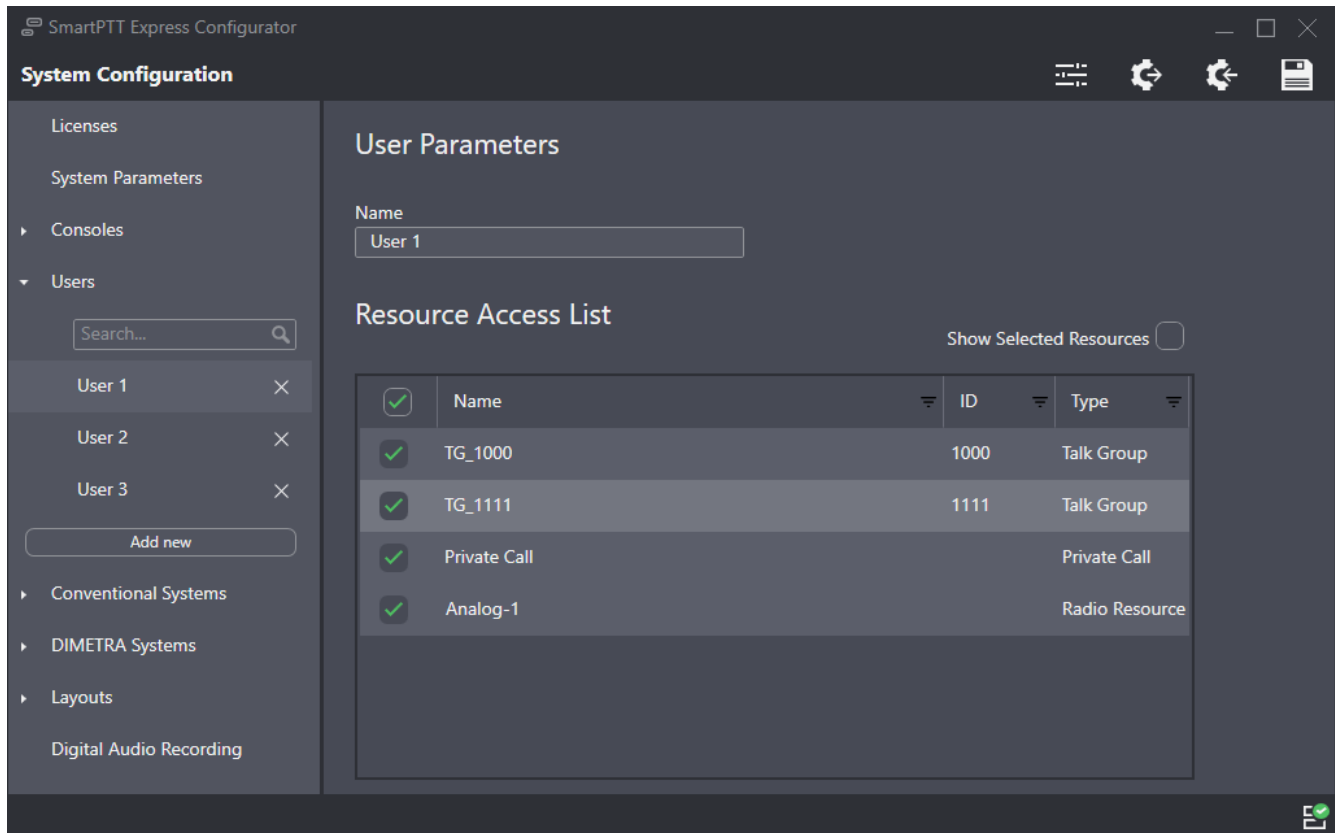
Figure 34: Resource Access Configuration

2. On the right pane, in the **Talkgroup Access List** table, configure resource availability to the user:

   a. (Optional) Apply filters to the resource list:

To display only those resources to which the user currently has access,	select the **Show Selected Resources** check box.
To filter the resource list by resource name and/or ID,	perform the following actions: 1. In the **Name/ID** column, click Filter ⇁. 2. In the **Filter By Keyword** field that appears, enter a part of resource name/ID. Only the resources whose name/ID contains the entered text are displayed in the table.
To filter the resource list by resource type,	perform the following actions: 1. In the **Type** column, click Filter ⇁.

2. In the window that appears, select/clear check boxes next to resource types to show/hide such resources in the table.

b. To grant/deny access to a resource, select/clear the check box to the left of its name.

c. To grant/deny access to all resources currently displayed, select/clear the check box in the header row of the table.

NOTICE:
The System-wide Call feature is present in the table as a talkgroup named *SWC-TG*. Its availability can be configured in the same way as that of any talkgroup.

3. On the Toolbar, click **Save configuration** 💾.

Postrequisites:

Repeat the procedure to configure access settings for other users.

4.9 Voice Logging Configuration

Voice logging configuration in SmartPTT Express includes the following mandatory actions:

- Configuration of an additional DIMETRA Express connection. For details, see Connecting to DIMETRA Express Voice Logging Service on page 70.

- Record storage configuration. For details, see Configuring Voice Record Storage on page 73.

4.9.1 Connecting to DIMETRA Express Voice Logging Service

Follow the procedure to connect to DIMETRA Express Voice Logger.

Prerequisites:

- Ensure that the installed license includes **Digital Audio Recording**.

- Obtain the following parameters from DIMETRA Express:

  - DIMETRA Express IP address for external voice loggers.

  - External voice logger credentials.

  For details, see DIMETRA Express Configuration on page 19.

- Determine radio users whose voice transmissions must be stored in the SmartPTT Express database.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **DIMETRA Systems** tab, and then select the radio system.

2. On the right pane, click the **General** tab.

3. In the **Digital Audio Recording Parameters** area, select ☑ **Enable Audio Recording**. Audio recording settings appear.
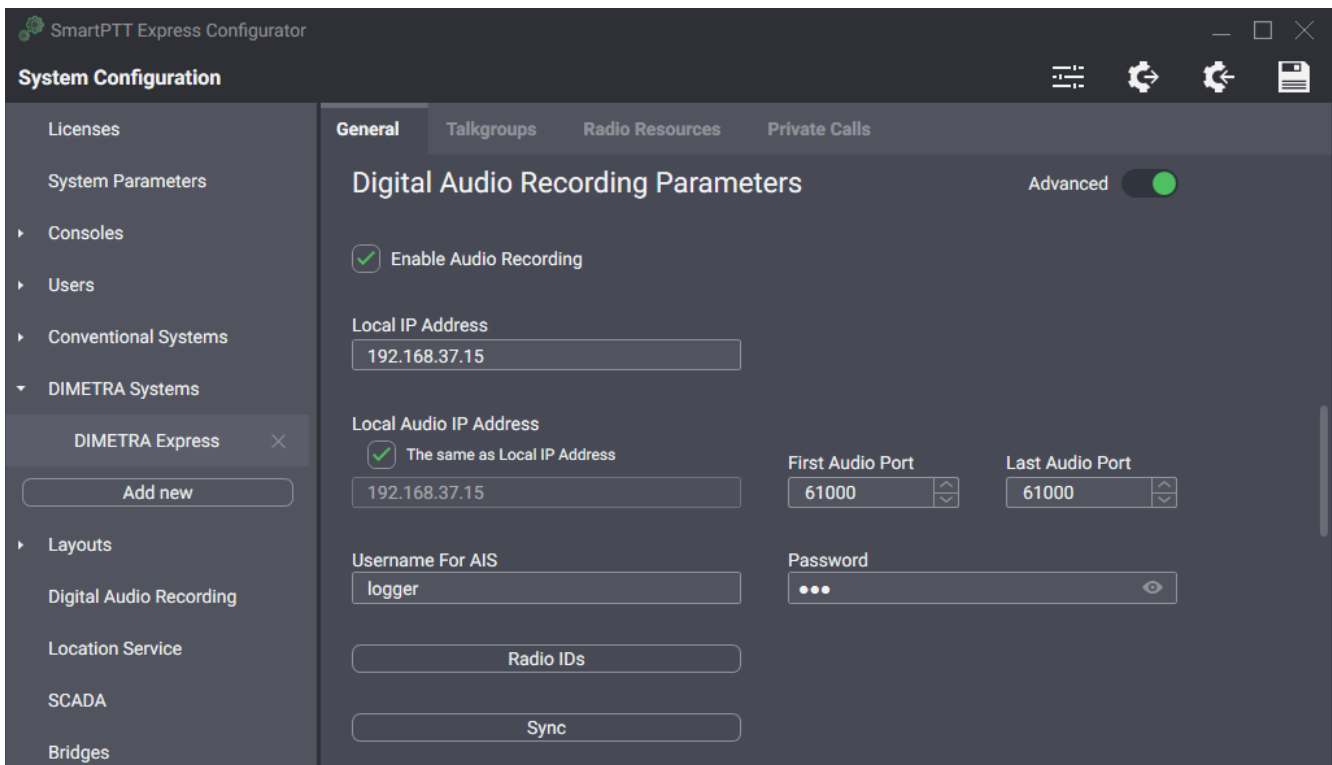
Figure 35: Voice Logging Configuration

4. (Optional) In the top right corner of the **Digital Audio Recording Parameters** area, turn on the **Advanced** toggle to display all available settings.

5. In the **Local IP Address** field, enter the IP address configured as the external voice logger in DIMETRA Express.

6. In the **Username For AIS** field, type the external voice logger login exactly as configured in DIMETRA Express.

7. In the **Password** field, type the external voice logger password exactly as configured in DIMETRA Express.

8. Leave values in the **Local Audio IP Address**, **First Audio Port** and **Last Audio Port** (visible if the **Advanced** toggle is turned on) fields unchanged.

9. At the bottom of the area, click the **Sync** button.
   Connection and synchronization with DIMETRA Express starts; when it is completed, the corresponding dialog box appears.

10. Configure DIMETRA Express users (this includes both radio users and dispatchers) whose voice transmissions will be stored in SmartPTT Express voice record database:

   a. Click **Radio IDs**.
      The **Radio IDs** window appears.
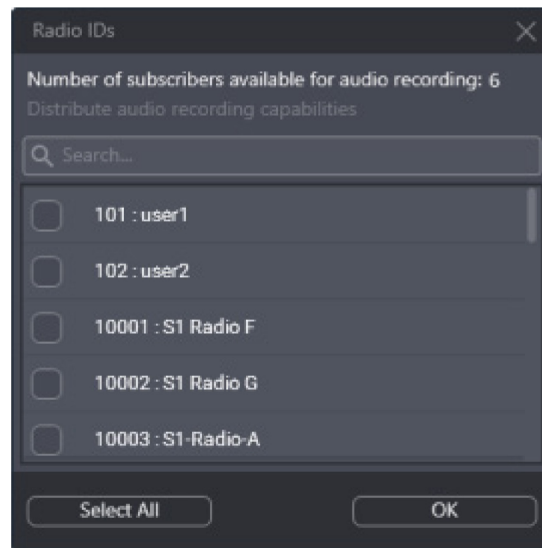
Figure 36: User Selection for Voice Logging

   b. (Optional) In the search field, type a part of a radio ID or alias.
      Only the radio users whose ID or alias contain the entered symbols will be shown in the list.

   c. (Optional) Click **Select All / Deselect All** to select/clear check boxes to the left of all radio users in the list.

   d. Select users whose transmissions will be stored in the **Audio Archive**.

IMPORTANT:
DIMETRA Express will not provide a voice transmission for recording if its voice logging capacity is insufficient. For details, see DIMETRA Express Configuration on page 19.

IMPORTANT:
The external voice logger is present in the list as a radio user. Do not select its checkbox.

   e. Click **OK** to apply changes and close the window.

11. On the Toolbar, click **Save configuration** 🖫.

4.9.2 Configuring Voice Record Storage

Follow the procedure to configure voice record storage on the SmartPTT Express Server host.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, click the **Digital Audio Recording** tab. Storage settings appear on the right pane.

Figure 37: Audio Recording Configuration

2. On the right pane, in the **Retention Period** field, enter the time period after which voice records will be deleted from the Audio Archive.

NOTICE:
SmartPTT Express defines "month" as 30 days.

3. On the Toolbar, click **Save configuration** 🖫.

4.10 Location Service Configuration

Location services configuration in SmartPTT Express includes the following actions:

- Map provider selection and configuration. For details, see Map Providers on page 32.

- Connection to DIMETRA Express Short Data Service. For details, see Configuring Coordinates Reception from DIMETRA Express on page 74.

- Connection to the map provider and location data base configuration. For details, see Configuring Location Service in SmartPTT Express on page 75.

4.10.1 Configuring Coordinates Reception from DIMETRA Express

Follow the procedure to configure a connection to DIMETRA Express Short Data Service for receiving radio user coordinates.

Prerequisites:

- Ensure that the installed license includes **Outdoor Positioning Services**. For details, see Installing License on page 51.

- From DIMETRA Express, obtain the Short Data Host ID(s) to which radios report their coordinates and the corresponding passnumber(s). For details, see DIMETRA Express Configuration on page 19.

Procedure:

1. In SmartPTT Express Configurator, expand the **DIMETRA Systems** tab, and then click the radio system name.

2. On the right pane, click the **General** tab.

3. In the **Outdoor Positioning Parameters** area, select the ☑ **Enable Outdoor Positioning** check box.
   Short Data Transport Service connection settings appear in the area.
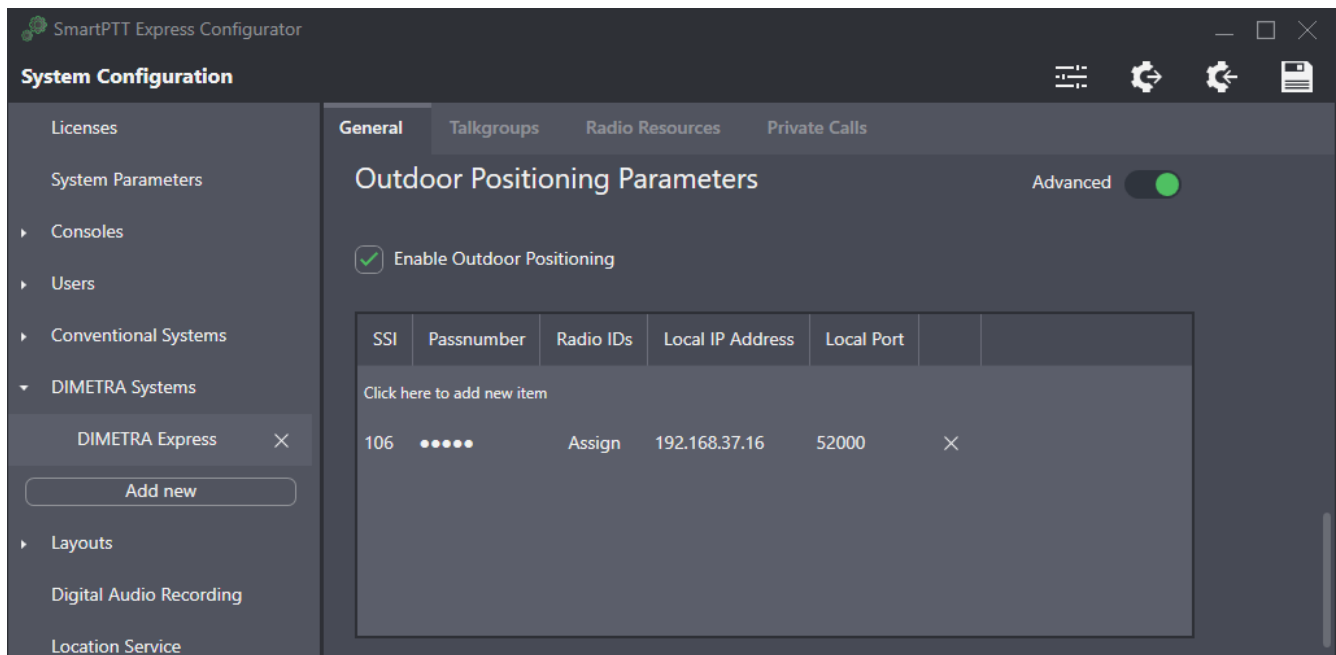
Figure 38: Short Data Service Connection

4. (Optional) In the top right corner of the area, turn on the **Advanced** toggle to display all available settings.

5. In the table, click **Click here to add new item**.

   A new entry is added to the table.

6. In the entry, in the **SSI** column, enter a Short Data Host ID configured in DIMETRA Express.

7. In the **Passnumber** column, enter the passnumber of the corresponding Short Data Host configured in DIMETRA Express.

8. In the **Radio IDs** column, perform the following actions:

   a. Click **Assign**.

      The **Radio IDs** window appears.

   b. In the window that appears, select radio users that must be tracked in SmartPTT Express.

   c. Click **OK** to accept changes and close the window.

9. In the **Local IP Address** column (visible if the **Advanced** toggle is turned on), enter the SmartPTT Express Server IP address.

10. In the **Local Port** column (visible if the **Advanced** toggle is turned on), enter the SmartPTT Express Server port used to receive radio user location updates.

11. In the rightmost column, click **OK**.

12. On the Toolbar, click **Save Configuration** 🖫.

Postrequisites:

Repeat the procedure to add more Short Data Hosts. This is required if radios in the system are configured to report their location to different Short Data Hosts.

4.10.2 Configuring Location Service in SmartPTT Express

Follow the procedure to configure outdoor location service in SmartPTT Express that includes map provider access and the period of coordinates retention in the database.

Prerequisites:

- Ensure that the installed license includes **Outdoor Positioning Services**. For details, see Installing License on page 51.

- Determine the retention period for radio user coordinates.

- Determine map provider parameters. For details, see Map Providers on page 32.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, click the **Location Service** tab.
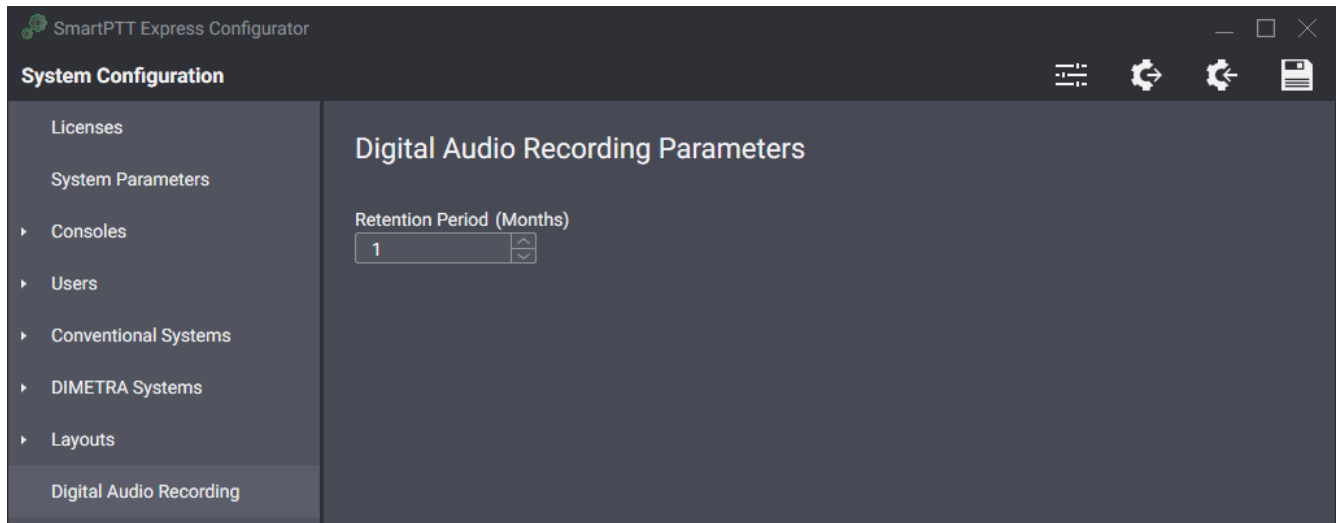   Location settings appear on the right pane.
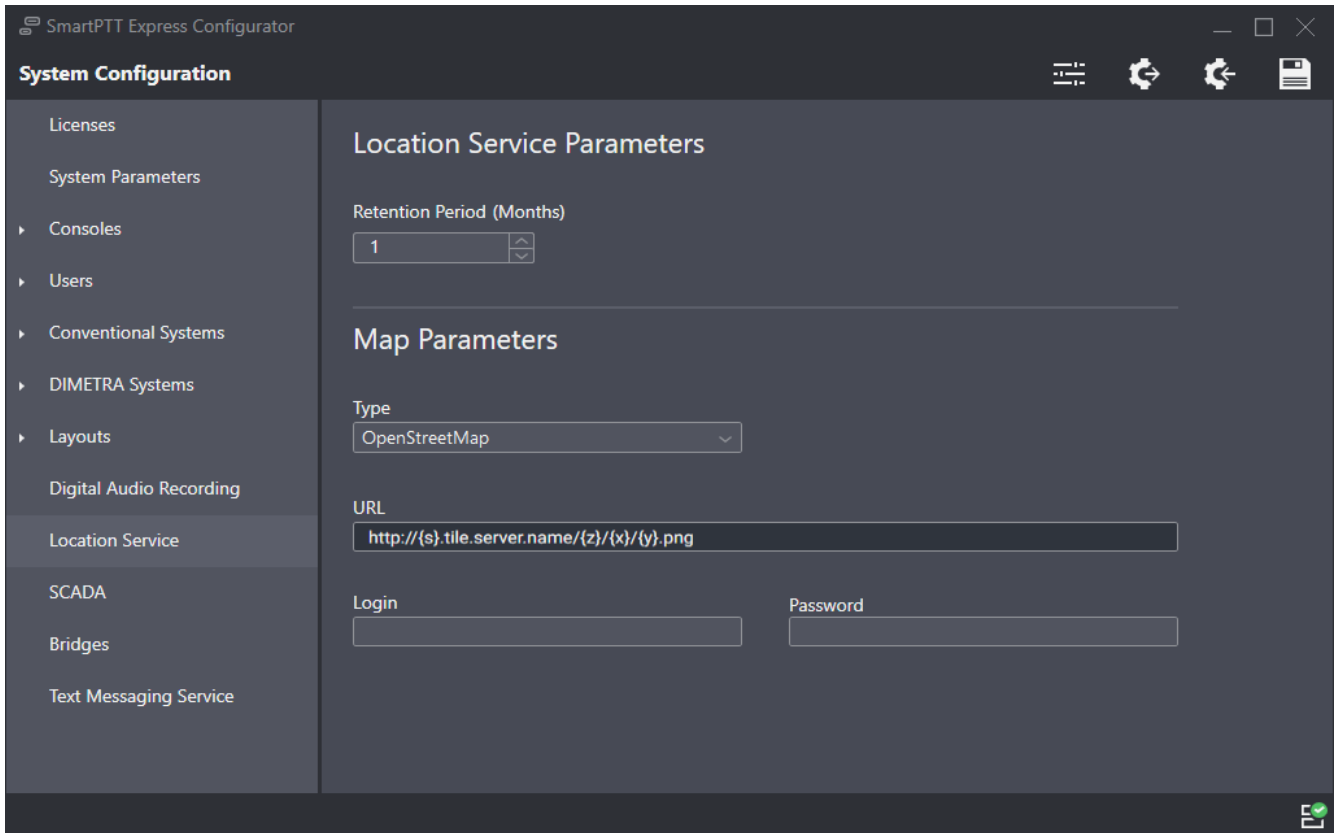
Figure 39: Location Service Configuration

2. On the right pane, in the **Retention period** field, enter the retention period (in months) for location data.

NOTICE:
SmartPTT Express defines "month" as 30 days.

3. In the **Map Parameters** area, choose map type:

To load the map from an HTTP server,	from the **Type** list, select *OpenStreetMap*.
To load the map from locally stored files,	from the **Type** list, select *Local Map Atlas*.

4. Configure map provider access:

If loading the map stored as files,	in the **URL** field, type the path to map storage.

If loading the map from an HTTP server that does not require authentication,	perform the following actions: 1. In the **URL** field, type the URL address. 2. Leave the **Login** and **Password** fields empty.
If loading the map from an HTTP server that requires basic HTTP authentication,	perform the following actions: 1. In the **URL** field, type the URL address. 2. In the **Login** field, type the required user login. 3. In the **Password** field, type the required user password. 4. (Optional) In the **Password** field, press and hold **Show Password** ⊚ to show password characters.
If loading the map from an HTTP server that requires user credentials included in the URL address,	perform the following actions: 1. In the **URL** field, type the URL address template. 2. In the typed address, in place of the login, type `{login}` 3. In the same address, in place of the password, type `{password}` 4. In the **Login** field, type the user login. 5. In the **Password** field, type the user password. 6. (Optional) In the **Password** field, press and hold **Show Password** ⊚ to show password characters.

5. On the Toolbar, click **Save Configuration** 💾.

4.11 Text Message Service Configuration

Text messaging service configuration in SmartPTT Express includes the following actions:

- Configuring text message transport between SmartPTT Express and DIMETRA Express. For details, see Configuring Text Message Transport on page 78.

- Configuring text messaging service in SmartPTT Express. For details, see Configuring Text Messaging Parameters on page 79.

4.11.1 Configuring Text Message Transport

Follow the procedure to configure a connection to DIMETRA Express Short Data Service for sending and receiving text messages.

Prerequisites:

- Ensure that the installed license includes **Text Messaging**. For details, see Installing License on page 51.

- From DIMETRA Express, obtain Short Data Host IDs and passnumbers of DIMETRA user accounts used by dispatchers. For details, see DIMETRA Express Configuration on page 19.

Procedure:

1. In SmartPTT Express Configurator, expand the **DIMETRA Systems** tab, and then click the radio system name.

2. On the right pane, click the **General** tab.
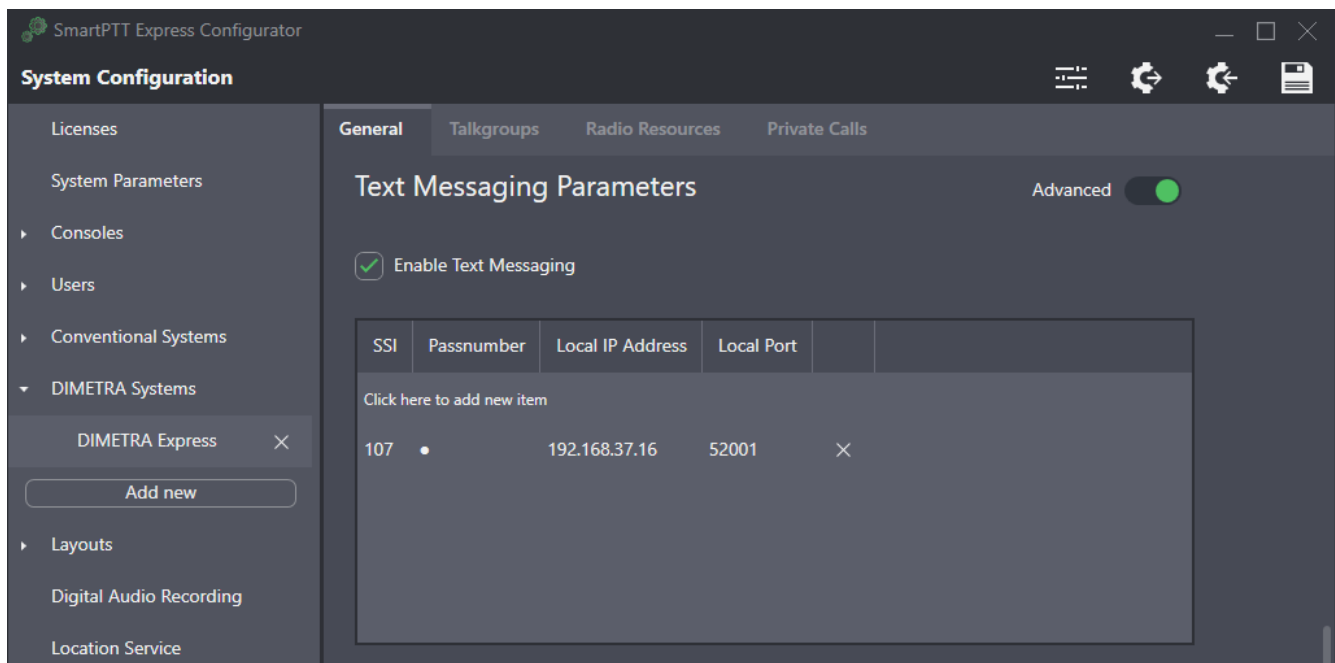
Figure 40: Short Data Service Connection

3. In the **Text Messaging Parameters** area, select the ☑ **Enable Text Messaging** check box. Short Data Transport Service connection settings appear in the area.

4. (Optional) In the top right corner of the area, turn on the **Advanced** toggle to display all available settings.

5. For each SmartPTT Express Client user that will use text messaging, perform the following actions:

a. In the table, click **Click here to add new item**.
A new entry is added to the table.

b. In the entry, in the **SSI** column, enter the Short Data Host ID of the DIMETRA Express user account.

c. In the **Pass Number** column, enter the Short Data Host passnumber.

d. In the **Local IP Address** column (visible if the **Advanced** toggle is turned on), enter the SmartPTT Express Server IP address.

e. In the **Local Port** column (visible if the **Advanced** toggle is turned on), enter the SmartPTT Express Server port used to send and receive text messages.

f. In the rightmost column, click **OK**.

6. On the Toolbar, click **Save Configuration** 🖫.

4.11.2 Configuring Text Messaging Parameters

Follow the procedure to configure text messaging parameters.

Prerequisites:

Ensure that the installed license includes **Text Messaging**. For details, see <u>Installing License</u> on page 51.

Procedure:

1. In SmartPTT Express Configurator, click the **Text Messaging Service** tab.
Text messaging service parameters appear on the right pane.
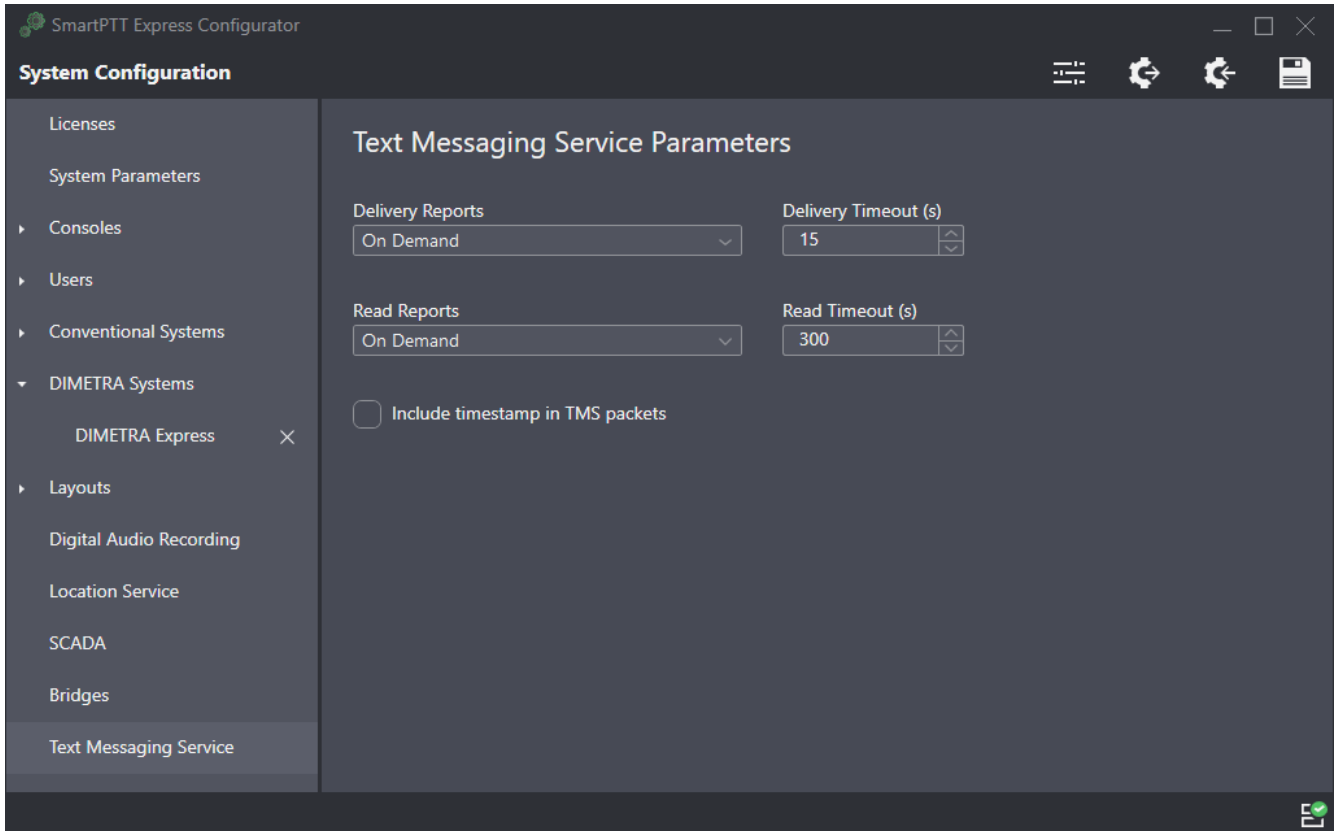
Figure 41: Short Data Service Parameters

2. Configure text message delivery/read reports:

If delivery/read reports are not desired,	from the **Delivery Reports** / **Read Reports** list, select *Never*.
If desired to always provide delivery/read reports,	perform the following actions: 1. From the **Delivery Reports** / **Read Reports** list, select *Always*. 2. In the **Delivery Timeout (s)** / **Read Timeout (s)** field, enter the time in seconds that SmartPTT Express Server will wait for a delivery/read report.
If desired for dispatchers to request delivery/read reports on a per-message basis,	perform the following actions: 1. From the **Delivery Reports** / **Read Reports** list, select *On Demand*. 2. In the **Delivery Timeout (s)** / **Read Timeout (s)** field, enter the time in seconds that SmartPTT

| | Express Server will wait for a delivery/read report. |

3. (Optional) If desired to send the time of message creation along with its text, select the **Include timestamp in TMS packets** check box.

NOTICE:
If the check box is selected, SmartPTT Express Server will automatically attach a timestamp to each text message, which will be displayed as send time on the receiving radio. Otherwise, delivery time will be displayed.

4. On the Toolbar, click **Save Configuration** 🖫.

4.12 Non-DIMETRA Radio System Connection

SmartPTT Express provides the ability to connect with any radio systems by means of RG-1000e radio gateways. Each gateway can be connected to up to two donor radios via 4-wire E&M interface. These act as conduits that pass voice transmissions to and from their respective radio systems. SmartPTT Express Server connects to RG-1000e via IP network.

SmartPTT Express **Bridging** feature provides the ability to configure bridges between donor radios connected to RG-1000e gateways so that voice transmissions on one of them are also routed to the others. Bridges are configured in SmartPTT Express Configurator. In SmartPTT Express Client, users can view and activate/deactivate them on the **Patch Monitor** panel. A bridge can include from 2 to 16 radio resources.

This functionality requires licensing in SmartPTT Express: the **Wireless Gateways** license limits the number of RG-1000e connections and the **Radio System Interconnect** license limits the number of bridges that can be configured.

4.12.1 Configuring RG-1000e Connection

Follow the procedure to configure the connection to an RG-1000e radio gateway.

Prerequisites:

- Ensure that the installed license includes **Wireless Gateways**.

- Configure the RG-1000e firmware. For details, see RG-1000e Radio Gateway Configuration on page 22.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **Conventional Systems** tab.

2. Perform one of the following actions:

To add an RG-1000e connection,	click **Add new**.
To edit an existing RG-1000e connection,	click a radio system name.

NOTICE:
It is sufficient to add one conventional system and add all radio resources connected to multiple RG-1000e gateways to it.

3. On the right pane, click the **General** tab.
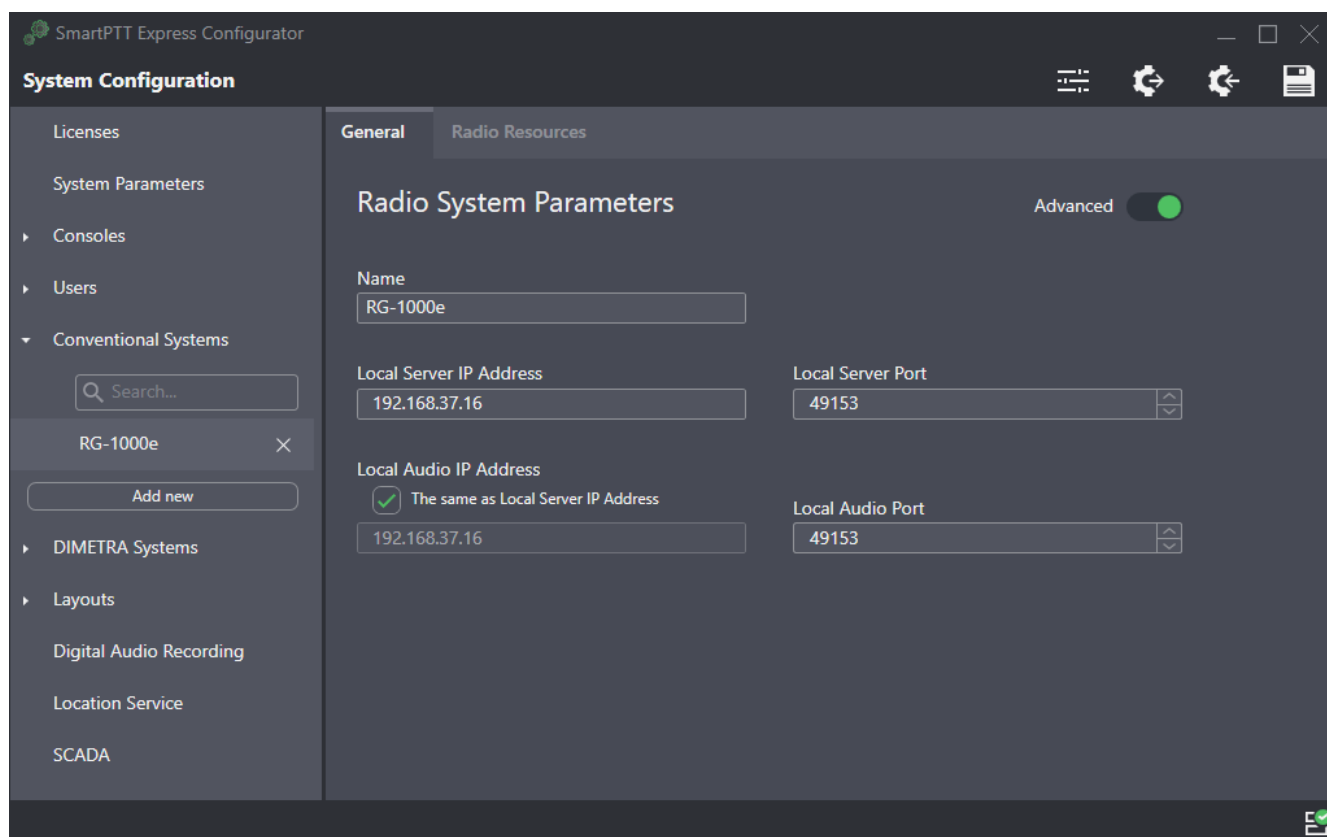
Figure 42: Conventional System Parameters

4. (Optional) In the top right corner of the right pane, turn on the **Advanced** toggle to display all available settings.

5. (Optional) In the **Name** field, type the radio system name.

6. (Optional) Configure SmartPTT Express Server interface to be used for RG-1000e connection (parameters visible only with the **Advanced** toggle turned on):

a. In the **Local Server IP Address** field, enter the IP address of the SmartPTT Express Server host configured in RG-1000e.

b. In the **Local Server Port** field, enter the port number of the SmartPTT Express Server host configured in RG-1000e.

7. Click the **Radio Resources** tab.

Donor radio table appears on the right pane.
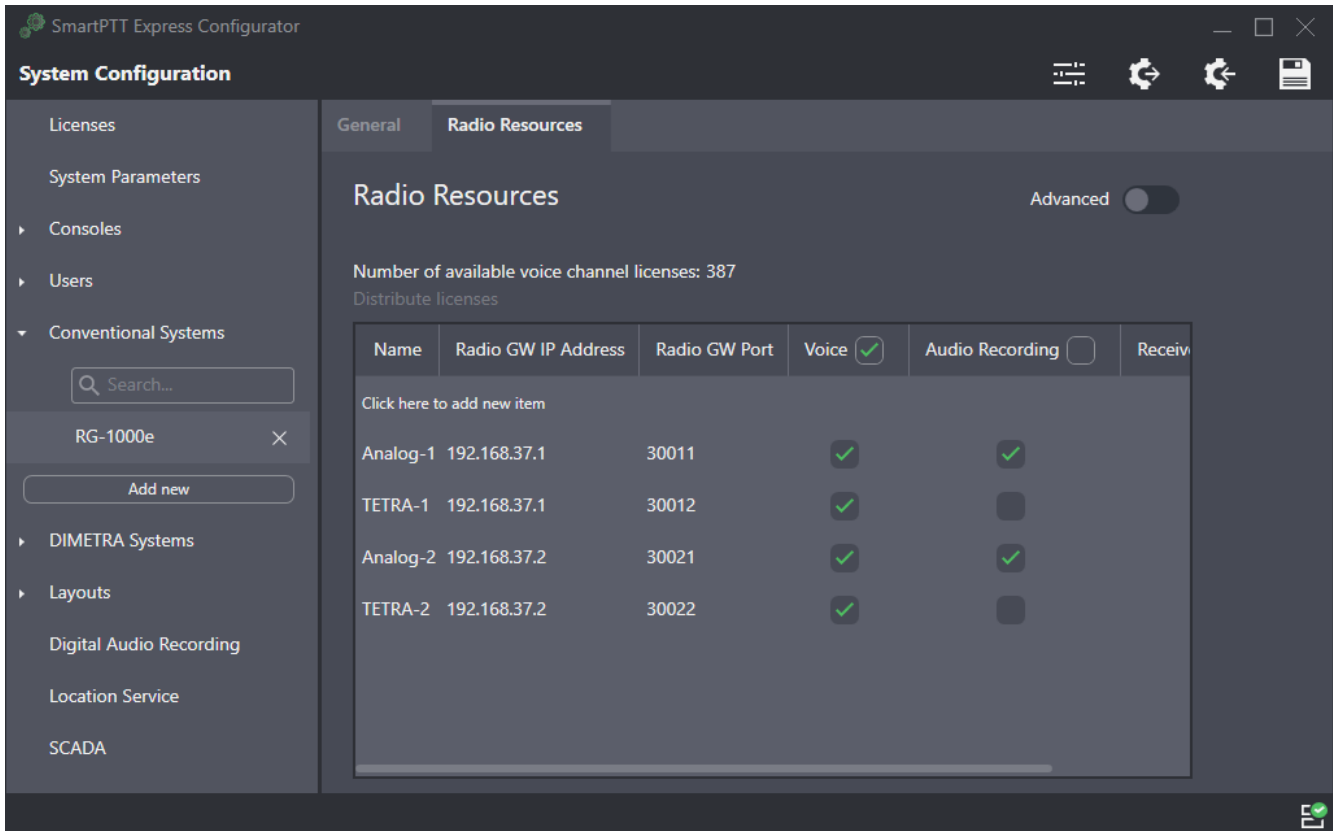
Figure 43: Donor Radio Table

8. Configure the donor radios connected to RG-1000e:

a. In the radio resource table, click **Click here to add new item** to add a new resource, or click twice an existing entry to modify it.

b. (Optional) In the top right corner of the area, turn on the **Advanced** toggle to display all available settings.

c. In the **Name** column, type the resource name.

d. In the **Radio GW IP Address** column, type the RG-1000e IP address.

e. In the **Radio GW Port** column, type the port number to be used for outbound traffic to the radio (the port number must match the corresponding value configured in RG-1000e).

f. In the **Voice** column (available only if the installed license includes **Dispatcher Voice Channel**), select the check box to enable voice dispatch for the resource.

g. In the **Audio Recording** column (available only if the installed license includes **Digital Audio Recording**), select the check box to enable digital audio recording for the resource.

h. (Optional) If necessary to have the donor radio route voice transmissions only from, but not to its radio system, select the check box in the **Receive Only** column.

i. In the **Users** column (available only if the installed license includes **Dispatcher Voice Channel**), click the cell.
   User list appears.

j. To grant or deny a user access to the talkgroup, click that user's login in the list.

k. In the rightmost column, click **OK** to save changes.

9. On the Toolbar, click **Save Configuration** 💾.

4.12.2 Configuring Bridges

Follow the procedure to configure a bridge between radio resources connected to RG-1000e gateways.

Prerequisites:

- Ensure that the installed license includes **Wireless Gateways** and **Radio System Interconnect**.

- Configure RG-1000e connection. For details, see <u>Configuring RG-1000e Connection</u> on page 81.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, click the **Bridges** tab.
   Bridges table appears on the right pane.

2. Perform one of the following actions:

To add a bridge,	click **Add here to add new item**.
To edit an existing bridge,	click twice the desired entry.
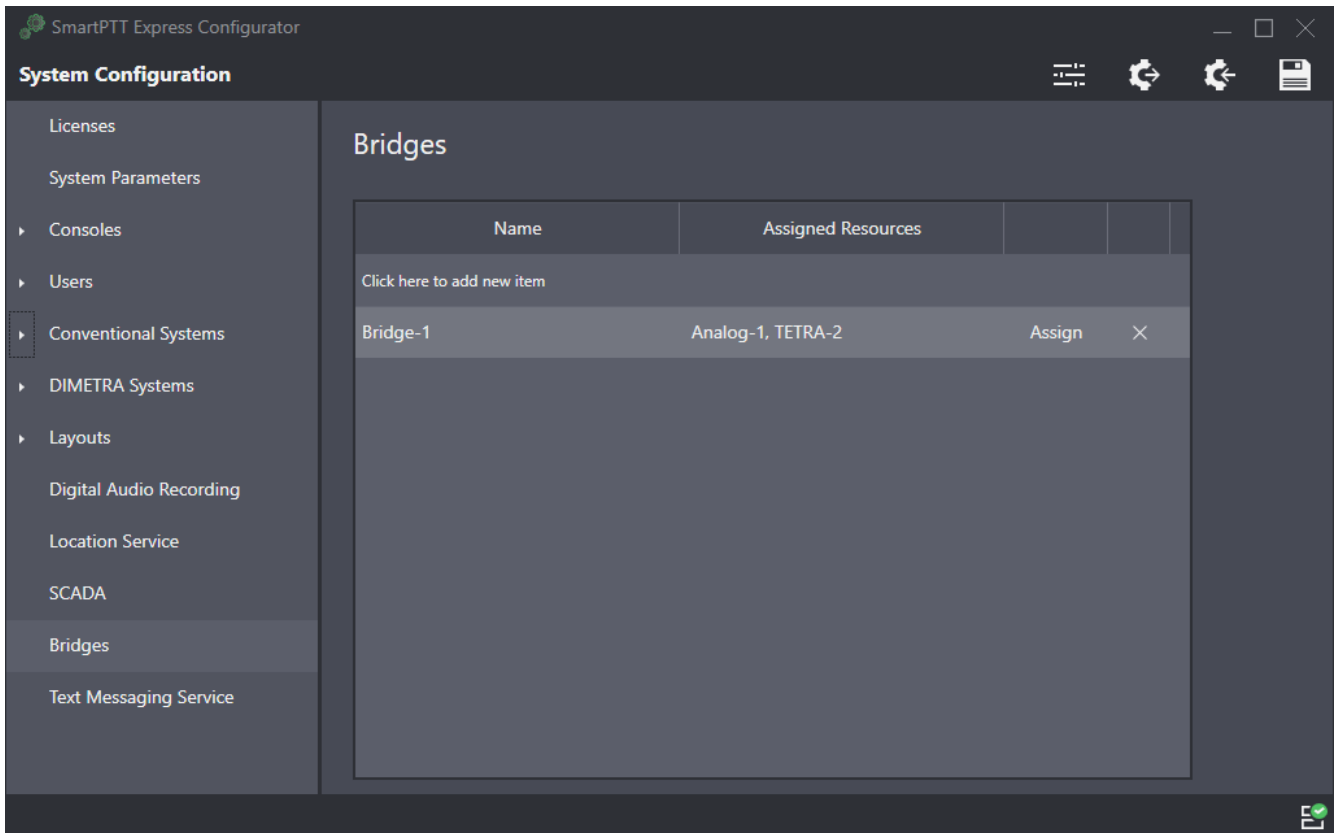
Figure 44: Bridges Table

3. In the **Name** column, enter the bridge name that will be displayed on the **Patch Monitor** panel in SmartPTT Express Client.

NOTICE:
The name must be unique and cannot be longer than 16 characters.

4. Assign radio resources to the bridge:

    a. In the **Assigned Resources** column, click **Assign**.
    The **Resources** window appears.
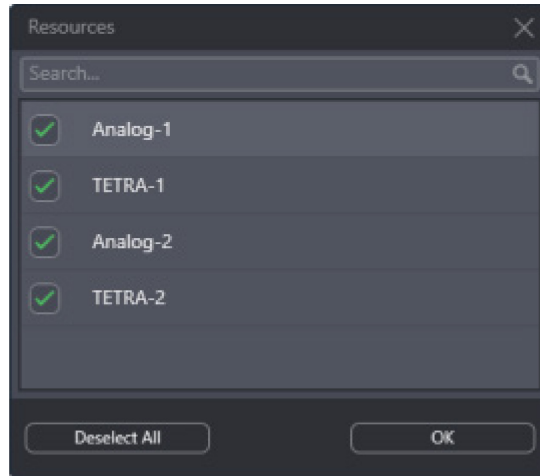
Figure 45: Assigning Resources to a Bridge

b. Select check boxes next to desired radio names to include them in the bridge.

c. At the bottom of the window, click **OK**.

5. In the rightmost column of the bridges table, click **OK**.

6. To delete a bridge, in the rightmost column of the corresponding entry, click Delete (×).

7. On the Toolbar, click **Save Configuration** 💾.

4.13 Integration with SmartPTT Express SCADA

SmartPTT Express can be integrated with SmartPTT Express SCADA — software for remote monitoring and control of industrial equipment over radio waves. After access has been configured in SmartPTT Express Configurator, the **SCADA** panel can be displayed in SmartPTT Express Client applications.

4.13.1 Configuring SmartPTT Express SCADA Connection

Follow the procedure to configure SmartPTT Express SCADA connection.

Prerequisites:

- Install and configure SmartPTT Express SCADA. For details, see *SmartPTT Express SCADA Installation and Start Guide*.

- Ensure that the installed license includes the **SCADA** feature.

- Obtain SmartPTT Express SCADA URL.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, click the **SCADA** tab.
   SCADA parameters appear.
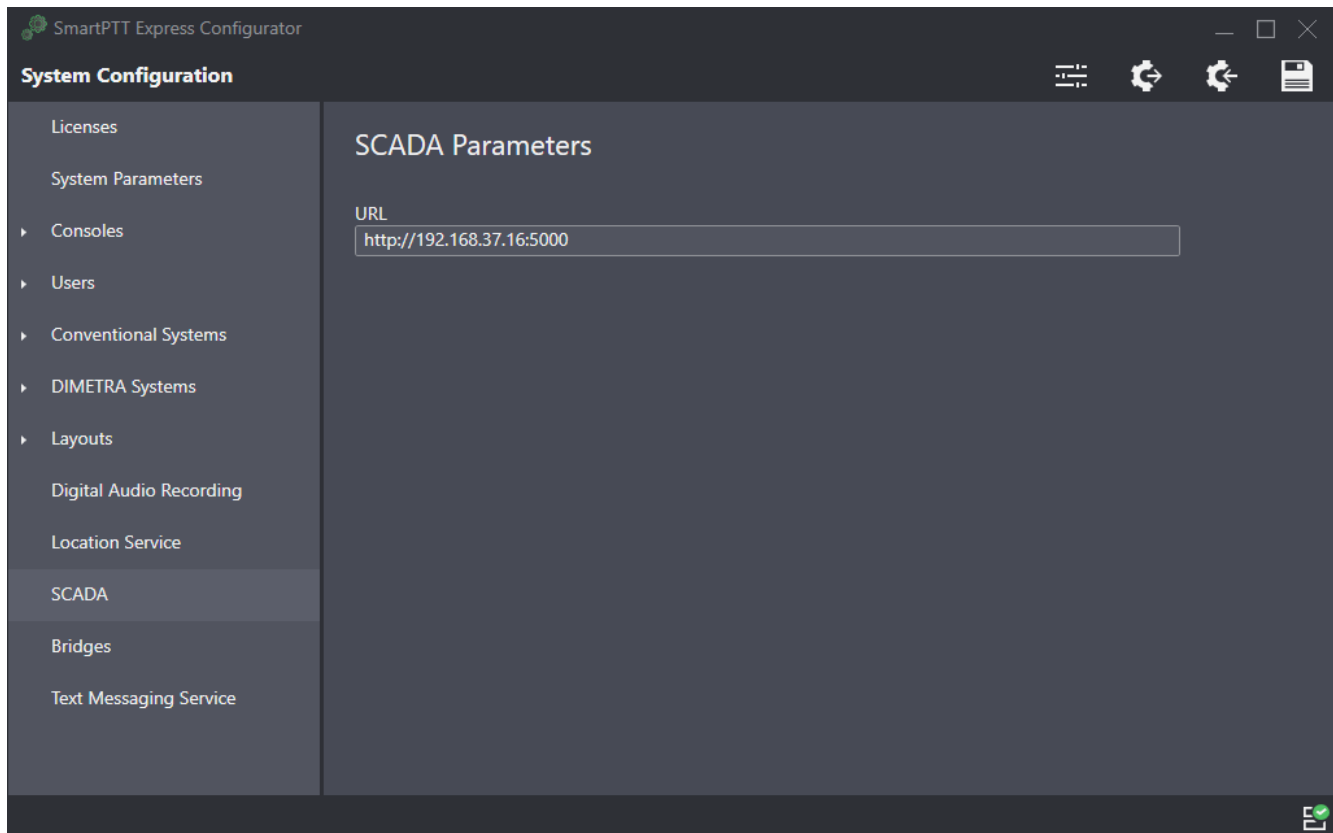
Figure 46: SCADA Parameters

2. On the right pane, in the **URL** field, type SmartPTT Express SCADA URL address.

3. On the Toolbar, click **Save configuration** 💾.

4.14 Exporting Configuration

Follow the procedure to export SmartPTT Express configuration to a file. You can use the file as a backup.

Prerequisites:

Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, on the Toolbar, click **Backup configuration** ⭮.
   A dialog box appears.

2. In the dialog box, specify the desired path to the file.

3. In the **File Name** field, enter the name of the exported file. Then click **Save**.

Postrequisites:

Ensure that the exported file is stored on another physical disk.

Chapter 5. Maintenance & Re-Installation

This chapter describes the actions involved in SmartPTT Express maintenance, reconfiguration and removal.

5.1 Editing Layout Availability Settings

Follow the procedure to edit the list of SmartPTT Express Client users that have access to a layout.

Prerequisites:

- Create and configure layouts using SmartPTT Express Client. For details, see "Layout Configuration" in *SmartPTT Express User Guide*.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **Layouts** tab, and then click the desired layout.
   Layout settings appear on the right pane.
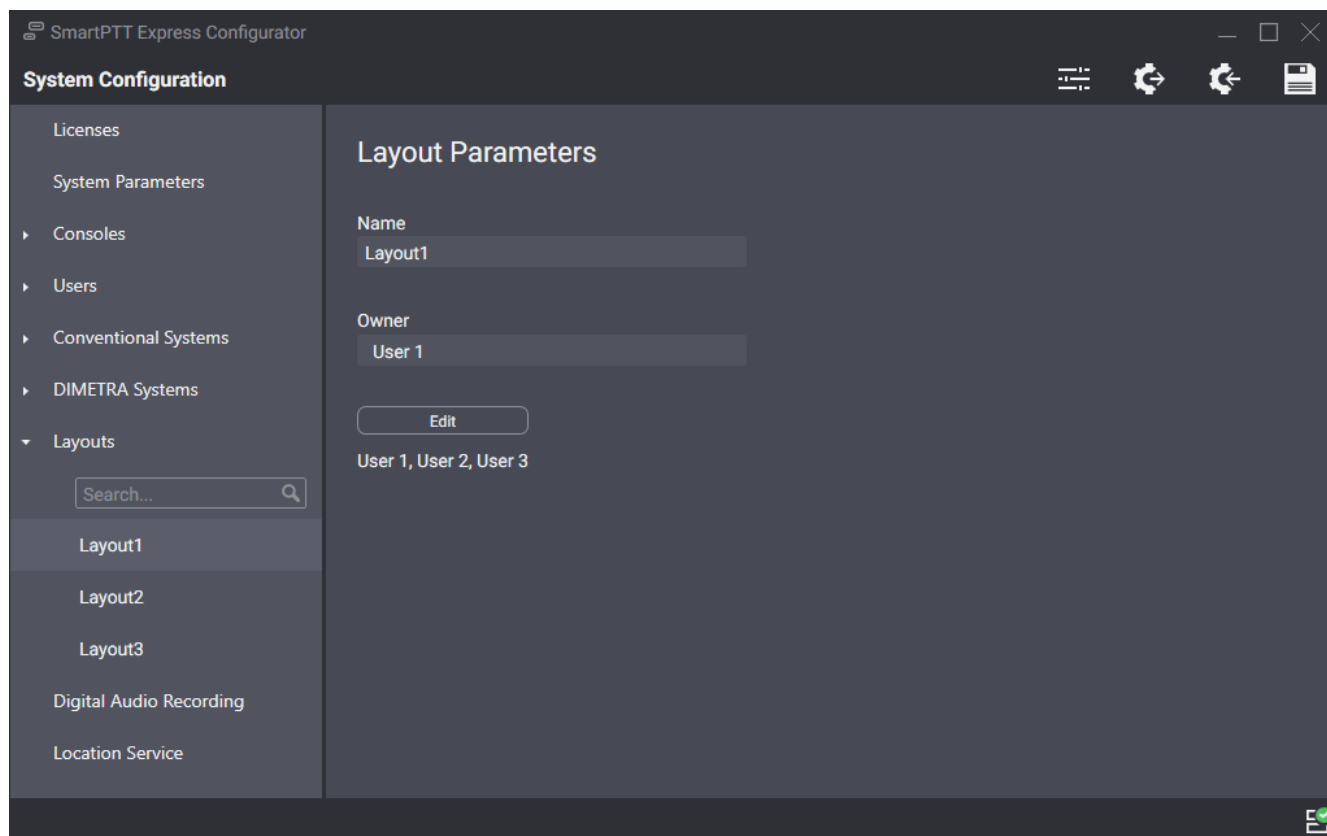
Figure 47: Layout Settings Modification

2. On the right pane, click **Edit**.
    The **Users** window appears (see Figure 47).

3. (Optional) In the search field enter a part of the desired user name.
    Only the users whose names contain the entered symbols will be shown in the list.

4. (Optional) Click **Select All** / **Deselect All** to select/clear check boxes to the left of all users in the list.

5. Perform the following actions:

To make the layout available to SmartPTT Express Client users,	select check boxes to the left of the corresponding names.
To make the layout unavailable to SmartPTT Express Client users,	clear check boxes to the left of the corresponding names.

6. In the **Users** window, click **OK** to finish editing.

7. (Optional) View additional information:

    a. In the **Name** field, view the selected layout name.

    b. In the **Owner** field, view the name of the user who created the layout.

NOTICE:
Layout owner will have access to the layout even if the corresponding check box is cleared in the **Dispatchers** window.

8. On the Toolbar, click **Save Configuration** 🖫.

5.2 Upgrading SmartPTT Express

Follow the procedure to upgrade previously installed SmartPTT Express to a newer version.

IMPORTANT:
If your software upgrade support has expired, install a new license before upgrading. Otherwise, SmartPTT Express will become inoperable. For details, see Installing License on page 51.

Prerequisites:

*   Make the installation file available to start from the SmartPTT Express host.

*   (Optional) Back up your current configuration. For details, see Exporting Configuration on page 87.

Procedure:

1. Start the installation file.

   The **SmartPTT Express Setup** window appears.
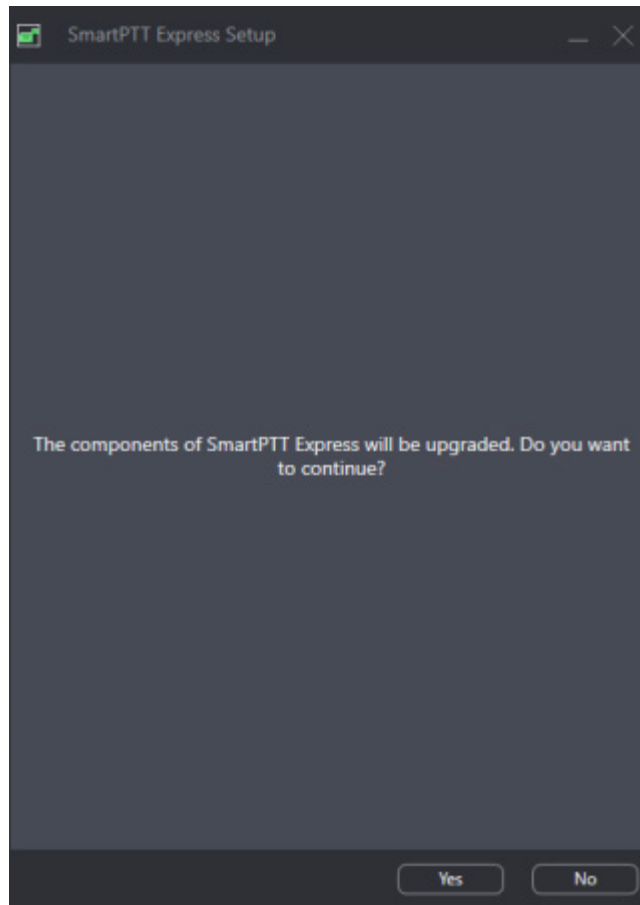
Figure 48: Installed Software Upgrade

2. In the window that appears, click **Yes**.

3. When upgrade is complete, in the window, click **Close**.

Postrequisites:

- Repeat the procedure on each SmartPTT Express host.

- (Optional) Import previously saved configuration. For details, see <u>Importing Configuration</u> on page 91.

5.3 Importing Configuration

Follow the procedure to import/restore SmartPTT Express configuration.

Prerequisites:

- Ensure that you have a valid configuration (.bkp) file.

- Log on to SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, on the Toolbar, click **Restore configuration** ⟲.
   A dialog box appears.

2. In the dialog box, specify the desired configuration file. Then click **Open**.

3. On the Toolbar, click **Save Configuration** 🖫.

Postrequisites:

To apply changes immediately, restart SmartPTT Express Server. For details, see SmartPTT Express Server Service Control on page 49.

5.4 Re-Configuring SmartPTT Express Server

Follow the procedure to edit authorization type and SmartPTT Express Configurator connection settings.

Prerequisites:

- Make the installation file available to start from the SmartPTT Express Server host.

- Determine the new authorization type, SmartPTT Express Server IP address and TCP port.

Procedure:

1. Start the installation file.
   The **SmartPTT Express Setup** window appears.

2. In the window that appears, click **Configure**.
   The **Server Configuration** window appears (see Figure 18 on page 45).

3. In the window that appears, in the **Authorization Type** area, perform one of the following actions:

To set domain authorization,	perform the following actions:
	1. Click ◉ **Domain**.
	2. From the **Domain** list, select the desired domain name.

To set local authorization,	click ◉ **Local Groups**.

4. (Optional) In the **System Name** field, enter a name for the SmartPTT Express system. Then click **Next**.

   SmartPTT Express Server connection parameters appear (see).

5. In the window that appears, perform the following actions:

   a. In the **Server IP Address** field, enter the SmartPTT Express Server IP address.

   b. If the **Port** field appears, enter a free TCP port number in it.

   c. Click **Next**.

      Configuration summary appears.

6. In the window that appears, view changes. Then click **Configure**.

   Re-configuration starts.

7. When the re-configuration is complete, in the window, click **Close**.

5.5 Backing up and Restoring SmartPTT Express Database

Follow the procedure to back up or restore SmartPTT Express database (audio records and location data).

Procedure:

1. In Windows Start menu, locate the **SmartPTT Express PostgreSQL** folder.
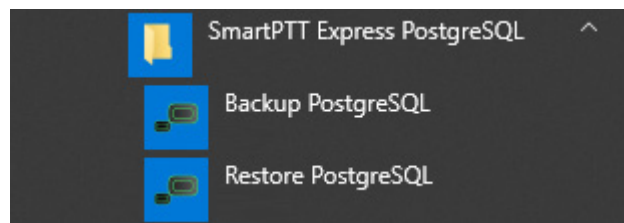
Figure 49: SmartPTT Express Database Control in the Start menu

2. Perform one of the following actions:

To back up the database,	perform the following actions:
	1. Click **Backup PostgreSQL**.
	2. In the window that appears, specify backup file name and location, and then click **Backup**.

To restore database from backup,	perform the following actions:
	1. Click **Restore PostgreSQL**.
	2. In the window that appears, specify the desired backup file, and then click **Restore**.

5.6 Uninstalling SmartPTT Express

Follow the procedure to uninstall SmartPTT Express from the computer. Supplemental software (frameworks and redistributable packages) remains installed because it may be used by other software.

Prerequisites:

Create a configuration backup. For details, see

Procedure:

1. On the computer with SmartPTT Express, start the installation file.
   The **SmartPTT Express Setup** window appears.
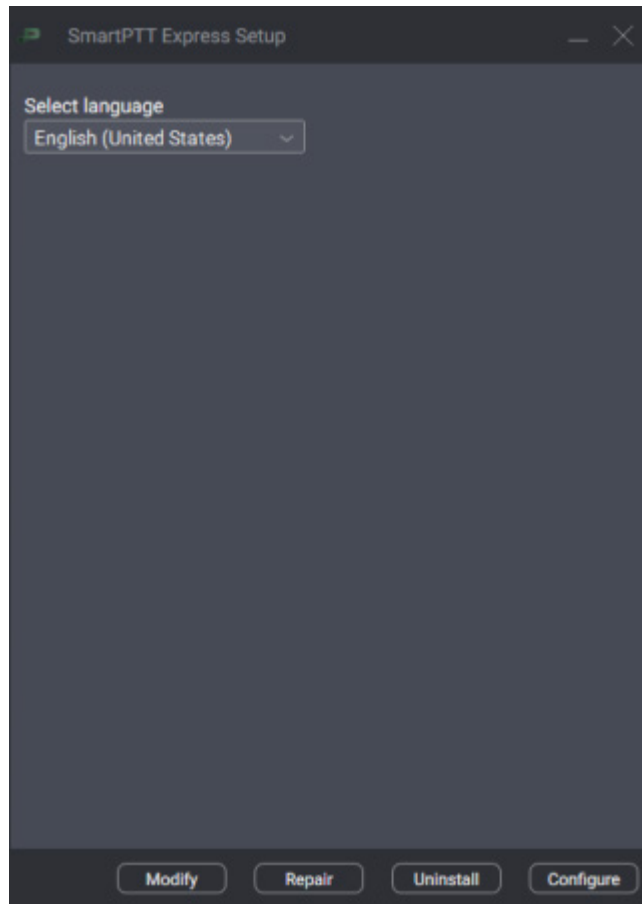
Figure 50: Installed Software Modification

2. (Optional) From the drop-down list, select the language that will be used during uninstallation.

3. Click **Uninstall**.
Uninstallation options appear.
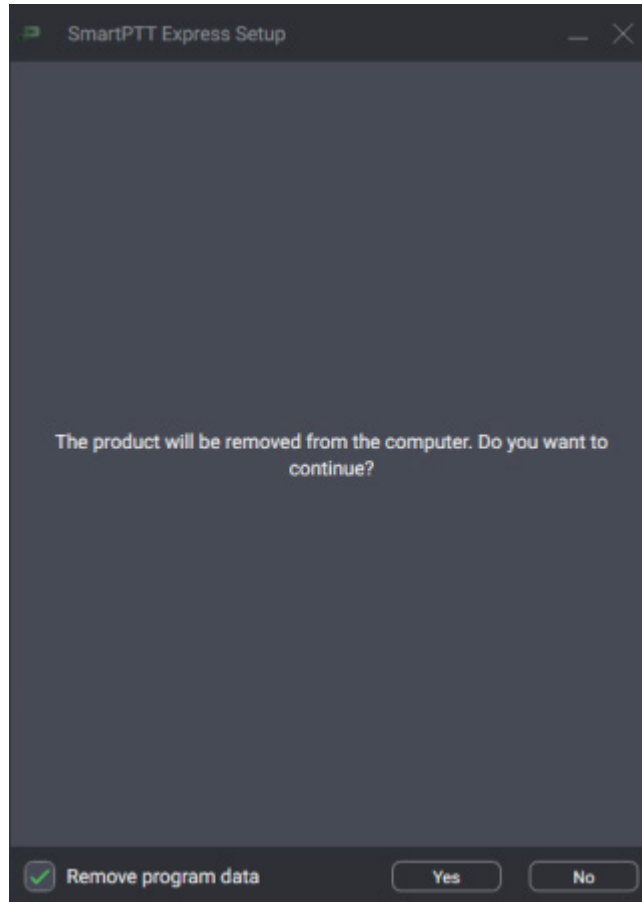
Figure 51: SmartPTT Express uninstallation confirmation

4. Perform one of the following actions:

To delete program data that includes console settings, layouts, tones, audio archive, and all other user settings and data,	select ☑ **Remove program data**.
To keep program data on the computer,	clear ☐ **Remove program data**.

5. Click **Yes**.

6. When uninstallation completes, close the window.

Chapter 6. Troubleshooting

This chapter describes common problems SmartPTT Express users may experience and ways to resolve them.

6.1 DIMETRA Express Connection Issues on Settings Update

SmartPTT Express Server may become unable to connect to DIMETRA Express if you re-configure DIMETRA Express with SmartPTT Express Server configured and operable. In particular, this occurs when you use both dispatch and voice logging features.

To resolve the issue, restart SmartPTT Express Server and synchronize it with DIMETRA Express again. To avoid such issues in the future, complete DIMETRA Express configuration before configuring SmartPTT Express.

6.2 DIMETRA Express Settings Update Issues

This problem may occur when you apply changes in DIMETRA Express and then immediately synchronize SmartPTT Express Server with it. In such case, updates may not happen.

To resolve the problem, wait until changes are applied in DIMETRA Express. The update process may take 40 seconds or more. Try to synchronize with DIMETRA Express after this time. If your changes include new IP addresses and ports, update and apply the corresponding SmartPTT Express Server settings.

If synchronization fails after 5 minutes, contact SmartPTT Express technical support.

6.3 Voice Calling Issues

After updating DIMETRA Express settings and re-synchronizing SmartPTT Express Server with it, SmartPTT Express Client may become unable to receive and/or initiate voice calls.

To resolve the problem, check if the SmartPTT Express Server IP address is added to the console list in DIMETRA Express. This is required to receive and initiate calls. After you add it, apply changes in DIMETRA Express, re-synchronize it with SmartPTT Express Server, and save SmartPTT Express Server changes.

6.4 Voice Calls Unavailability with Windows Firewall Turned Off

If the Windows Firewall is turned off on the computer and no other firewall software is used, voice call reception and initiation may be unavailable for dispatchers. This occurs because network ports used by SmartPTT Express are not added to the firewall ignore list (white list).

To resolve the problem, unblock network traffic for ports used by SmartPTT Express even if you are not using Windows firewall. For details, see Antivirus & Firewall Configuration on page 30.

6.5 Voice Logging Settings Update

If voice logging is configured first in SmartPTT Express Configurator and then in DIMETRA Express, audio recording may not begin.

To resolve this problem, restart SmartPTT Express Server. For details, see SmartPTT Express Server Service Control on page 49. To avoid such issues in the future, complete DIMETRA Express configuration before configuring SmartPTT Express.

6.6 Absence of Location Information

If radios in DIMETRA Express system have not been configured correctly, SmartPTT Express will be unable to receive and process their coordinates. Correct radio configuration includes the following:

- Use the Short Data Transport Service (SDTS), not the Packet Data Service.

- Ensure that the correct Short Data Host ID is used.

- Use the LIP protocol (LRRP is not supported in SmartPTT Express).

6.7 No Incoming and Outgoing Voice in SmartPTT Express Client

In Windows 10 1809 Pro Education N with German localization, incoming and outgoing voice to and from SmartPTT Express Client is not heard.

To resolve this problem, install Media Feature Pack for Windows 10 N:

https://www.microsoft.com/en-us/software-download/mediafeaturepack

Appendix A. SmartPTT Express Configurator User Interface

The appendix describes the user interface elements available in the SmartPTT Express Configurator application.

A.1 SmartPTT Express Login Window

The window provides settings to connect SmartPTT Express Configurator to the SmartPTT Express Server and authenticate administrators.
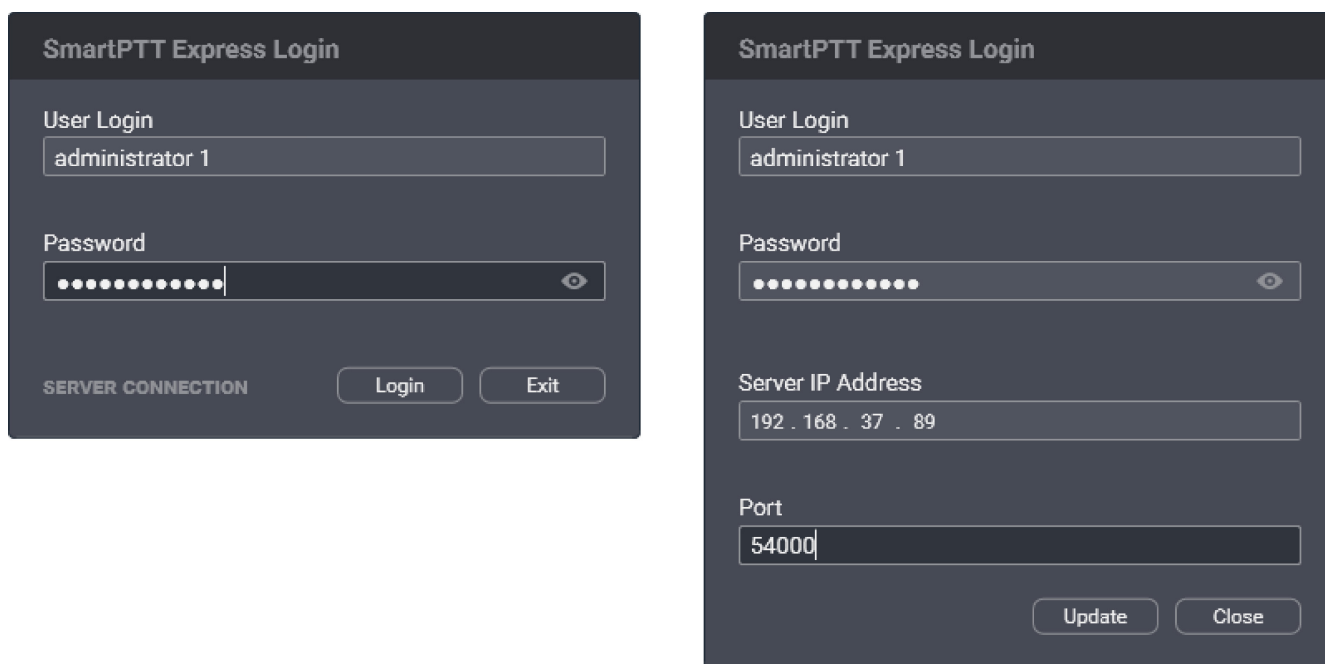
Figure 52: Authorization Window: Collapsed (left) and Expanded (right)

In the window, the following fields are available:

User Login

Login of a SmartPTT Express user that has administrator permissions. For details, see System Roles & Authorization on page 24.

Password

Password of the SmartPTT Express user. For details, see System Roles & Authorization on page 24.

View Password ◉

Shows/hides password characters instead of bullets. Appears in the **Password** field when at least one character is typed in the field.

Server Connection

Shows the IPv4 address and port number used by SmartPTT Express Configurator to connect to SmartPTT Express Server. Also, replaces the **Login** and **Exit** buttons with **Update** and **Close**.

The following server connection settings are available:

Server IP Address

IPv4 address of the SmartPTT Express Server host in dot-decimal notation.

Port

The TCP port number configured in SmartPTT Express Server to accept SmartPTT Express Configurator connection requests. The default port is *54000*. This port is set during installation and can be changed by modifying SmartPTT Express Server installation.

At the bottom of the field, the following buttons appear:

Login

Initiates the user authentication process. The button is active only if SmartPTT Express Server connection is established successfully (the **Connected** ⌨ icon appears in the Status Bar).

Exit

Closes the authorization window and the SmartPTT Express Configurator application.

Update

This button is available only when **Server Connection** settings are displayed. It validates the parameters of connection to SmartPTT Express Server and starts connecting SmartPTT Express Configurator to the SmartPTT Express Server.

Close

This button is available only when **Server Connection** settings are displayed. It collapses the **Server Connection** settings. The **Update** and **Close** buttons are replaced with **Login** and **Exit**.

A.2 Toolbar

The top part of the main SmartPTT Express Configurator window (Toolbar) provides general-purpose controls over SmartPTT Express configuration.

Figure 53: SmartPTT Express Configurator Toolbar

On the Toolbar, the following buttons are available:

Configurator Settings 壬

Opens the **Configurator Settings** window. For details, see Configurator Settings Window on page 101.

Backup Configuration ⟳

Provides the ability to back up the current SmartPTT Express configuration by exporting it to an encrypted file with .bkp extension.

Restore Configuration ⟲

Provides the ability to restore SmartPTT Express configuration from a .bkp file. After doing so, all changes are saved and applied immediately.

Save Configuration 🖫

Initiates validation of the configuration changes made by the user in SmartPTT Express Configurator. If the changes are valid and do not involve IP address changes, they are applied. IP address changes are applied only after SmartPTT Express Server restart. For details, see SmartPTT Express Server Service Control on page 49. If the changes are invalid, the **Invalid Configuration Data** window appears. For details, see Invalid Configuration Data Window on page 102.

A.2.1 Configurator Settings Window

This window provides the ability to change the SmartPTT Express Configurator interface language.
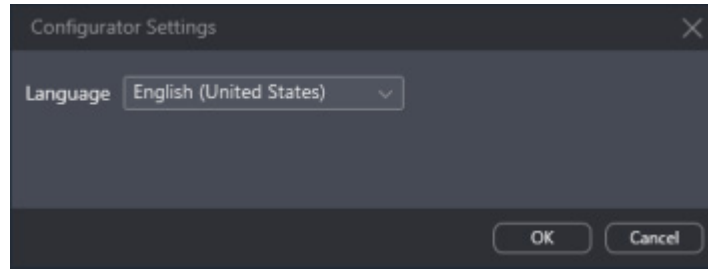
Figure 54: Configurator Settings Window

In the window, the **Language** list is available. It provides the list of languages for which localization is available.

A.2.2 Invalid Configuration Data Window

This window displays invalidly configured parameters of SmartPTT Express.
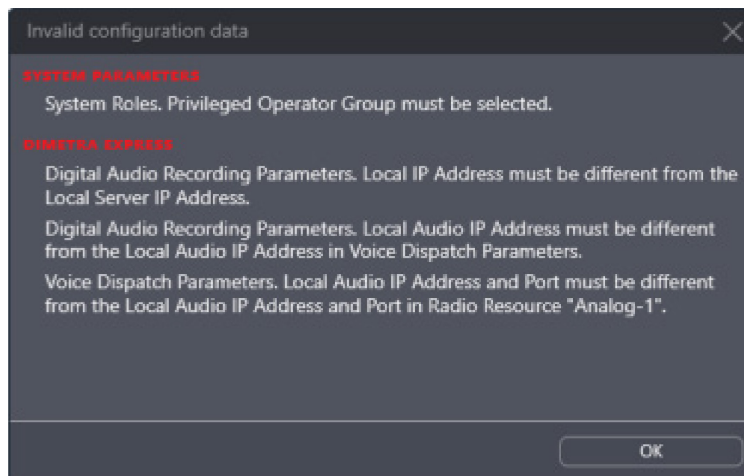
Figure 55: Invalid Configuration Data Window (Example)

The window does not block access to SmartPTT Express Configurator tabs and settings. If the user clicks a parameter name in the window, the corresponding tab opens.

Clicking the **OK** button at the bottom of the window closes it.

A.3 Licenses

The **Licenses** tab provides information required for SmartPTT Express licensing and license monitoring.
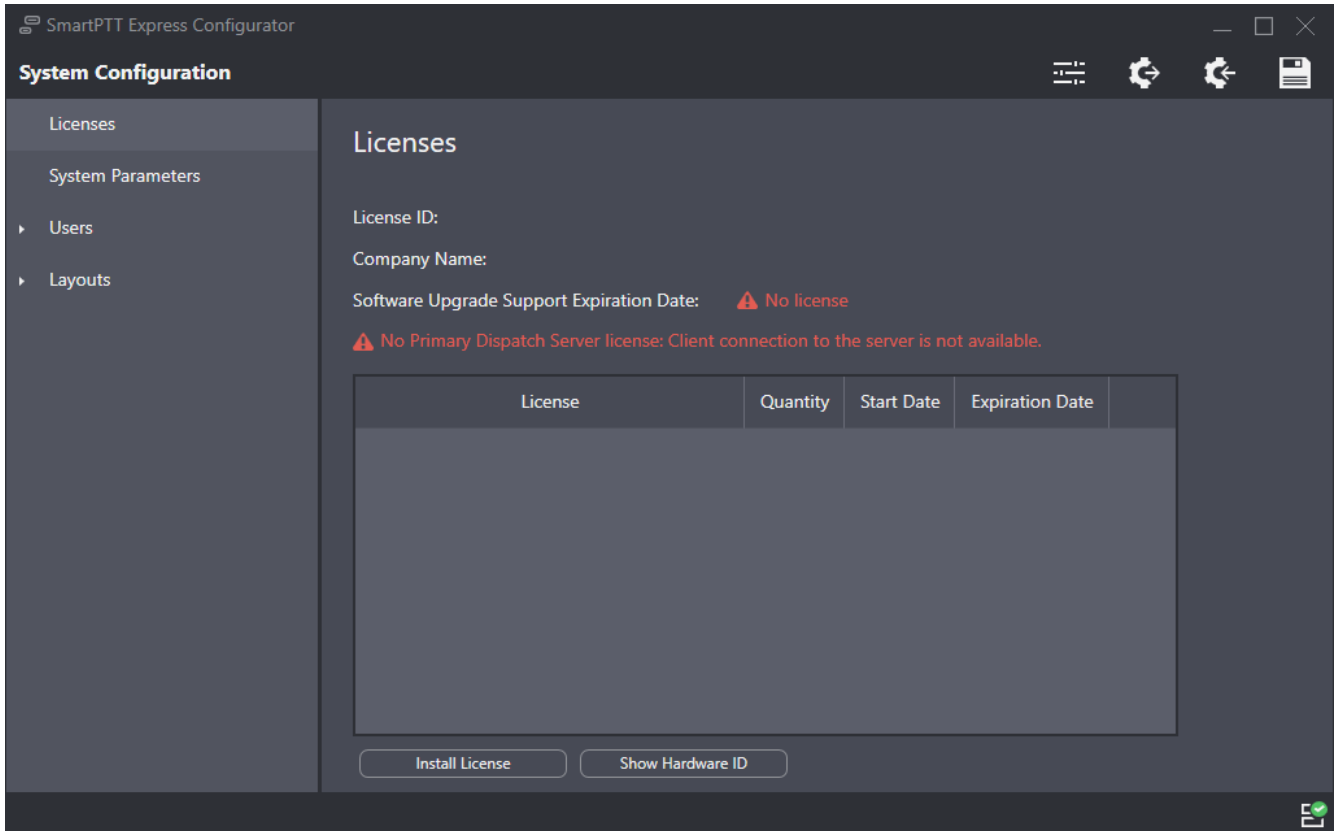
Figure 56: Licenses Tab

The right pane provides the following information:

- General license information

- Purchased licenses

- Licensing controls

The general license information consists of the following entries:

License ID
A unique license code that identifies the Customer.

Company Name
The name of the licensee.

Software Upgrade Support Expiration Date
Expiration date of free software update. The user is unable to start a SmartPTT Express version released after this date.

IMPORTANT:
SmartPTT Express does not block installation of software upgrades that will be incompatible with the license. The installed software will be inoperable and unavailable to configure until a proper license is installed.

The table of purchased licenses consists of the following columns:

License

Shows the names of license items. For license explanations, please contact Elcomplus LLC representative in your region.

Quantity

The number of items enabled by the license.

Start Date

The date when the license becomes active and the corresponding service is provided.

Expiration Date

The date after which the corresponding service stops being provided in SmartPTT Express.

At the bottom of the tab, the following buttons are available:

Install License

Opens the dialog window where the user selects the license file. The file extension is .spttlx.

Show Hardware ID

Opens the **Hardware ID** window. For details, see Hardware ID Window on page 104.

A.3.1 Hardware ID Window

In the window, the Hardware ID value appears.
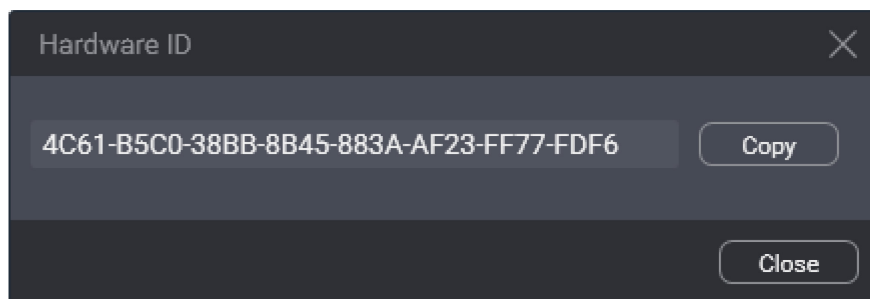
Figure 57: Hardware ID Window

In the window, the following buttons are available:

Hardware ID Field

Value of the Hardware ID that is required to order a compatible license.

NOTICE:

Do not confuse Hardware ID with License ID.

Copy

Copies the Hardware ID value (with delimiters) to the clipboard. The copied ID needs to be sent to Elcomplus LLC to order a license.

At the bottom of the window, the **Close** button is available. It closes the window.

A.4 System Parameters

The tab provides general SmartPTT Express settings grouped in the following areas:

- System Parameters. For details, see <u>System Parameters</u> on page 105.

- System Roles. For details, see <u>System Roles</u> on page 106.

- Server Parameters. For details, see <u>Server Parameters</u> on page 107.

A.4.1 System Parameters

The area provides miscellaneous SmartPTT Express settings.
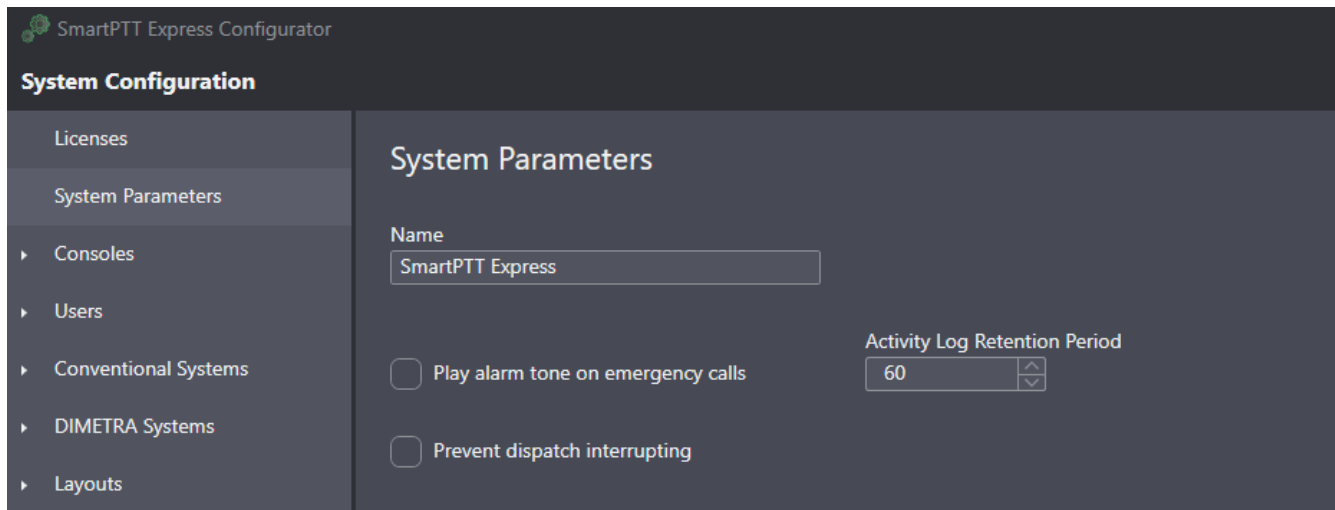
Figure 58: General System Parameters

In the area, the following settings are available:

Name

The name of the SmartPTT Express system that is used for internal purposes only.

Play alarm tone on emergency calls

Blocks/unblocks the alarm tone playback on dispatch consoles when an emergency call is received from a radio user. If cleared, the tone will play on emergency alarms only.

Activity Log Retention Period

The time period after which event information is deleted from the Activity Log. The range of possible values is from 10 to 1440 minutes (24 hours). SmartPTT Express checks the retention period every 10 minutes.

Prevent dispatch interrupting

If selected, dispatchers must wait for the incoming voice transmission to end before starting their own; if cleared, they can start transmitting at any time, interrupting any incoming voice transmissions of radio users.

A.4.2 System Roles

The area provides SmartPTT Express authentication and authorization settings. In the top right corner of the area, authorization mode is displayed.
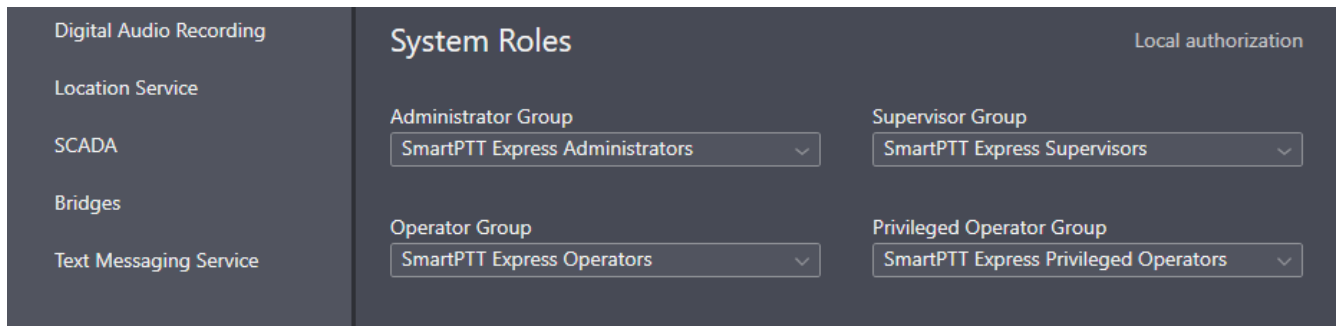
Figure 59: User Roles in System Parameters

In the area, the following settings are available:

Administrator Group

The user group whose members are granted administrator permissions in SmartPTT Express. Only one group can be selected.

NOTICE:
Changing the group of administrators does not take effect until the user logs off from SmartPTT Express Configurator.

Supervisor Group

The user group whose members are granted supervisor permissions in SmartPTT Express.

Operator Group

The user group whose members are granted regular operator permissions in SmartPTT Express.

Privileged Operator Group

The user group whose members are granted privileged operator permissions in SmartPTT Express.

For details on user roles, see System Roles & Authorization on page 24.

A.4.3 Server Parameters

The area provides the ability to configure SmartPTT Express Server network interfaces for dispatch console connections.

Figure 60: SmartPTT Express Server Interface Settings

In the area, the following settings are available:

Advanced

If turned on, all parameters in the area are shown and available for editing. Otherwise, only the **IP Address** and **Port** fields are displayed.

IP Address

The IPv4 address of the SmartPTT Express Server host in dot-decimal notation. The address is a part of SmartPTT Express Server control interface that is used to manage SmartPTT Express Client applications. If 127.0.0.1 is entered, only the locally installed SmartPTT Express Client will be able to connect to SmartPTT Express Server.

Port

A free TCP port number of the SmartPTT Express Server host. The port is a part of the SmartPTT Express Server control interface that is used to manage SmartPTT Express Clients. Default port number is *53000*.

Audio IP Address

The IPv4 address of the SmartPTT Express Server host in dot-decimal notation. The address is a part of the SmartPTT Express Server voice interface that is used to exchange voice traffic between SmartPTT Express Server and SmartPTT Express Client applications. If 127.0.0.1 is entered, only the locally installed SmartPTT Express Client will be able to connect to SmartPTT Express Server.

The same as IP address

If selected, the value in the **IP Address** field is copied to the **Audio IP Address** field, which cannot be edited.

First Audio Port

The lowest port number in the range of UDP ports used to exchange voice traffic with SmartPTT Express Client applications.

Last Audio Port

The highest port number in the range of UDP ports used to exchange voice traffic with SmartPTT Express Client applications.

A.5 Consoles

This expandable tab provides the list of configured dispatch consoles. At the bottom of the expanded control, the **Add new** button is available that adds a new entry to the list. When the user clicks a list entry, the corresponding settings appear on the right pane. To the right of each name is the **Delete** × button. Clicking it deletes the console.
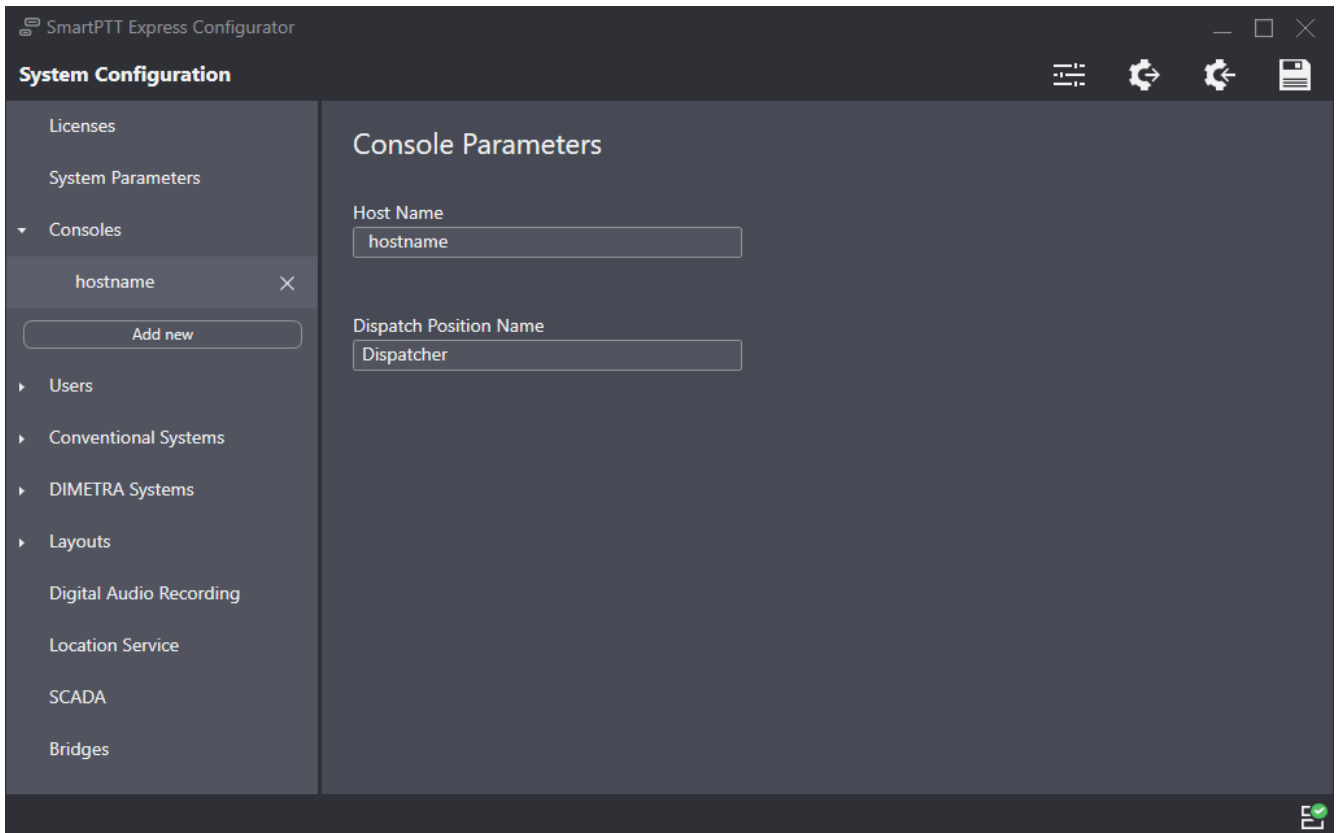
Figure 61: List of Consoles and Console Settings

On the right pane, the following settings are available:

Host Name
Computer (system) name of the dispatch console host.

Dispatch Position Name
Alias of the dispatch console that is used internally in SmartPTT Express.

A.6 Users

This expandable tab provides the list of SmartPTT Express Client users. At the bottom of the expanded control, the **Add new** button is available that adds a new entry to the list. When the user clicks a list entry, the corresponding settings appear on the right pane. To the right of each name is the **Delete** × button. Clicking it deletes the user.
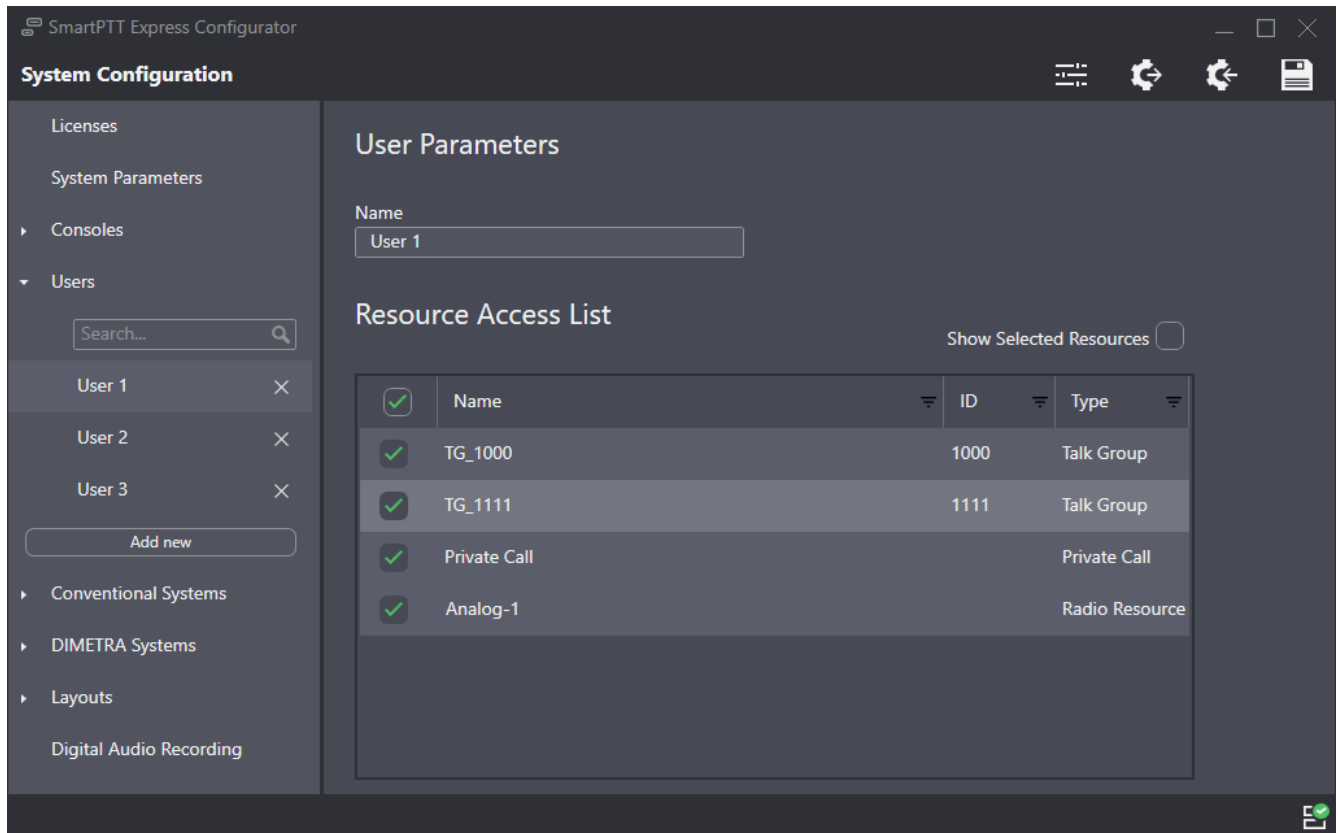
Figure 62: User Settings

On the right pane, the following settings are available:

Name

    User name that must be exactly the same as the corresponding Windows user login.

Show Selected Resources

    If this check box is selected, the **Resource Access List** displays only those resources to which the user has been granted access.

The **Resource Access List** displays the resources available in the system in table form. The check box to the left of a resource name grants/denies the user access to the resource. The check box in the header row grants/denies the user access to all resources currently displayed.

The table consists of the following columns:

Name

    The resource name.

ID

    DIMETRA talkgroup ID. For private calls and donor radios, the field is empty.

Type

Resource type. The following types are available:

- *Talkgroup* – DIMETRA talkgroup.

- *Private Call* – DIMETRA private call resource.

- *Radio Resource* – donor radio connected via RG-1000e or CCGW radio gateway.

NOTICE:

Users with administrator permissions have access to all resources regardless of settings on this tab.

A.7 Conventional Systems

This expandable tab provides the ability to add and configure conventional system connections. These do not have to correspond to actual RG-1000e devices. It is possible to add one conventional system and add all radio resources connected to multiple RG-1000e gateways to it.

A.7.1 General Tab

The tab provides local interface settings for RG-1000e connection.
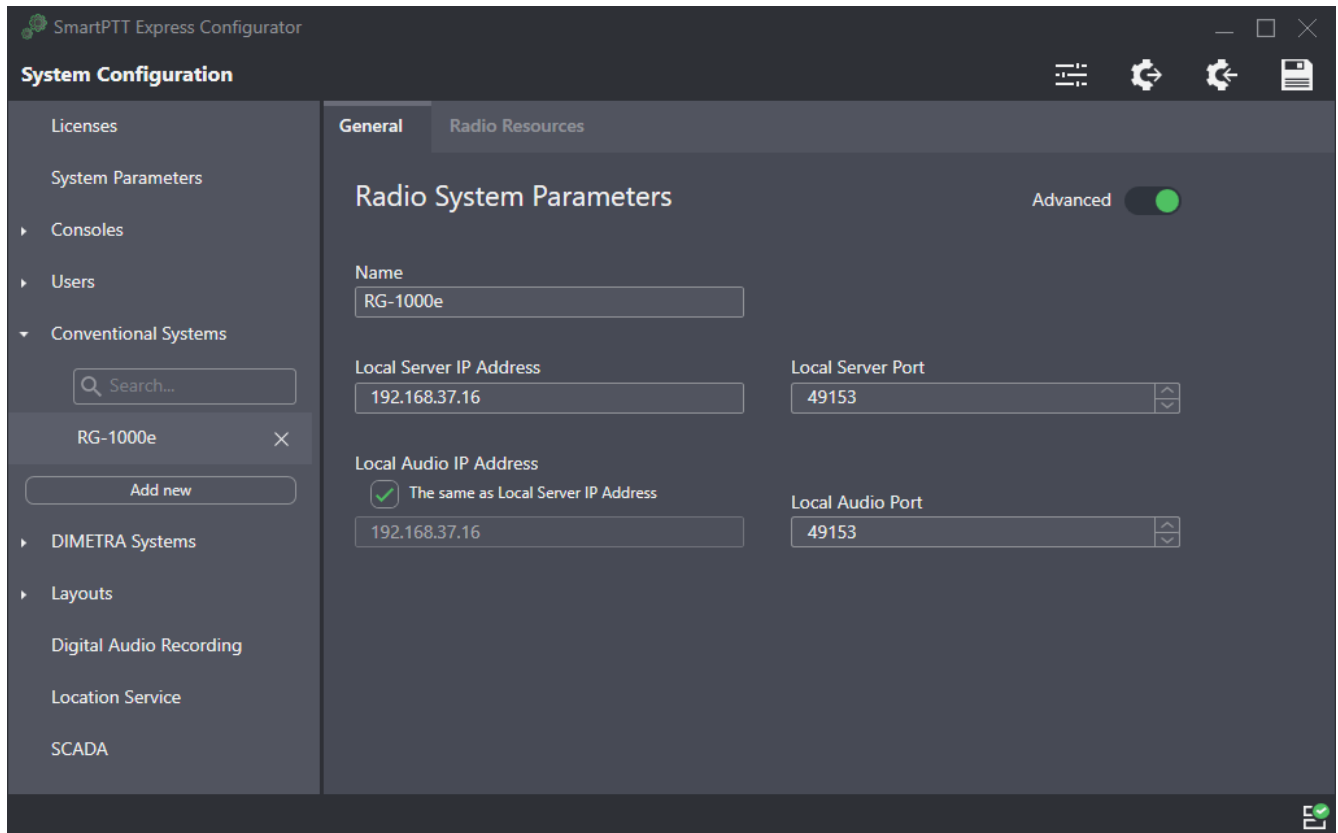
Figure 63: General Tab

On the right pane, the following settings are available:

Advanced

If turned on, all parameters in the area are shown and available for editing. Otherwise, only the **Name** field is displayed.

Name

Radio system name which is used for internal purposes only.

Local Server IP Address

The SmartPTT Express Server host IP address used as part of the control interface between it and RG-1000e.

Local Server Port

The SmartPTT Express Server host port used as part of the control interface between it and RG-1000e.

Local Audio IP Address

SmartPTT Express Server IP address used for voice traffic between SmartPTT Express Server and RG-1000e.

The same as Local Server IP Address

If selected, the value in the **Local Server IP Address** field is copied to the **Local Audio IP Address** field, which cannot be edited.

Local Audio Port

SmartPTT Express Server UDP port used for voice traffic between SmartPTT Express Server and RG-1000e.

A.7.2 Radio Resources Tab

The tab provides the settings of donor radios connected to RG-1000e gateways.
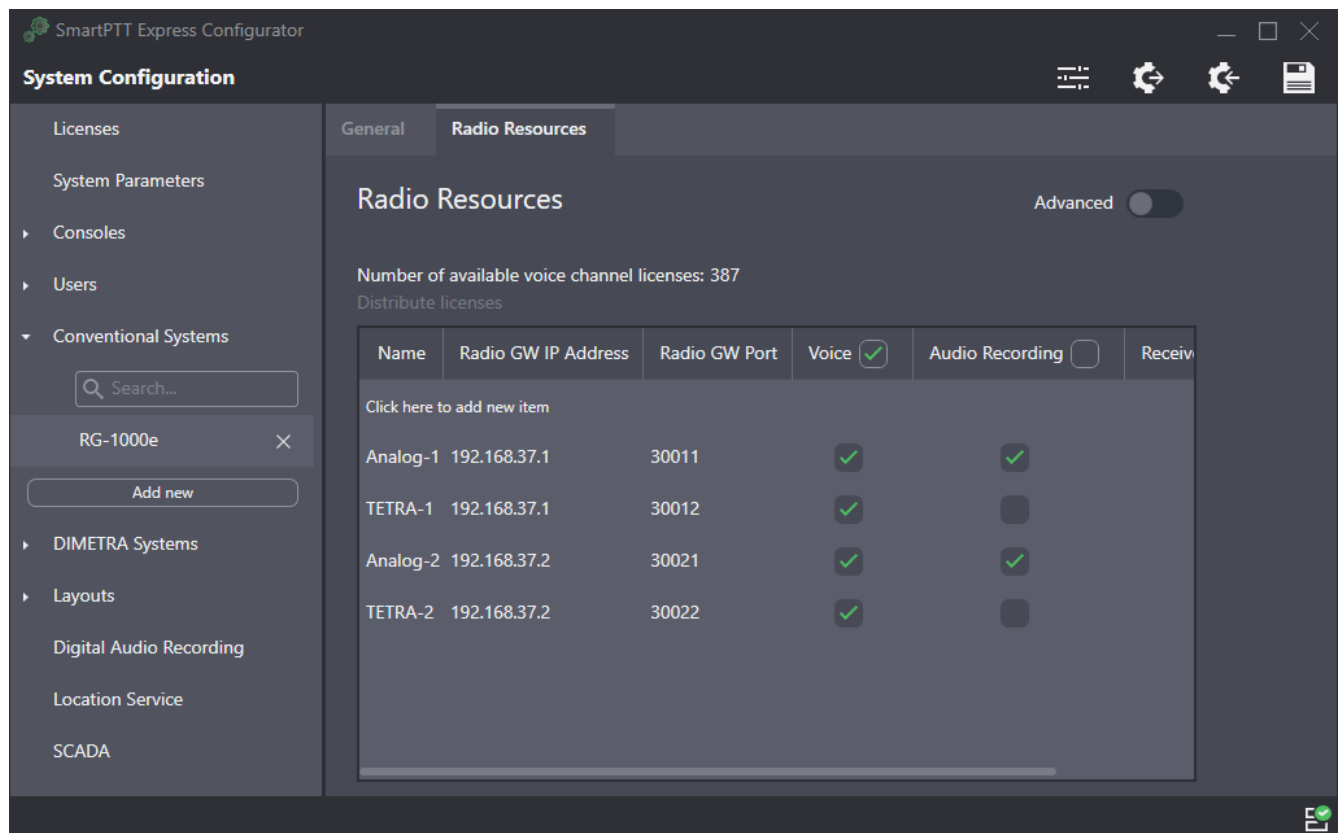
Figure 64: Radio Resources Tab

On the right pane, the following elements are available:

Advanced

If turned on, the **Local Audio IP Address** and **Local Audio Port** columns of the donor radios table are shown and available for editing.

Number of available voice channel licenses

Displays the number of unassigned voice channel licenses. These are shared between conventional resources and DIMETRA resources.

Distribute licenses

Enables voice for as many resources as the number of unassigned voice channel licenses allows.

The donor radios table consists of the following columns:

Name

The name of the radio resource that will be displayed on its tile in SmartPTT Express Client.

Radio GW IP Address

The IP address of the donor radio configured in RG-1000e.

Radio GW Port

The XCMP port of the donor radio configured in RG-1000e.

Local Audio IP Address

SmartPTT Express Server IP address used for voice traffic between SmartPTT Express Server and the donor radio.

Local Audio Port

SmartPTT Express Server port used for voice traffic between SmartPTT Express Server and the donor radio.

Voice

If the check box is selected, voice dispatch is available for the resource.

Audio Recording

If the check box is selected, digital audio recording is available for the resource.

Receive Only

If the check box is selected, the donor radio is unavailable for outgoing calls from SmartPTT Express Client. If included in a bridge, it will only route transmissions from, but not to its radio system.

Users

SmartPTT Express users that have access to the resource.

A.8 DIMETRA Systems

This expandable tab provides the ability to add and configure the DIMETRA Express connection. The configuration process includes multiple actions that must be completed before configuration changes can be saved.

A.8.1 Radio System Parameters

This area provides DIMETRA Express access settings.
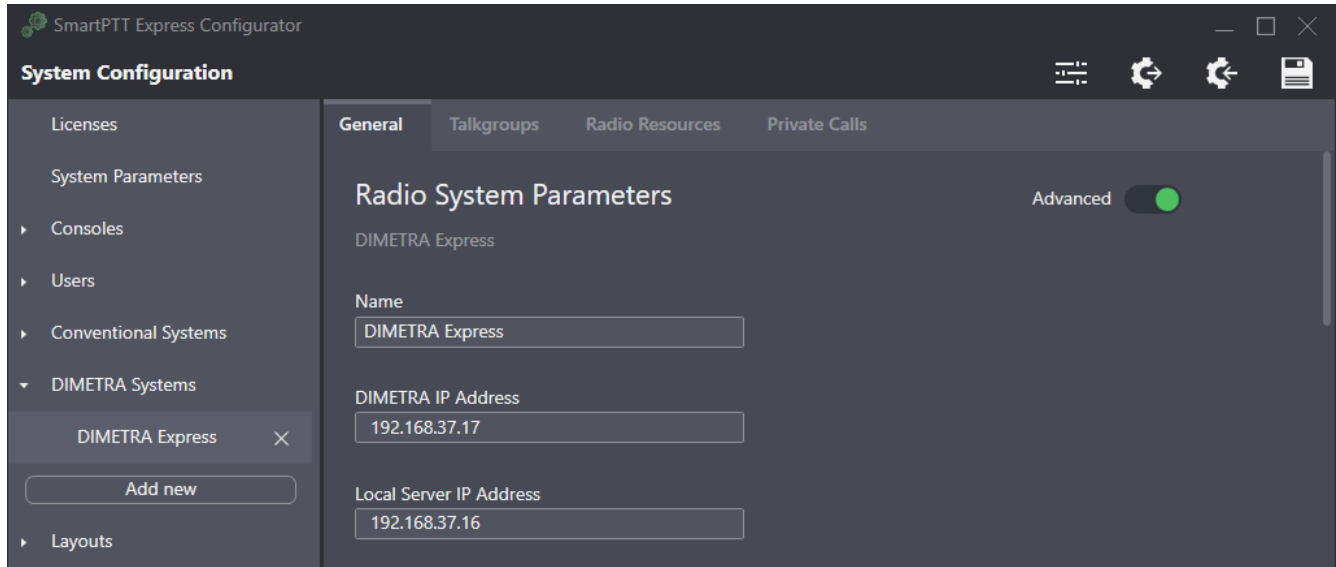
Figure 65: DIMETRA Express System Parameters

In the area, the following settings are available:

Advanced

If turned on, all parameters in the area are shown and available for editing. Otherwise, only the **Name** and **DIMETRA IP Address** fields are displayed.

Name

Radio system name which is used for internal purposes only.

DIMETRA IP Address

Main DIMETRA Express Server IP address, exactly as it is provided in DIMETRA Express configuration. For details, see DIMETRA Express Configuration on page 19.

Local Server IP Address

SmartPTT Express Server IP address to be used as the control interface between SmartPTT Express Server and DIMETRA Express.

Switch to redundant connection

Switches between the main and redundant DIMETRA Express Server. For the switch to take effect, the user must save configuration changes.

Redundant DIMETRA IP Address

Redundant DIMETRA Express Server IP address, exactly as it is provided in DIMETRA Express configuration.

A.8.2 Voice Dispatch Parameters

This area provides voice dispatch settings.
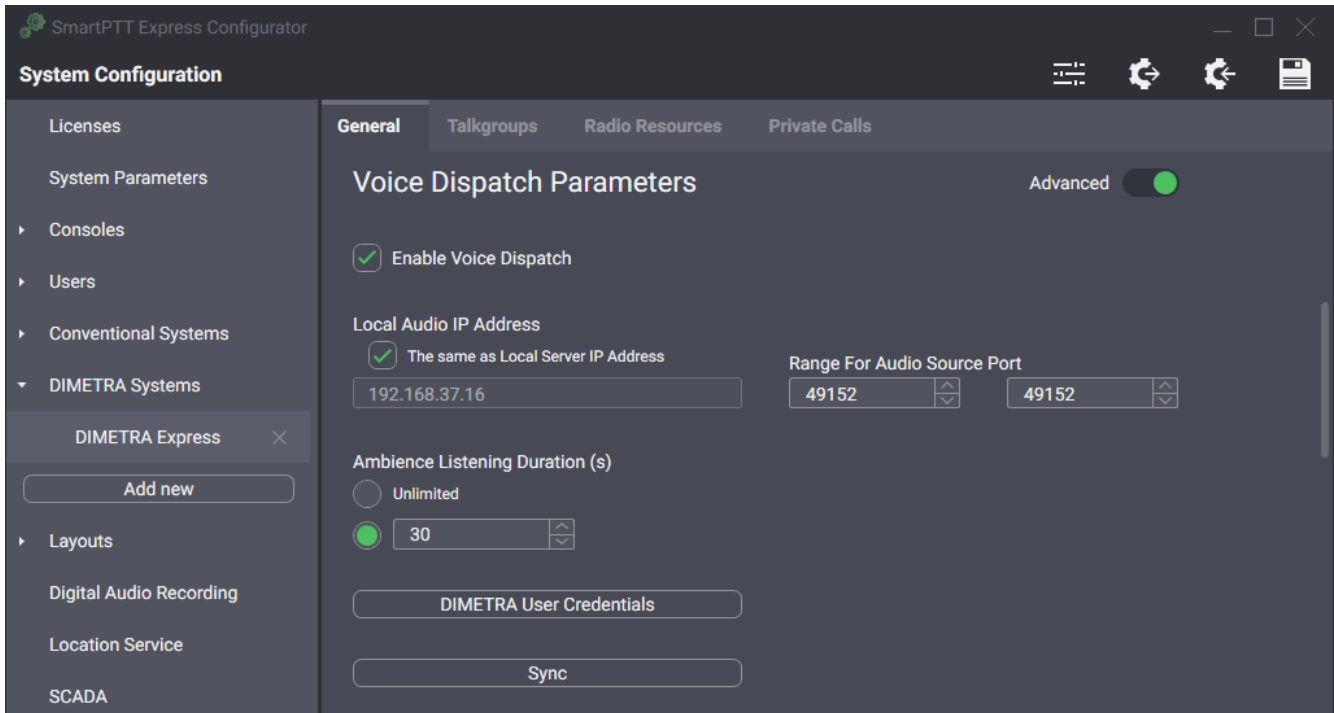
Figure 66: Voice Dispatch Parameters Area

In the area, the following settings are available:

Enable Voice Dispatch

Enables/disables voice dispatch functionality in SmartPTT Express.

Advanced

If turned on, all parameters in the area are shown and available for editing. Otherwise, only the **DIMETRA User Credentials** button is displayed.

Local Audio IP Address

SmartPTT Express Server IP address used for voice traffic between SmartPTT Express Server and DIMETRA Express.

The same as Local Server IP Address

If selected, the value in the **Local Server IP Address** field is copied to the **Local Audio IP Address** field, which cannot be edited.

Range For Audio Source Port

These two fields determine the UDP port range on SmartPTT Express Server host. The ports within this range are reserved for voice traffic between radio users and SmartPTT Express Client users. Default values in the fields are *49152*.

Ambience Listening Duration (s)

Provides the ability to set ambience listening duration: **Unlimited** (ambience listening stops only when canceled by the dispatcher or when the radio system's maximum transmission duration limit is reached) or not longer than the specified interval.

DIMETRA User Credentials

Opens the **DIMETRA User Credentials** window. For details, see DIMETRA User Credentials Window on page 117.

Sync

When the button is clicked, SmartPTT Express Server starts connecting to DIMETRA Express for synchronization via DCS (voice dispatch) link.

A.8.3 DIMETRA User Credentials Window

This window provides the ability to associate DIMETRA Express user accounts with SmartPTT Express Client user accounts. Each DIMETRA Express user can be associated with multiple SmartPTT Express Client users, but not the other way around.
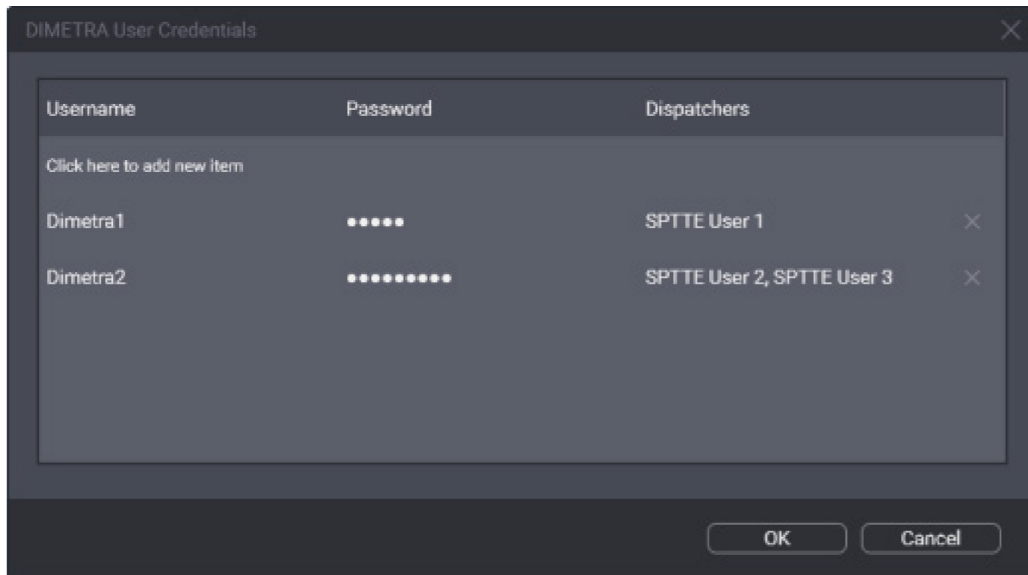
Figure 67: DIMETRA User Credentials Window

User associations are arranged in a table that consists of the following columns:

Username

For each table entry, shows user names that must correspond to login names in DIMETRA Express. Double clicking a name makes it editable.

NOTICE:
DIMETRA Express does not provide login names; all names must be typed by administrators.

Password

For each table entry, shows password in the form of bullet symbols. Double clicking a password makes it editable and available for preview.

View Password ◉

The button is available next to the password bullets while the password is being edited. Pressing and holding the button reveals password symbols instead of bullets.

Dispatcher

Shows SmartPTT Express Client users associated with a given DIMETRA Express user account. Double clicking a field opens the list of users added in the **Users** tab of the SmartPTT Express Configurator. For details, see Users on page 109.
Clicking a list entry associates that user with the DIMETRA Express user account. Clicking it again deletes the association.

On the right of each entry, one of the following buttons appears.

OK

The button appears when an entry is being edited. Clicking it accepts changes and substitutes it with the **Remove**× button.

Remove ×

Removes the corresponding entry from the table. If the user double clicks an entry, all **Remove** × buttons are replaced with **OK** buttons to prevent accidental removal.

The **Click here to add new item** control is located at the bottom of the table. Clicking it adds a new entry to the table.

At the bottom of the window, the following buttons are available:

OK

Accepts all changes and closes the window.

Cancel

Cancels all changes and closes the window. This will restore accidentally removed entries.

A.8.4 Digital Audio Recording Parameters

The area provides DIMETRA Express Voice Logger network interface settings.
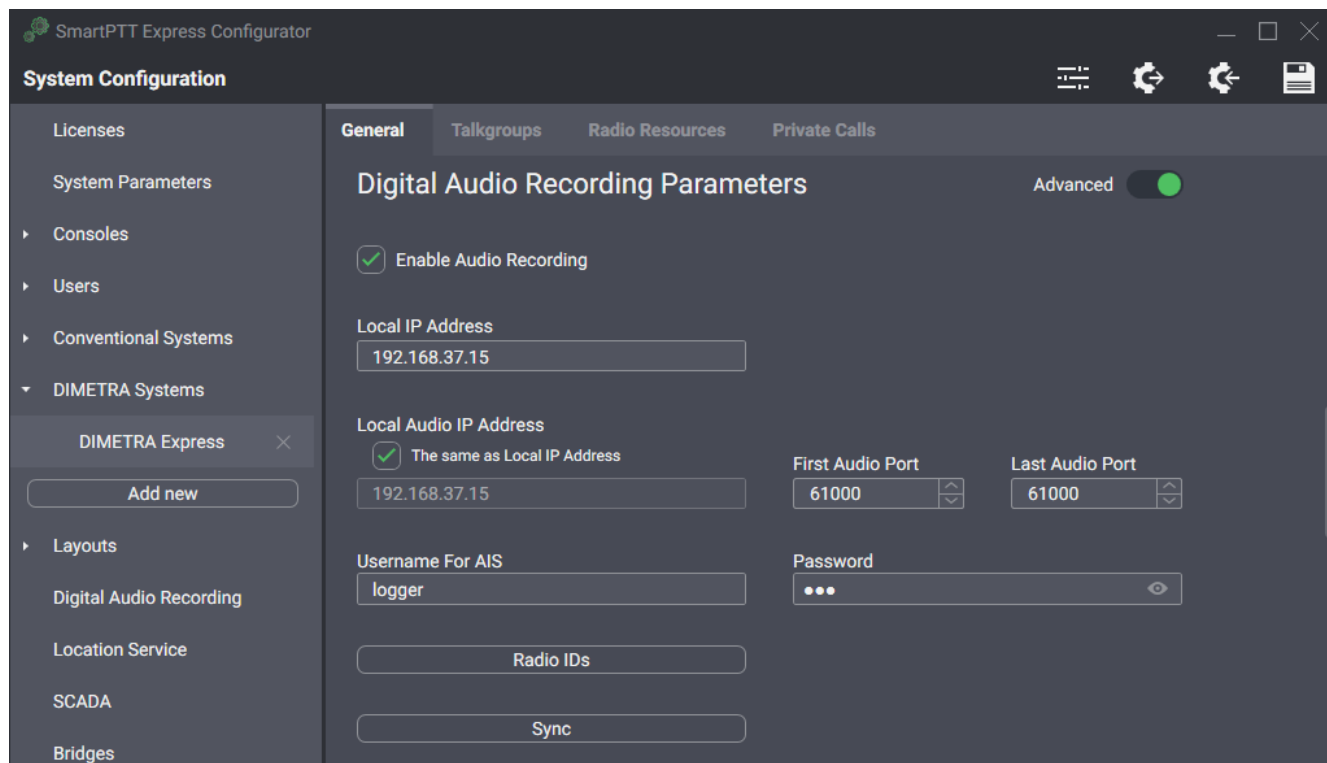
Figure 68: Digital Audio Recording Parameters Area

In the area, the following settings are available:

Enable Audio Recording

This check box determines if the SmartPTT Express Server acts as the external voice logger for DIMETRA Express or not. If the check box is selected, the Digital Audio Recording Parameters become available for editing. If it is cleared, the parameters become hidden and SmartPTT Express Server is not used as an external voice logger.

Advanced

If turned on, all parameters in the area are shown and available for editing. Otherwise, only the **Local IP Address**, **Username For AIS** and **Password** fields, and the **Radio IDs** button are displayed.

Local IP Address

The SmartPTT Express Server IPv4 address designated as the external voice logger in DIMETRA Express. The address must be different from that used in the **Radio System Parameters** area. For details, see Radio System Parameters on page 115.

Local Audio IP Address

The SmartPTT Express Server IP address used to receive voice records from DIMETRA Express.

The same as Local IP Address

If selected, the value in the **Local IP Address** field is copied to the **Local Audio IP Address** field, which cannot be edited.

First Audio Port

The lowest port number in the dedicated SmartPTT Express Server UDP port range. The ports within the range are reserved for voice records reception from DIMETRA Express. Default port number is *61000*.

Last Audio Port

The highest port number in the dedicated SmartPTT Express Server UDP port range. The ports within the range are reserved for voice records reception from DIMETRA Express. Default port number is *61000*.

Username For AIS

External voice logger login name, exactly as it is set in DIMETRA Express. For details, see DIMETRA Express Configuration on page 19.

Password

External voice logger password, exactly as it is set in DIMETRA Express. For details, see DIMETRA Express Configuration on page 19. The field automatically hides password symbols and replaces them with bullets.

View Password ◉

The button is available next to the password bullets. Pressing and holding the button reveals password symbols instead of bullets.

Radio IDs

Opens the **Radio IDs** window. For details, see Radio IDs Window on page 121.

Sync

When the button is clicked, SmartPTT Express Server starts connecting to DIMETRA Express for synchronization via AIS (digital audio recording) link.

A.8.5 Radio IDs Window

The window provides the list of DIMETRA Express users. The window can be opened in the following ways:

- By clicking the **Radio IDs** button in the **Digital Audio Recording Parameters** area.

- By clicking the **Assign** button in the **Outdoor Positioning Parameters** area.

If opened by clicking the **Radio IDs** button, the window provides the ability to select radio users whose transmissions will be stored in the SmartPTT Express database as voice records if they are either the recipient or the initiator of the voice transmission.

IMPORTANT:
DIMETRA Express may not provide a voice transmission to SmartPTT Express if its voice logging capacity is exceeded.

NOTICE:
If both initiator and recipient of a transmission are selected, two identical voice transmissions will be stored in the database.

If the window is opened by clicking the **Assign** button, it provides the ability to select users whose outdoor coordinates will be stored in the SmartPTT Express database.
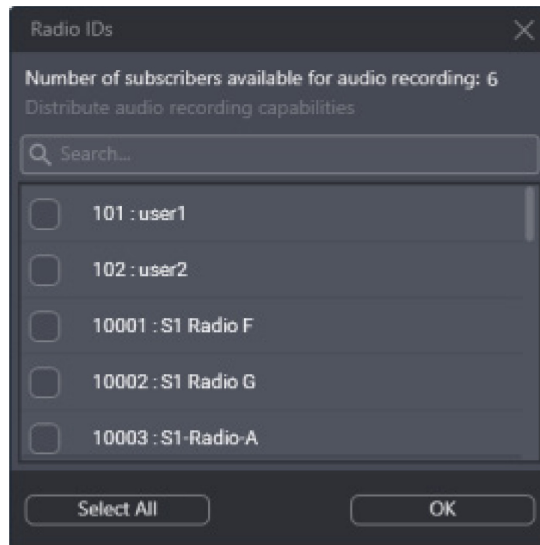
Figure 69: Radio IDs Window

In the window, the following elements are available:

Search…
When text is entered in the search field, only the radio users whose name or ID contain that text are shown in the list.

{User ID}: {User Name}
If the check box is selected, the user is affected by the SmartPTT Express service (voice logging or outdoor location).

NOTICE:
The external voice logger is present in the list as a radio user. Do not select its checkbox.

Select All / Deselect All
Selects/clears the check boxes to the left of all radio users in the list.

OK
Accepts changes and closes the window.

A.8.6 Outdoor Positioning Parameters

The area provides the parameters that identify SmartPTT Express Server to DIMETRA Express as a Short Data Host. After configuration, SmartPTT Express Server will be able to receive radio user outdoor positioning data.
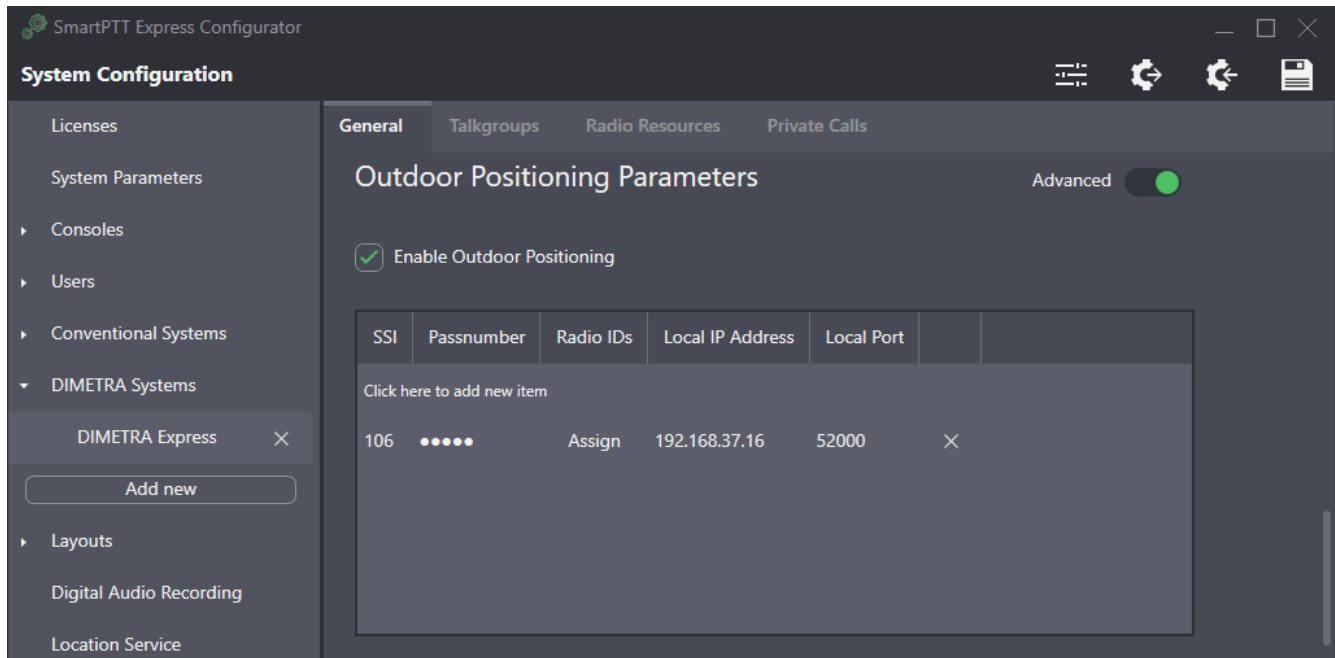
Figure 70: Outdoor Positioning Parameters

In the area, the following elements are available:

Enable Outdoor Positioning

If the check box is selected, the Short Data Host table appears with all the parameters required to identify SmartPTT Express Server as a Short Data Host in DIMETRA Express.

Advanced

If turned on, all columns in the Short Data Host table are shown and available for editing. Otherwise, only the **SSI**, **Pass Number** and **Radio IDs** columns are displayed.

The Short Data Host table consists of the following columns:

SSI

The identifier of the Short Data Host to which radios report their location data. The parameter must be exactly the same as the **Host ID** parameter in DIMETRA Express settings. For details, see "Short Data Transport" in *DIMETRA Express Online Help*.

Pass Number

The code that is used for Short Data Host authentication in DIMETRA Express . The number must be exactly the same as the Host Passnumber parameter in DIMETRA Express settings. For details, see "Short Data Transport" in *DIMETRA Express Embedded Help*.

Radio IDs

Contains the **Assign** button that opens the **Radio IDs** window. For details, see Radio IDs Window on page 121.

Local IP Address

The IP address of SmartPTT Express Server. The address must be exactly the same as the one used in the **Local IP Address** field (the **Radio System Parameters** area). For details, see Radio System Parameters on page 115.

Local Port

The number of the port used by SmartPTT Express Server for sending location requests to DIMETRA Express and receiving location updates from it. Possible values range from *1* to *65535*.

A.8.7 Text Messaging Parameters

The area provides the parameters that identify SmartPTT Express Client applications to DIMETRA Express as Short Data Hosts. After configuration, SmartPTT Express Client users will be able to send and receive text messages.
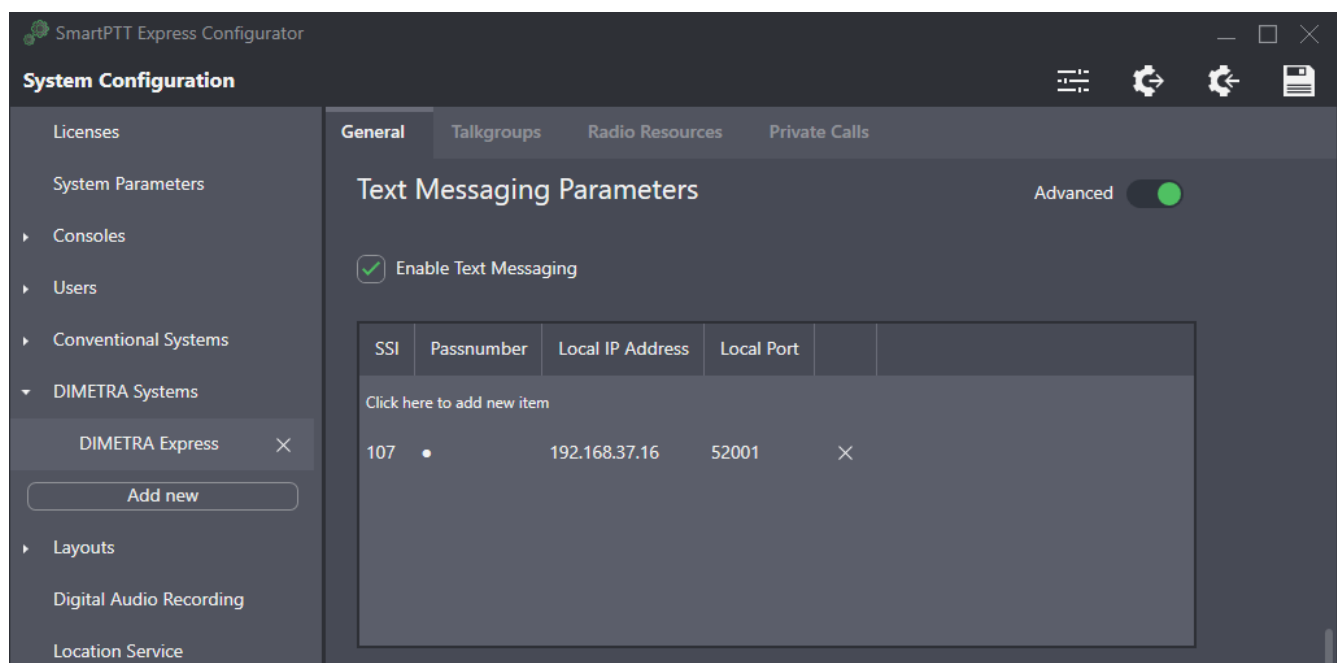
Figure 71: Text Messaging Parameters

In the area, the following elements are available:

Enable Text Messaging

If the check box is selected, the Short Data Host table appears with all the parameters required to identify SmartPTT Express Client applications as Short Data Hosts in DIMETRA Express.

Advanced

If turned on, all columns in the Short Data Host table are shown and available for editing. Otherwise, only the **SSI** and **Pass Number** columns are displayed.

The Short Data Host table consists of the following columns:

SSI

Unique identifier of the Short Data Host that corresponds to a DIMETRA Express dispatch console user. The parameter must be exactly the same as the **Host ID** parameter in DIMETRA Express settings. For details, see "Short Data Transport" in *DIMETRA Express Online Help*.

Pass Number

The code that is used for Short Data Host authentication in DIMETRA Express. The number must be exactly the same as the **Host Passnumber** parameter in DIMETRA Express settings. For details, see "Short Data Transport" in *DIMETRA Express Embedded Help*.

IMPORTANT:
In DIMETRA Express, passnumbers cannot be viewed after configured. Contact the DIMETRA Express service engineer to receive the passnumbers used in DIMETRA Express for SmartPTT Express Host ID.

Local IP Address

The IP address of SmartPTT Express Server. The address must be exactly the same as the one used in the **Local IP Address** field (the **Radio System Parameters** area). For details, see Radio System Parameters on page 115.

Local Port

The number of the port used by SmartPTT Express Server for sending and receiving text messages. Possible values range from *1* to *65535*.

A.8.8 System Description

The area provides a text box where the DIMETRA Express description appears. The description is imported from DIMETRA Express.

System Description

TRUNKING: 105 'SYSTEM1' (242-1), ZONE: 1 'ZONE001' SITES: [1001 '1001'; 2 'Base Station 02'; 1 'Base Station 01'; 1116 '116'] , SM ver: 2.2, API ver: 8.0
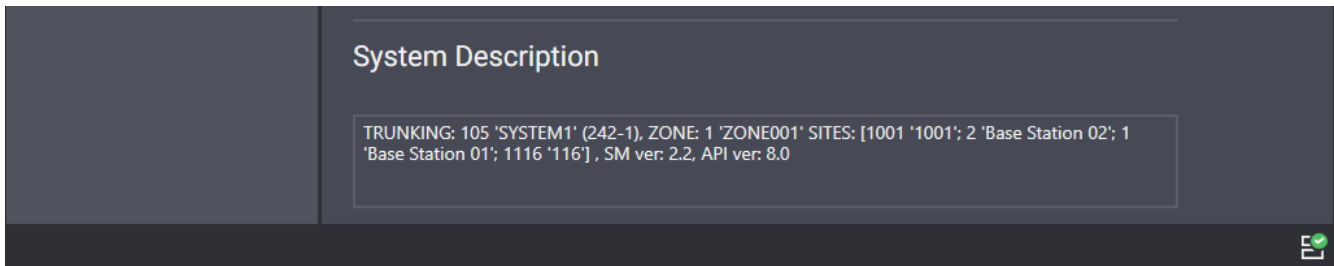
Figure 72: DIMETRA Express System Description

A.8.9 Talkgroups

The tab provides a list of talkgroups configured in DIMETRA Express and controls to configure their availability in SmartPTT Express.
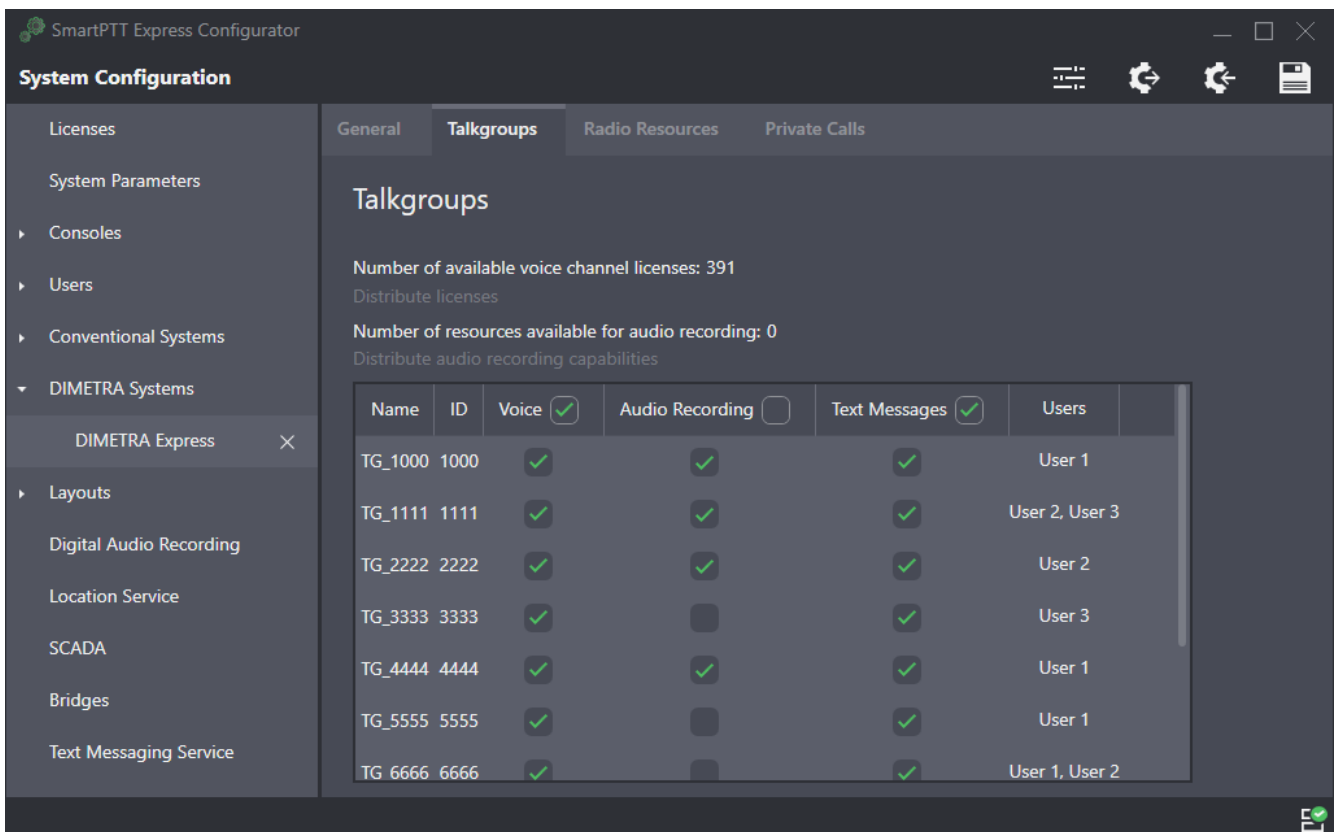
Figure 73: Talkgroup Parameters

On the right pane, the following elements are available:

Number of available voice channel licenses

Displays the number of unassigned voice channel licenses. The number is limited by the installed license and shared between conventional resources and DIMETRA resources.

Distribute licenses

Enables voice for as many resources as the number of unassigned voice channel licenses allows.

Number of resources available for audio recording

Displays the number of resources for which audio recording can be turned on. The number is limited by DIMETRA audio recording capacity and shared between DIMETRA talkgroups, analog channels and radios.

Distribute audio recording capabilities

Enables audio recording for as many resources as DIMETRA audio recording capacity allows.

Talkgroups are listed in a table that consists of the following columns:

Name

Talkgroup name received from DIMETRA Express. It cannot be changed in SmartPTT Express Configurator.

ID

Talkgroup ID received from DIMETRA Express. It cannot be changed in SmartPTT Express Configurator.

Voice

If the check box in this column is selected, voice calls are available for the talkgroup in SmartPTT Express Client. If the maximum number of talkgroups has been reached, selecting the check box becomes impossible.

Audio Recording

If the check box in this column is selected, the talkgroup calls will be recorded by SmartPTT Express if DIMETRA Express provides them. DIMETRA Express may not deliver audio for the call if the number of simultaneous calls in the system exceeds the licensed voice logging capacity.
If the check box is cleared, the talkgroup calls will not be recorded.

IMPORTANT:
Check boxes do not guarantee group call recording, only its provision to SmartPTT Express.

Text Messages

If the check box in this column is selected, incoming and outgoing text messages between the talkgroup and SmartPTT Express Client applications will be enabled.

NOTICE:
This does not affect text messaging availability to DIMETRA Express radio users.

Users

The list of SmartPTT Express users who can add and operate the talkgroup.

A.9 Layouts

The expandable tab provides the list of layouts created in SmartPTT Express Client. Clicking an entry displays the corresponding information on the right pane.

NOTICE:
If SmartPTT Express Configurator is running at the time of a new layout creation, the layout will not appear on layout list until SmartPTT Express Configurator is restarted.
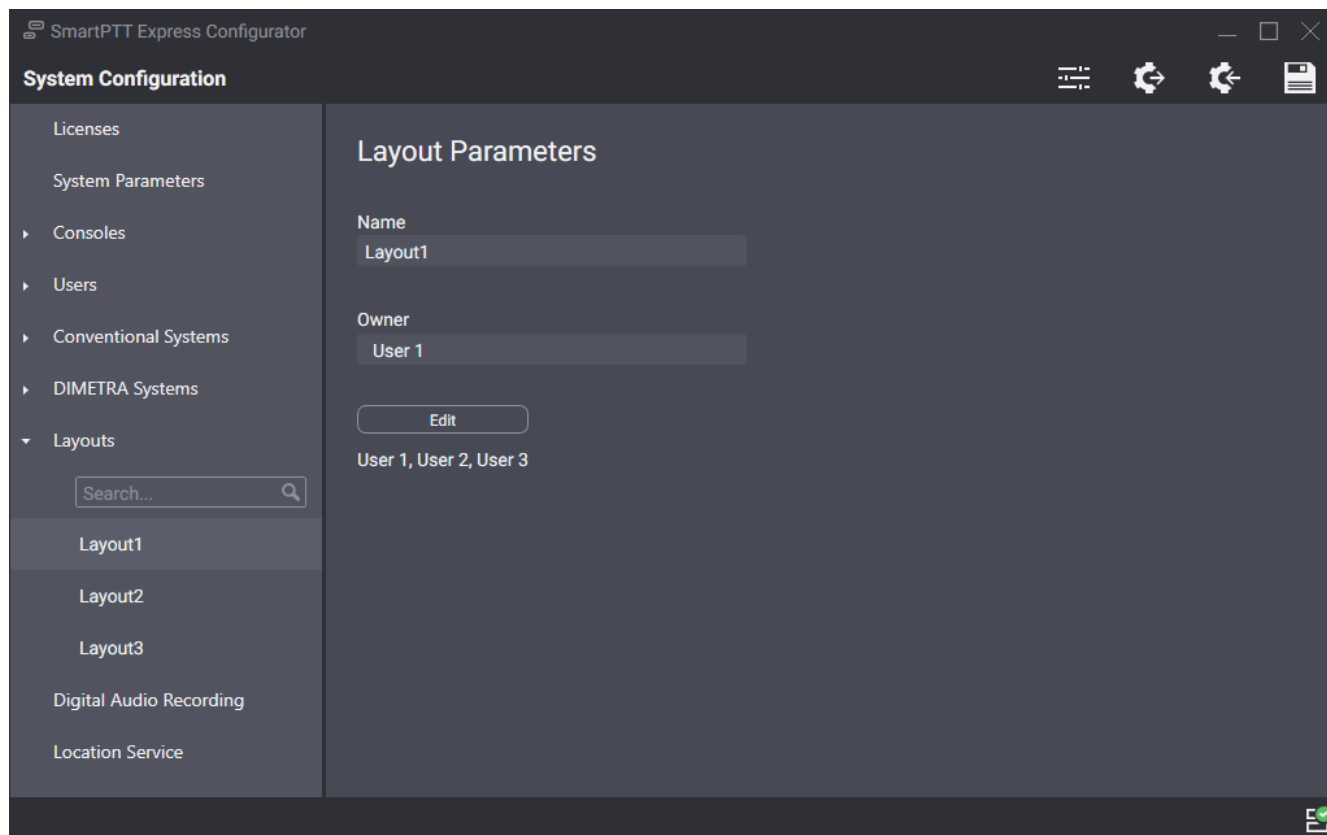
Figure 74: List of Layouts and Their Settings

On the right pane, the following settings are available:

Name

The layout name specified by the SmartPTT Express Client user that has created it. Layouts cannot be renamed.

Owner

The name of the user who created the layout.

Edit

Opens the **Users** window. For details, see Users Window on page 129.

A.9.1 Users Window

The window provides the ability to manage access to a layout.
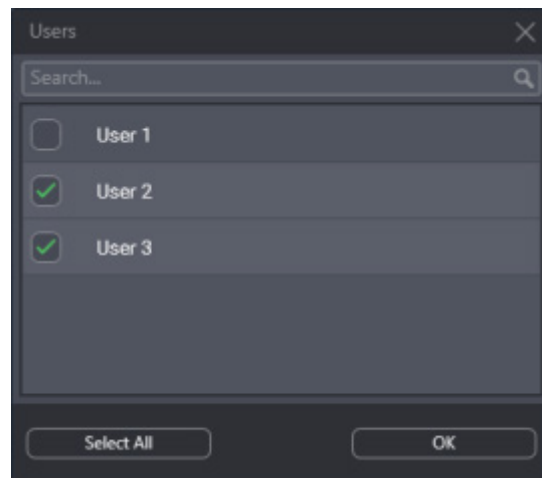
Figure 75: List of SmartPTT Express Client Users

In the window, the following elements are available:

Search...

When text is entered in the search field, only the users whose names contain that text are shown in the list.

{User Name}

If the check box is selected, the user can load the layout in SmartPTT Express Client. If the check box is cleared, the user cannot load the layout unless he/she is its owner. For details, see Layouts on page 128.

Select All / Deselect All

Selects/clears the check boxes to the left of all users in the list.

OK

Accepts changes and closes the window.

A.10 Digital Audio Recording

The tab provides voice record database settings.
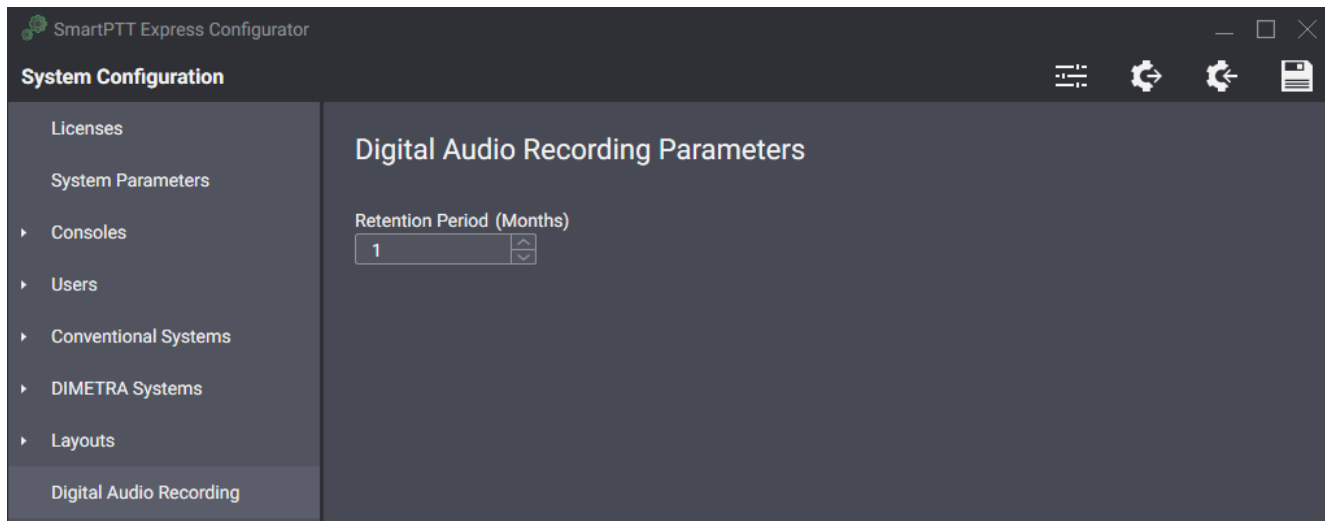
Figure 76: Digital Audio Recording Parameters

On the right pane, the following settings are available:

Retention Period

Time period (in months) after which voice records are deleted from the Audio Archive. The minimum value is *1*, the maximum is *12*.

NOTICE:
SmartPTT Express defines "month" as 30 days.

A.11 Location Service

The tab provides settings related to tracking radio user location. In particular, it provides location storage and map provider access settings.
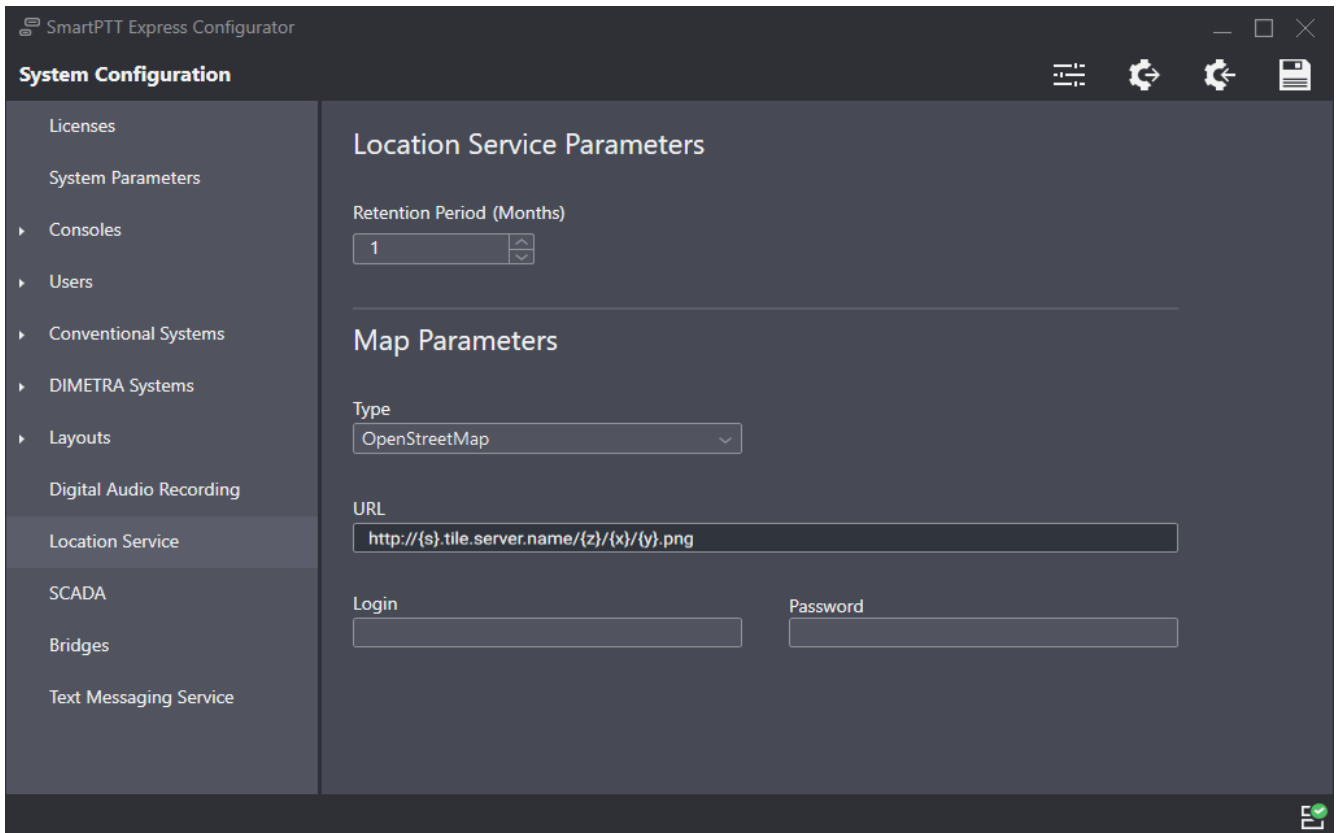
Figure 77: Location Service Parameters

On the right pane, the following settings are available:

Retention Period

Duration of coordinates storage in the SmartPTT Express database. When the retention period expires, coordinates will be removed from the database.

Type

The type of maps used to show radio user location in SmartPTT Express Client. *OpenStreetMap* refers to HTTP-based OSM maps; *Local Map Atlas* refers to OSM maps stored as files.

URL

The source of maps for all SmartPTT Express Client applications. The contents of the field depend on the option selected in the **Type** field:

If *OpenStreetMap* is selected,	the **URL** field contains the URL address of the map provider.
	The address may include substitutions for user login and password. For login inclusion in the URL address, the {login} substitution must be used. For password

	inclusion in the URL address, the `{password}` substitution must be used.
If *Local Map Atlas* is selected,	the **URL** field contains the path to the map files.

NOTICE:

If substitutions are used, the following fields must not be empty.

Login

User login that is used for authentication in the map provider server. It is required if the map provider uses basic HTTP authentication or the `{login}` substitution is used in the provider URL address. If no authentication is required, the field can be left empty.

Password

User password that is used for authentication in the map provider server. It is required if the map provider uses basic HTTP authentication or the `{password}` substitution is used in the provider URL address. If no authentication is required, the field can be left empty.

A.12 Bridges

The tab provides the ability to add and configure bridges between donor radios connected to RG-1000e radio gateways.
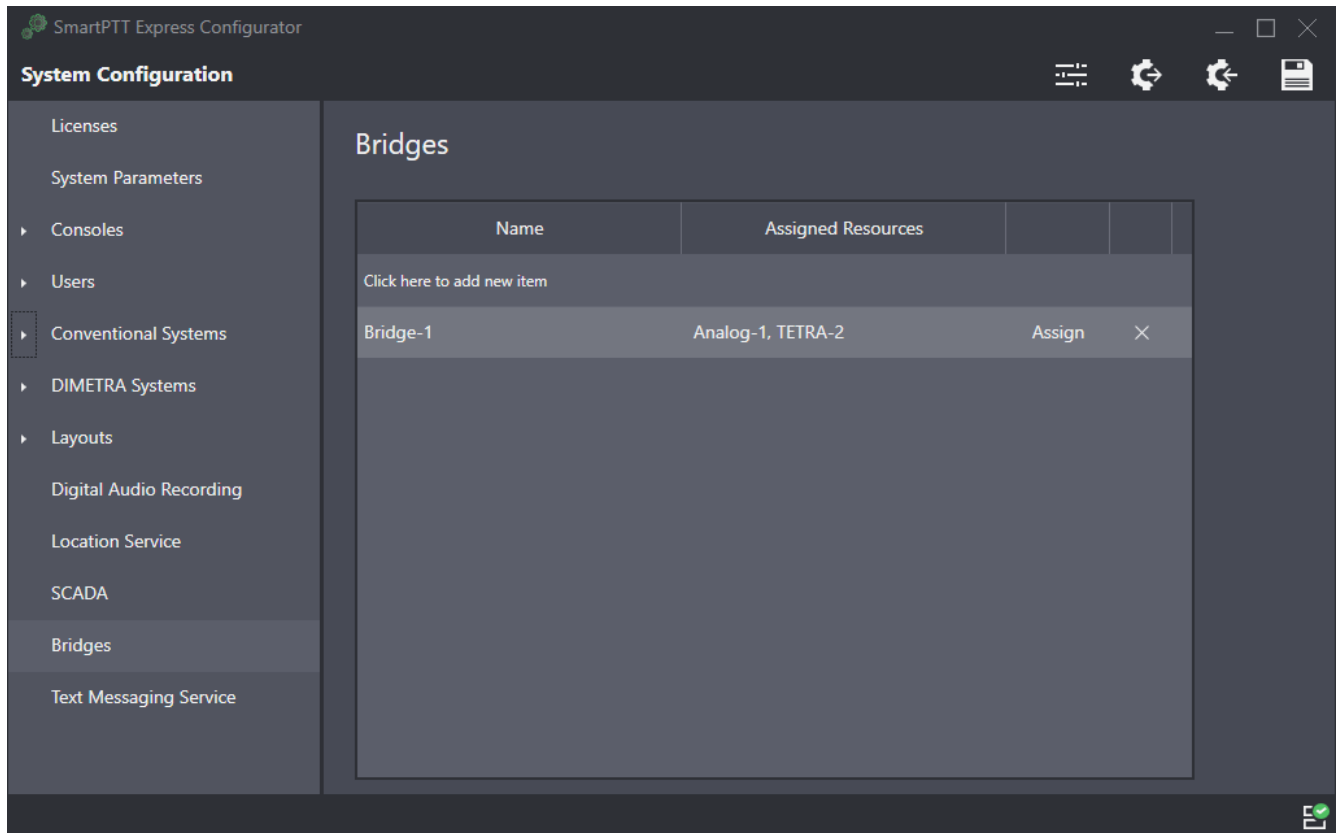
Figure 78: Bridges

Bridges are listed in a table that consists of the following columns:

Name

The name of the bridge that will be displayed in the **Patch Monitor** panel in SmartPTT Express Client.

Assigned Resources

The list of donor radios included in the bridge. The column also contains the Assign button that opens the Resources window, providing the ability to add/remove donor radios. For details, see

A.12.1 Resources Window

The window provides the list of donor-radios connected to RG-1000e radio gateways. It opens when the user clicks the **Assign** button on the **Bridges** tab.
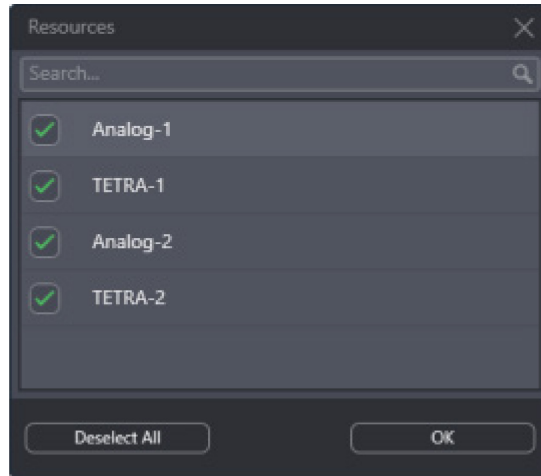
Figure 79: Resources Window

In the window, the following elements are available:

Search...

When text is entered in the search field, only the resources whose name contains that text are shown in the list.

{Resource Name}

If the check box is selected, the resource is included in the bridge.

Select All / Deselect All

Selects/clears the check boxes to the left of all resources in the list.

OK

Accepts changes and closes the window.

A.13 Text Messaging Service

This tab provides the ability to configure text messaging service parameters in SmartPTT Express.
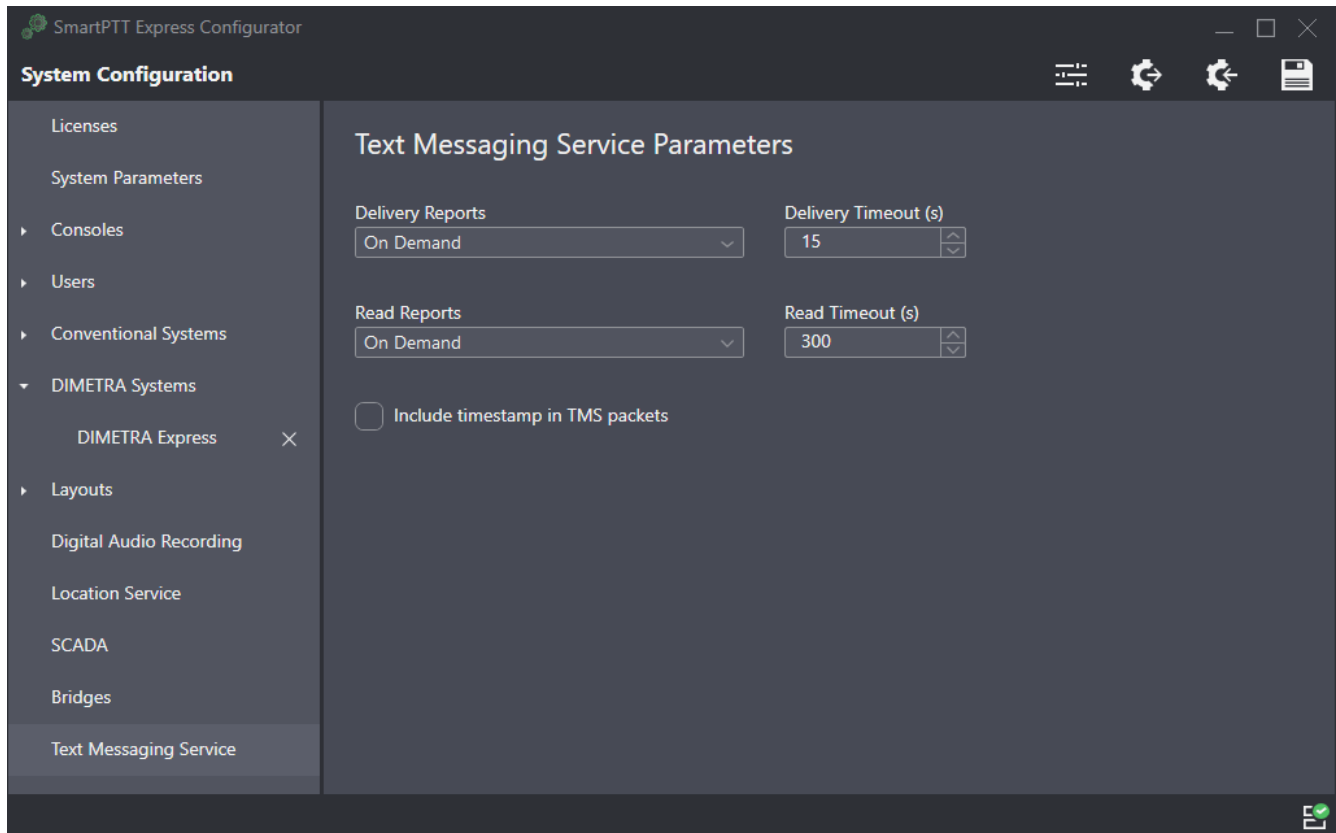
Figure 80: Text Messaging Service Parameters

On the right pane, the following settings are available:

Delivery Reports

Determines if and how outbound text message delivery reports are requested. The following options are available:

- *Never*. Delivery reports for outbound text messages are unavailable.

- *Always*. SmartPTT Express Server automatically requests a delivery report for every outbound text message.

- *On Demand*. SmartPTT Express Client users can request delivery reports on a per-message basis.

Delivery Timeout (s)

The time in seconds that SmartPTT Express Server waits for a delivery report.

Read Reports

Determines if and how outbound text message read reports are requested. The following options are available:

- *Never*. Read reports for outbound text messages are unavailable.

- *Always*. SmartPTT Express Server automatically requests a read report for every outbound text message.

- *On Demand*. SmartPTT Express Client users can request read reports on a per-message basis.

Read Timeout (s)

The time in seconds that SmartPTT Express Server waits for a delivery report.

Include timestamp in TMS packets

If selected, SmartPTT Express Server will attach a timestamp to every outbound text message which will be displayed as message send time on the receiving device. Otherwise, delivery time will be displayed.

A.14 SCADA

The tab provides settings for accessing SmartPTT Express SCADA. It appears in SmartPTT Express Configurator only if the installed license includes the corresponding feature.
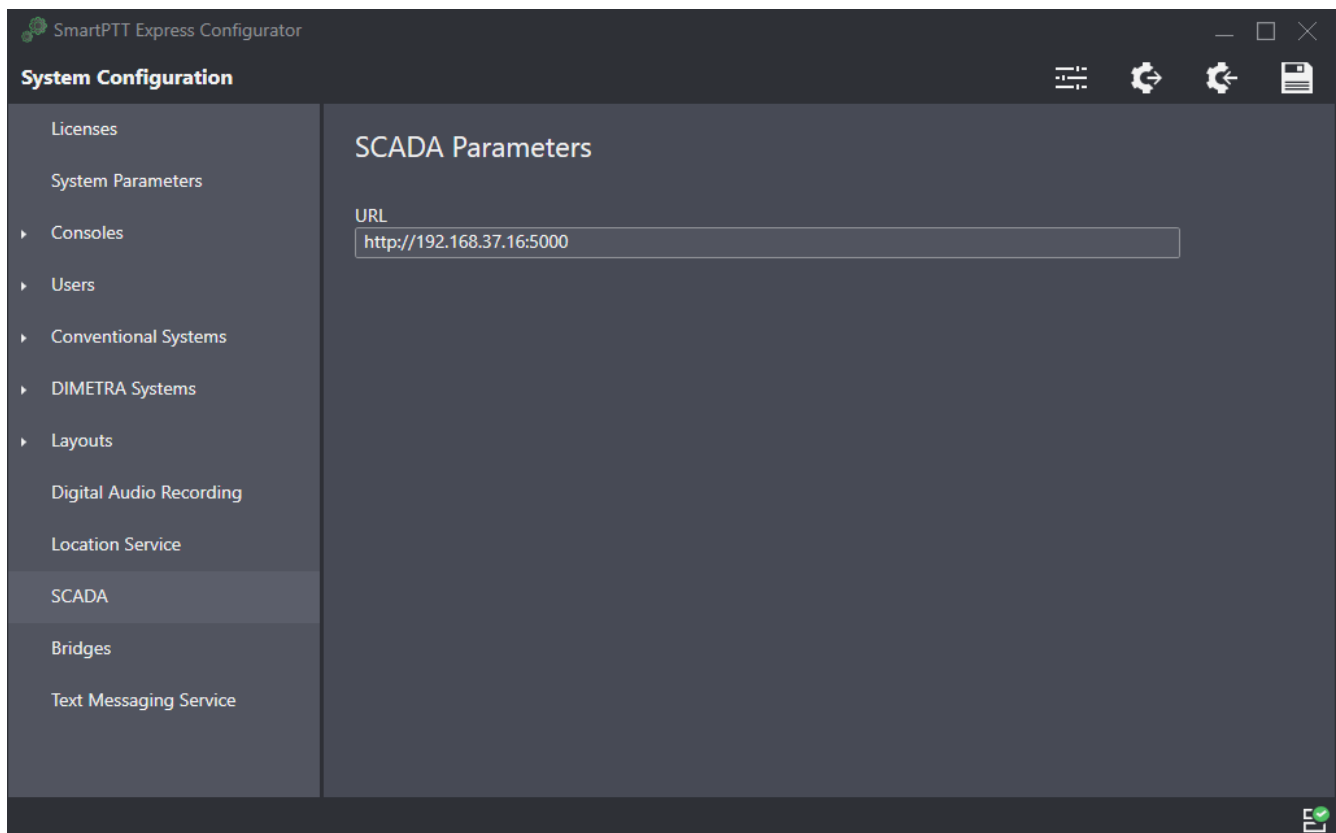
Figure 81: SCADA Parameters

On the right pane, the **URL** field is available. In the field, the user enters the URL address to be used by SmartPTT Express Client applications for connecting to SmartPTT Express SCADA.

A.15 Status Bar

This bar appears at the bottom of the SmartPTT Express Configurator main window. It informs about the connection to the SmartPTT Express Server using the following indication:

Connected ⛶

The icon appears if the SmartPTT Express Server connection is established successfully.

Disconnected ⛶

The icon appears while the connection to the SmartPTT Express Server fails.

Successful connection is required to log on and edit SmartPTT Express Server settings. When the connection is lost, the user automatically logs off from the SmartPTT Express Configurator losing all configuration changes.

Appendix B. Open-source Software Included in SmartPTT Express

The tables in this section provide information about all open-source software packages included in SmartPTT Express and links to their licenses.

Package name	AutoMapper
Package Version	9.0.0
URL from which the package has been Downloaded	https://www.nuget.org/packages/AutoMapper/9.0.0
Open Source Software license and version	MIT
URL to the license agreement	https://github.com/AutoMapper/AutoMapper/blob/master/LICENSE.txt
Has this package been modified	No

Package name	CefSharp.Wpf
Package Version	75.1.143
URL from which the package has been Downloaded	https://www.nuget.org/packages/CefSharp.Wpf/75.1.143
Open Source Software license and version	BSD 3-Clause License
URL to the license agreement	https://raw.githubusercontent.com/cefsharp/CefSharp/master/LICENSE
Has this package been modified	No

Package name	MahApps.Metro
Package Version	1.6.5
URL from which the package has been Downloaded	https://www.nuget.org/packages/MahApps.Metro/1.6.5

Open Source Software license and version	MIT
URL to the license agreement	https://github.com/MahApps/MahApps.Metro.Resources/blob/master/LICENSE
Has this package been modified	No

Package name	Newtonsoft.Json
Package Version	12.0.3
URL from which the package has been Downloaded	https://www.nuget.org/packages/Newtonsoft.Json/12.0.3
Open Source Software license and version	MIT
URL to the license agreement	https://github.com/JamesNK/Newtonsoft.Json/blob/master/LICENSE.md
Has this package been modified	No

Package name	NLog
Package Version	4.4.11
URL from which the package has been Downloaded	https://www.nuget.org/packages/NLog/4.4.11
Open Source Software license and version	BSD 3-Clause License
URL to the license agreement	https://github.com/NLog/NLog/blob/master/LICENSE.txt
Has this package been modified	No

Package name	NLog
Package Version	4.5.11

URL from which the package has been Downloaded	https://www.nuget.org/packages/NLog/4.5.11
Open Source Software license and version	BSD 3-Clause License
URL to the license agreement	https://github.com/NLog/NLog/blob/master/LICENSE.txt
Has this package been modified	No

Package name	NLog
Package Version	4.6.8
URL from which the package has been Downloaded	https://www.nuget.org/packages/NLog/4.6.8
Open Source Software license and version	BSD 3-Clause License
URL to the license agreement	https://github.com/NLog/NLog/blob/master/LICENSE.txt
Has this package been modified	No

Package name	NLog.Schema
Package Version	4.6.8
URL from which the package has been Downloaded	https://www.nuget.org/packages/NLog.Schema/4.6.8
Open Source Software license and version	BSD 3-Clause License
URL to the license agreement	https://github.com/NLog/NLog/blob/master/LICENSE.txt
Has this package been modified	No

Package name	NSubstitute

Package Version	4.2.1
URL from which the package has been Downloaded	https://www.nuget.org/packages/NSubstitute/4.2.1
Open Source Software license and version	BSD 3-Clause License
URL to the license agreement	https://github.com/nsubstitute/NSubstitute/blob/master/LICENSE.txt
Has this package been modified	No

Package name	NUnit
Package Version	3.12.0
URL from which the package has been Downloaded	https://www.nuget.org/packages/NUnit/3.12.0
Open Source Software license and version	MIT
URL to the license agreement	https://www.nuget.org/packages/NUnit/3.12.0/license
Has this package been modified	No

Package name	Prism.Core
Package Version	7.2.0.1422
URL from which the package has been Downloaded	https://www.nuget.org/packages/Prism.Core/ 7.2.0.1422
Open Source Software license and version	MIT
URL to the license agreement	https://github.com/PrismLibrary/Prism/blob/master/LICENSE
Has this package been modified	No

Package name	Prism.Wpf
Package Version	7.2.0.1422
URL from which the package has been Downloaded	https://www.nuget.org/packages/Prism.Wpf/7.2.0.1422
Open Source Software license and version	MIT
URL to the license agreement	https://github.com/PrismLibrary/Prism/blob/master/LICENSE
Has this package been modified	No

Package name	Prism.Unity
Package Version	7.2.0.1422
URL from which the package has been Downloaded	https://www.nuget.org/packages/Prism.Unity/7.2.0.1422
Open Source Software license and version	MIT
URL to the license agreement	https://github.com/PrismLibrary/Prism/blob/master/LICENSE
Has this package been modified	No

Package name	SharpDX.RawInput
Package Version	4.0.1
URL from which the package has been Downloaded	https://www.nuget.org/packages/SharpDX.RawInput/4.0.1
Open Source Software license and version	MIT
URL to the license agreement	http://sharpdx.org/License.txt
Has this package been modified	No

Package name	System.Configuration.ConfigurationManager
Package Version	4.7.0
URL from which the package has been Downloaded	https://www.nuget.org/packages/System.Configuration.ConfigurationManager/4.7.0
Open Source Software license and version	MIT
URL to the license agreement	https://licenses.nuget.org/MIT
Has this package been modified	No

Package name	System.Data.SQLite.Core
Package Version	1.0.112
URL from which the package has been Downloaded	https://www.nuget.org/packages/System.Data.SQLite.Core/1.0.112
Open Source Software license and version	Public Domain
URL to the license agreement	https://www.sqlite.org/copyright.html
Has this package been modified	No

Package name	System.Threading.Tasks.Dataflow
Package Version	4.11.0
URL from which the package has been Downloaded	https://www.nuget.org/packages/System.Threading.Tasks.Dataflow/4.11.0
Open Source Software license and version	MIT
URL to the license agreement	https://licenses.nuget.org/MIT
Has this package been modified	No

Package name	WebSocketSharp
Package Version	1.0.3-rc11
URL from which the package has been Downloaded	https://www.nuget.org/packages/WebSocketSharp/
Open Source Software license and version	MIT
URL to the license agreement	https://raw.githubusercontent.com/sta/websocket-sharp/master/LICENSE.txt
Has this package been modified	No

Package name	NAudio
Package Version	1.9.0
URL from which the package has been Downloaded	https://www.nuget.org/packages/NAudio/1.9.0
Open Source Software license and version	Microsoft Public License (Ms-PL)
URL to the license agreement	https://github.com/naudio/NAudio/blob/master/license.txt
Has this package been modified	No

Package name	Costura.Fody
Package Version	3.2.1
URL from which the package has been Downloaded	https://www.nuget.org/packages/Costura.Fody/3.2.1
Open Source Software license and version	MIT
URL to the license agreement	https://github.com/Fody/Costura/blob/develop/LICENSE
Has this package been modified	No

Package name	Stubble.Core
Package Version	1.6.3
URL from which the package has been Downloaded	https://www.nuget.org/packages/Stubble.Core/1.6.3
Open Source Software license and version	MIT, BSD 2-Clause License
URL to the license agreement	https://github.com/StubbleOrg/Stubble/blob/master/licence.md
Has this package been modified	No

Package name	WPFLocalizeExtension
Package Version	3.3.1
URL from which the package has been Downloaded	https://www.nuget.org/packages/WPFLocalizeExtension/3.3.1
Open Source Software license and version	Microsoft Public License (Ms-PL)
URL to the license agreement	https://www.nuget.org/packages/WPFLocalizeExtension/3.6.1/license
Has this package been modified	No

Package name	WPFLocalizeExtension
Package Version	3.6.1
URL from which the package has been Downloaded	https://www.nuget.org/packages/WPFLocalizeExtension/3.6.1
Open Source Software license and version	Microsoft Public License (Ms-PL)
URL to the license agreement	https://www.nuget.org/packages/WPFLocalizeExtension/3.6.1/license
Has this package been modified	No

Package name	Leaflet
Package Version	1.16.0
URL from which the package has been Downloaded	https://leafletjs.com/download.html
Open Source Software license and version	BSD 2-Clause "Simplified" License
URL to the license agreement	https://github.com/Leaflet/Leaflet/blob/master/LICENSE
Has this package been modified	No

Package name	Leaflet.markercluster
Package Version	1.4.1
URL from which the package has been Downloaded	https://github.com/leaflet/Leaflet.markercluster
Open Source Software license and version	MIT
URL to the license agreement	https://github.com/Leaflet/Leaflet.markercluster/blob/master/MIT-LICENCE.txt
Has this package been modified	No

Package name	Leaflet.contextmenu
Package Version	1.4.0
URL from which the package has been Downloaded	https://github.com/aratcliffe/Leaflet.contextmenu
Open Source Software license and version	MIT
URL to the license agreement	https://github.com/aratcliffe/Leaflet.contextmenu/blob/master/LICENSE.md
Has this package been modified	Yes

Package name	WiX Toolset
Package Version	3.11.0
URL from which the package has been Downloaded	https://wixtoolset.org/releases/
Open Source Software license and version	Microsoft Reciprocal License (MS-RL)
URL to the license agreement	https://wixtoolset.org/about/license/
Has this package been modified	No

Package name	Npgsql
Package Version	4.0.10
URL from which the package has been Downloaded	https://www.nuget.org/packages/Npgsql/4.0.10
Open Source Software license and version	PostgreSQL License
URL to the license agreement	https://github.com/npgsql/npgsql/blob/dev/LICENSE
Has this package been modified	No

Package name	PostgreSQL
Package Version	12
URL from which the package has been Downloaded	https://www.postgresql.org/download/windows/
Open Source Software license and version	PostgreSQL License
URL to the license agreement	https://www.postgresql.org/about/licence/
Has this package been modified	No

Package name	erts (part of Erlang/OTP 20.3)
Package Version	9.3
URL from which the package has been Downloaded	https://www.erlang.org/downloads/20.3
Open Source Software license and version	Apache License, Version 2.0
URL to the license agreement	https://github.com/erlang/otp/blob/master/LICENSE.txt
Has this package been modified	No

Package name	lager
Package Version	3.2.4
URL from which the package has been Downloaded	https://github.com/basho/lager
Open Source Software license and version	Apache License, Version 2.0
URL to the license agreement	https://github.com/basho/lager/blob/3.2.4/LICENSE
Has this package been modified	No

Package name	goldrush
Package Version	0.1.9
URL from which the package has been Downloaded	https://github.com/basho/goldrush/tree/0.1.9
Open Source Software license and version	ISC License (functionally equivalent to the BSD 2-Clause and MIT licenses)
URL to the license agreement	https://github.com/basho/goldrush/blob/0.1.9/LICENSE
Has this package been modified	No

Package name	Gproc
Package Version	0.8.0
URL from which the package has been Downloaded	https://github.com/uwiger/gproc
Open Source Software license and version	Apache License, Version 2.0
URL to the license agreement	https://github.com/uwiger/gproc/blob/master/LICENSE
Has this package been modified	No

Package name	jsone
Package Version	1.5.2
URL from which the package has been Downloaded	https://github.com/sile/jsone/
Open Source Software license and version	MIT
URL to the license agreement	https://github.com/sile/jsone/blob/1.4.4/COPYING
Has this package been modified	No

Package name	cowboy
Package Version	2.0.0-rc.1
URL from which the package has been Downloaded	https://github.com/ninenines/cowboy/
Open Source Software license and version	ISC License (functionally equivalent to the BSD 2-Clause and MIT licenses)

URL to the license agreement	https://github.com/ninenines/cowboy/blob/2.0.0-rc.1/LICENSE
Has this package been modified	No

Package name	cowlib
Package Version	2.0.0-rc.1
URL from which the package has been Downloaded	https://github.com/ninenines/cowlib/tree/2.0.0-rc.1
Open Source Software license and version	ISC License (functionally equivalent to the BSD 2-Clause and MIT licenses)
URL to the license agreement	https://github.com/ninenines/cowlib/blob/2.0.0-rc.1/LICENSE
Has this package been modified	No

Package name	ranch
Package Version	1.4.0
URL from which the package has been Downloaded	https://github.com/ninenines/ranch/tree/1.4.0
Open Source Software license and version	ISC License (functionally equivalent to the BSD 2-Clause and MIT licenses)
URL to the license agreement	https://github.com/ninenines/ranch/blob/1.4.0/LICENSE
Has this package been modified	No

Package name	orber
Package Version	4.5

URL from which the package has been Downloaded	https://github.com/erlang/corba/tree/4.5
Open Source Software license and version	Apache License, Version 2.0
URL to the license agreement	https://github.com/erlang/corba/blob/4.5/LICENSE.txt
Has this package been modified	Yes

Package name	epgsql
Package Version	4.4.0
URL from which the package has been Downloaded	https://github.com/epgsql/epgsql/tree/4.4.0
Open Source Software license and version	
URL to the license agreement	https://github.com/epgsql/epgsql/blob/4.4.0/LICENSE
Has this package been modified	No

Contact Information

SmartPTT Express is developed and released by Elcomplus LLC. For more information on the product, visit https://smartptt.com/products/smartptt-express/.

Technical Support

Support of the SmartPTT Express product is provided by the SmartPTT Technical Support Center. The official web page of the center is support.smartptt.com.

To contact a technical support engineer, use the following information:

Email address	support@smartptt.com
Request support online	http://support.smartptt.com/hc/en-us/requests/new
Phone/fax number	+7 3822 522 511 (dial now)

By default, phone calls are answered by a Russian-speaking operator. Ask him/her to redirect your call to an English-speaking operator.

When your request is being handled, you may receive additional contact information that includes engineer phone numbers, Skype contacts, and more.

Technical Support Disclaimer

SmartPTT Technical Support Center does not resolve issues in Motorola Solutions hardware and/or software. If the hardware and software is improperly configured or inoperable, contact the Motorola Solutions representative in your region.

Technical Support Center does not resolve issues that occurred after attempts to use any undocumented SmartPTT Express features unless those were used by the Elcomplus LLC technical support engineer or other Elcomplus LLC representative. Please inform technical support engineers if any undocumented features or configurations were used.

Sales & Marketing

If you have any questions related to SmartPTT Express sales and marketing, use the following contact information:

Email address	sales@smartptt.com

Documentation

To improve customer information, Elcomplus LLC appreciates any feedback on this document. Please send your comments, suggestions, and report documentation issues to support@smartptt.com.

Glossary

In the document, the following terms are used:

DIMETRA Console User

User whose account is created and configured in DIMETRA Express as an API-type console user. Can be referred to as "DIMETRA user". Do not confuse the term with "radio user" or "SmartPTT Express Client user".

SmartPTT Express Client User

User whose account is authenticated by SmartPTT Express Server and associated with a DIMETRA console user account.

Dispatch Console

Computer-based device used to install and host SmartPTT Express Client.

Radio User

User whose account is created and configured in DIMETRA Express as a user of a mobile/portable radio. Can be referred to as "subscriber" or "DIMETRA radio user".

Retention Policy

Rules of information management in limited-size storage when its maximum size is reached.

Transmission

Continuous voice/data stream over a radio channel. Can be interrupted by another transmission.

Voice Call

Series of voice transmissions where at least one party does not change. Can be interrupted by another transmission or call.

User ID

Unique personal identifier of a DIMETRA user. Can be referred to as "individual short subscriber identity" (ISSI). Includes Radio IDs and Console User IDs.