

SmartPTT Express Installation and Configuration Guide

Revision History

Revision	Description	Date
2.1.0	<p>Second revision of the document. The document is compliant with SmartPTT Express 2.1.</p> <ul style="list-style-type: none">• Added:<ul style="list-style-type: none">• Map Providers on page 22• Location Services Configuration on page 52• Modified:<ul style="list-style-type: none">• Revision History Conventions• Capacity on page 12• Software Requirements on page 14• DIMETRA Express Configuration on page 16• Connecting to DIMETRA Express Voice Logging Service on page 49• Language and grammar enhancements	June 2019
1.0	<p>Initial revision of the document. The document is compliant with SmartPTT Express 2.0.</p>	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

Revision History	2
About This Document	7
Conventions & Assumptions	7
Related Information	7
Chapter 1. Overview	9
Components	9
SmartPTT Express Server & SmartPTT Express Configurator	9
SmartPTT Express Client	10
Other Software	11
Features	11
Capacity	12
System Requirements	13
Radio System Compatibility	13
Hardware Requirements	13
Software Requirements	14
Network Environment Requirements	14
Chapter 2. Environment Preparation	16
DIMETRA Express Configuration	16
Addressing Notes	18
Communication with DIMETRA Express	18
Disk Space Management	18
System Roles & Authorization	19
Power-Saving Mode Turnoff	20
Network Time Synchronization	20
Date & Time Format Adjustment	20
Antivirus & Firewall Configuration	21
Map Providers	22

Chapter 3. Software Installation	24
Installing SmartPTT Express	24
Installing Standalone SmartPTT Express Client	29
Modification of the Installed Software	30
Chapter 4. SmartPTT Express Configuration	32
Logging on to the SmartPTT Express Configurator	32
Changing Language	34
SmartPTT Express Server Service Control	34
Generating Hardware ID	35
First-Start Configuration	36
Installing License	36
Assigning User Groups to System Roles	37
Configuring SmartPTT Express Server Interfaces	38
Editing Miscellaneous Settings	39
Adding & Editing Consoles	40
Adding & Editing Users	41
DIMETRA Express Connection	43
Adding & Editing DIMETRA Express Connection	43
Configuring Associations between DIMETRA Express and SmartPTT Express User Accounts	45
Managing Talkgroup Access	46
Configuring Talkgroup Availability	47
Voice Logging Configuration	48
Connecting to DIMETRA Express Voice Logging Service	49
Configuring Voice Record Storage	50
Location Services Configuration	52
Connecting to DIMETRA Express Short Data Service	52
Configuring Location Service in SmartPTT Express	54
Exporting Configuration	55
Chapter 5. Maintenance & Re-Installation	57

Editing Layout Availability Settings	57
Upgrading SmartPTT Express	58
Importing Configuration	59
Re-Configuring SmartPTT Express Server	60
Uninstalling Software	61
Chapter 6. Troubleshooting	63
DIMETRA Express Connection Issues on Settings Update	63
DIMETRA Express Settings Update Issues	63
Voice Calling Issues	63
Voice Calls Unavailability with Windows Firewall Turned Off	63
Delays in Audio Archive Settings Application	64
Voice Logging Settings Update	64
Absence of the Location Information	64
Appendix A. Configurator User Interface	65
SmartPTT Express Login Window	65
Toolbar	66
Configurator Settings Window	67
Invalid Configuration Data Window	67
Licenses	68
Hardware ID Window	69
System Parameters	70
System Parameters	70
System Roles	71
Server Parameters	72
Consoles	73
Users	73
Talkgroup Access Assignment Window	75
Radio Systems	75
Radio System Parameters	75

- DIMETRA System Parameters 76
- DIMETRA User Credentials Window 77
- Server Parameters 78
- Digital Audio Recording Parameters 79
- Radio IDs Window 80
- Short Data Transport Parameters 81
- System Description 83
- Talkgroups 83
- Layouts 84
 - Dispatchers Window 85
- Digital Audio Recording 86
- Location Service 88
- Status Bar 89
- Contact Information 90**
 - Technical Support 90
 - Sales & Marketing 90
 - Documentation 91
- Glossary 92**
- Index 93**

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
Hyperlinks	https://smartptt.com/products/smartptt-express/
Cross-references	See Glossary on page 92.
Other documents	<i>SmartPTT Express User Guide</i>

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 another 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.

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 brandname 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.

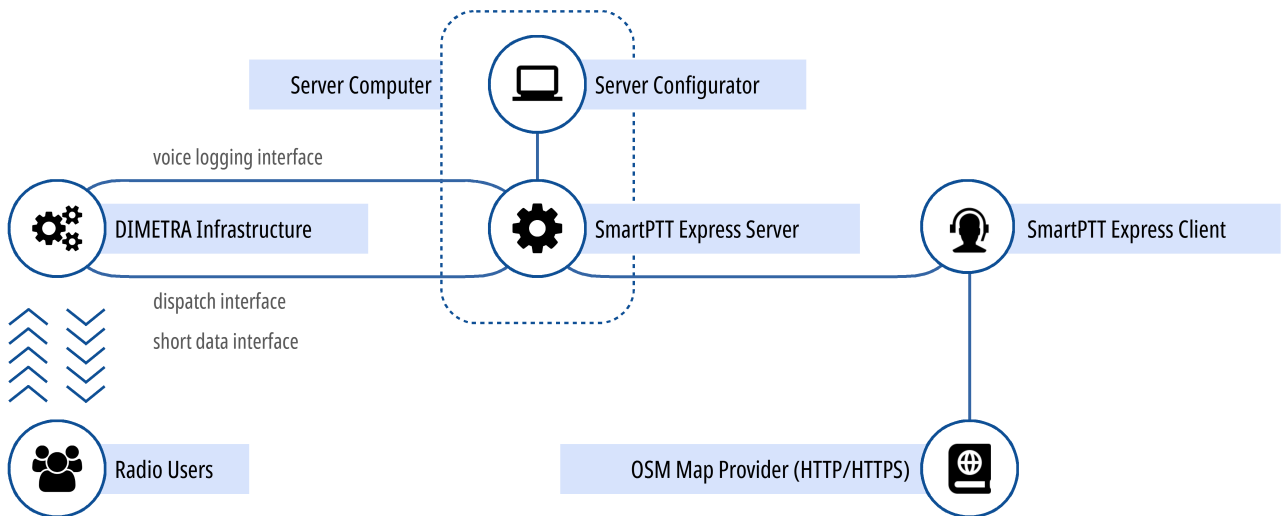


Figure 1: SmartPTT Express Overview

SmartPTT Express connects to the DIMETRA Express Server over IPv4 and receives all the supported dispatch features from it. 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**.

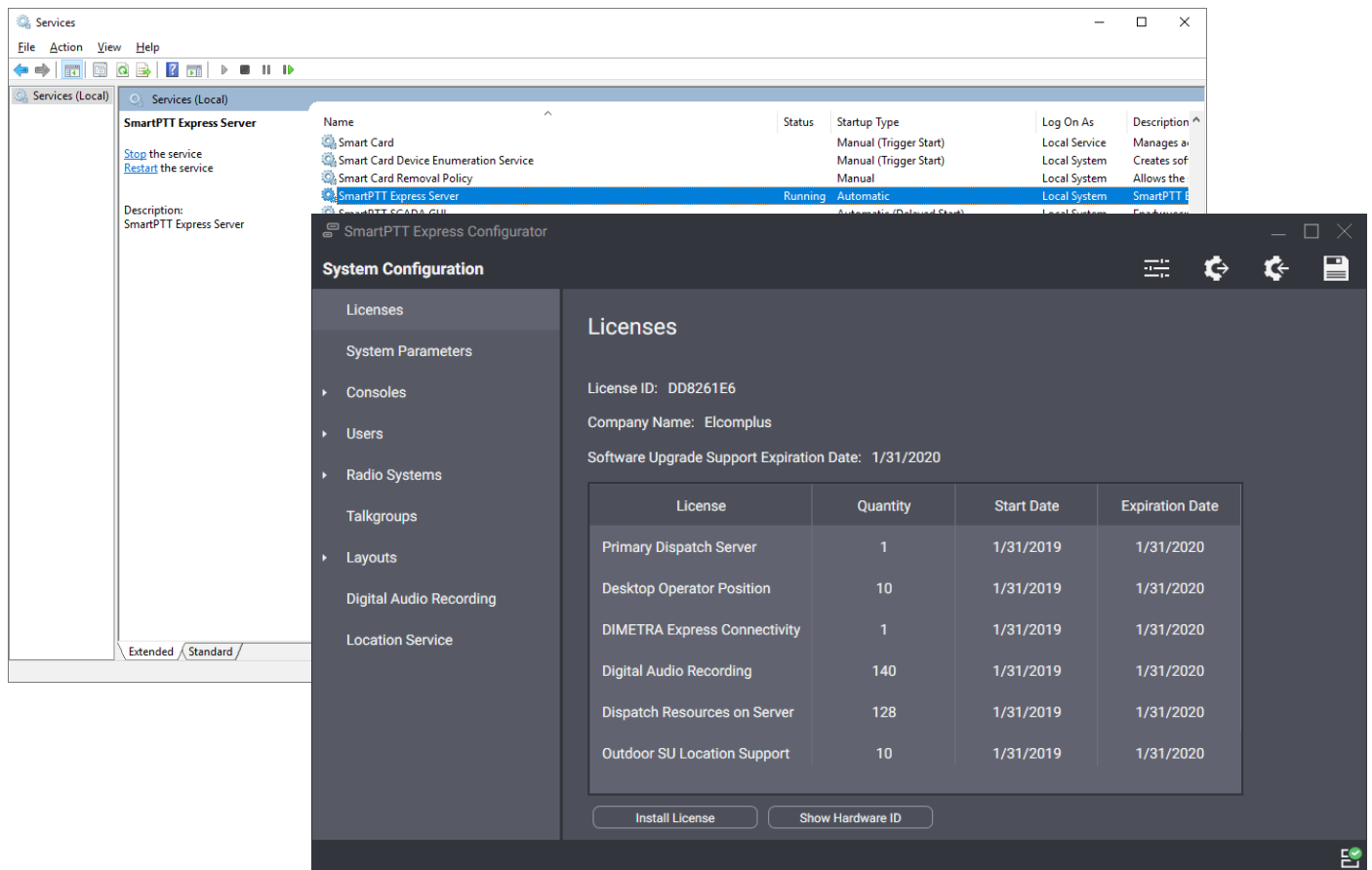


Figure 2: SmartPTT Express Server Service and SmartPTT Express Configurator

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, and saves changes.

To apply some changes, SmartPTT Express Server restart is required. SmartPTT Express Configurator informs users about the restart necessity when changes are saved.

The application is installed together with the SmartPTT Express Server, on the same computer. It is unavailable for standalone installation and is not intended for remote connection to SmartPTT Express Server.

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.

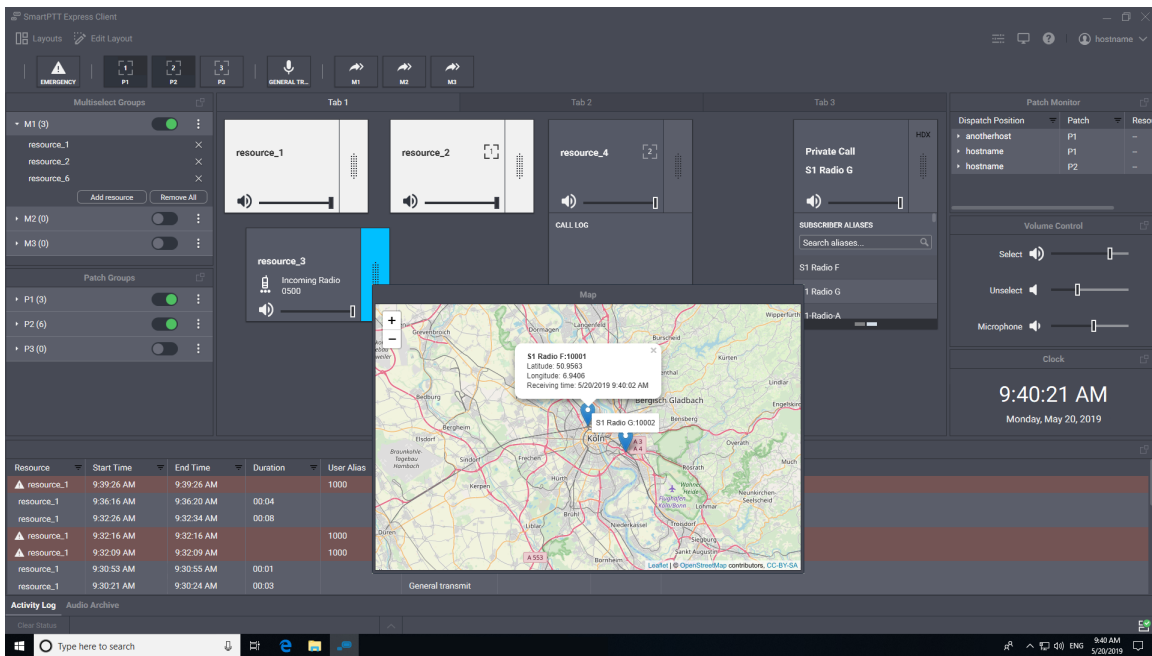


Figure 3: SmartPTT Express Client Overview (Example)

SmartPTT Express Client requires a continuous connection to the SmartPTT Express Server. If the connection is lost, SmartPTT Express Client immediately logs off the user to prevent data desynchronization.

1.1.3 Other Software

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

1.2 Features

SmartPTT Express provides multiple features.

Dispatch features

- Incoming and outgoing group calls (Group PTT).
- Call parties identification.
- Half-duplex and full-duplex private calls (individual calls).
- Various transmit priorities: General Transmit, Instant Transmit, All-Points Bulletin (APB) Transmit.
- Single & multiple talkgroup selection.
- Incoming emergency alarms and emergency calls.
- Talkgroup patching.

- Voice logging & records playback.
- Receiving radio user coordinates from DIMETRA Express.
- Showing radio user locations on an OpenStreetMap.
- Communication with other SmartPTT Express Client users over DIMETRA Express.

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.
- PTT accessories support (Footswitch FS22A-JSB by Kinesis).
- Multilingual user interface.

Administration features

- Access to DIMETRA radio users and talkgroups over DIMETRA Express.
- 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 and DIMETRA-limited number of radios; 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 3 multiselect groups (1 active at a time); each may include up to 16 talkgroups.
- Up to 3 patch groups that can be active simultaneously; each group may include up to 16 talkgroups.

- Up to 10 dispatch consoles in the system with voice dispatch capabilities (limited by DIMETRA Express).
- Up to 100 dispatch consoles in the system with voice logging and location tracking capabilities.

1.4 System Requirements

SmartPTT Express states some 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 radio systems.

1.4.2 Hardware Requirements

Computer hardware intended to host SmartPTT Express software must comply with the minimum requirements provided in [Table 1](#).

Table 1: Hardware Requirements

Parameter	Value
Processor	dual-core processor with 3.4 GHz clock frequency Multithread: Required.
Memory	8 GB
Disk	Space: 256 GB and more Read/write speed: 600 MB/s
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

Parameter	Value
	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 regular hard disk drives.

Notice: 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 must comply with the requirements provided in [Table 2](#).

Table 2: Operating System Requirements

Parameter	Value
Editions	Windows 10 Pro, version 1803 and 1809
	Windows 10 Enterprise, version 1803 and 1809
	Windows 10 Enterprise LTSC 2016
System Type	64-bit

For more information on LTSC versions of Windows 10, see <https://docs.microsoft.com/en-us/windows/what-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 that use its API. The configuration is possible if specific license is installed in DIMETRA. 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	required	Supports dispatch console connection with the following features: <ul style="list-style-type: none">• voice calls• radio user location.
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.

To configure DIMETRA Express, the following actions must be performed:

- IP address of the SmartPTT Express Server computer must be configured as the IP address of the dispatch console.
- Dispatch console users must be added, and their credentials (login and password) must be provided to the person who will configure SmartPTT Express Server.

Important:

DIMETRA Express does not provide tools to view the password of the created dispatch console user.

Minimum required information on those actions as well as the relevant information is available in *DIMETRA Express Maintenance Guide* and the embedded help of the DIMETRA Network Manager. For additional information and the configuration assistance, contact Motorola Solutions representative in your region.

After the complete DIMETRA configuration, the following information must be collected from its configuration that will be required during the SmartPTT Express configuration:

- IP address of the DIMETRA Express system (may refer to as “Link 1” IP address).
- Credentials of the dispatch console users (logins and passwords).
- Host names that must be used by SmartPTT Express to connect to DIMETRA Express and exchange data with it.

Voice Logging

SmartPTT Express can be used as an external voice logger in DIMETRA Express. For this, the following actions must be performed:

- IP address and TCP-port of the voice logger must be configured. For details, see “Voice Logging” in the embedded help of the DIMETRA Network Manager.
- Voice logger credentials must be configured and provided to the person who will configure SmartPTT Express.
- Additional host names must be received from DIMETRA Express.

Voice calls are provided to SmartPTT Express over the TCP protocol and, therefore, they are not synchronized with over-the-air voice reception/transmission.

Outdoor Location Support

DIMETRA Express is able to provide radio user location to SmartPTT Express. The location means a pair of coordinates, latitude and longitude. To support the feature, the following actions must be performed:

- At least one Short Data Host must be configured in DIMETRA Express. For details, see “Short Data” in the embedded help of the DIMETRA Network Manager.
- 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.

2.2 Addressing Notes

SmartPTT Express and DIMETRA Express support IPv4 addresses only. No IPv6 is supported.

If SmartPTT Express will be used as both dispatch and voice logging software, SmartPTT Express Server host must have two IP addresses simultaneously. The first IP address is used to authenticate SmartPTT Express Server as an API-type console in DIMETRA Express. The second IP address is used to authenticate it as an external voice logger.

2.2.1 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. DIMETRA Express host names must be resolved to the DIMETRA Express IP on the SmartPTT Express Server computer. 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 computer.

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.

2.3 Disk Space Management

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

- Manage event logging.
- Manage voice record 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 Storage

SmartPTT Express stores voice records on the C:\ drive of the SmartPTT Express Server host. The storage location (including the disk letter) cannot be changed.

By default, the storage increases until less than 20% of the disk space is free. When this threshold is reached, SmartPTT Express Server overflow policy takes effect and the storage stops growing.

Important:

Voice record storage does not allocate (reserve) disk space.

Plan disk space using ~42 KB per one-minute call as a reference point. Calculate the required disk space using the expected call rate, number of simultaneous voice calls, and the storage retention timeout. For details, contact your system administrator.

2.4 System Roles & Authorization

SmartPTT Express provides the following user roles:

Operators

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

Privileged Operators

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

Supervisors

Are granted all the 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 the 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.

Each system role in SmartPTT Express must be associated with a Windows user group. It can be a default user group, or one created intentionally for SmartPTT Express. If the same group is assigned to multiple system roles, the most privileged role will apply.

Notice:

All user groups must be part of the same Active Directory, or exist on the SmartPTT Express Server computer.

A user account may belong to multiple groups at once. In this case, the user receives the most privileged role.

For details on the system roles configuration, see [Assigning User Groups to System Roles](#) on page 37.

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.

2.5 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.

2.6 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.

2.7 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.

2.8 Antivirus & Firewall Configuration

Customer antivirus or firewall software, at some configurations, 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

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 computers	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 60.
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 38.
55000* (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 43.

Default port & protocol	Host	Description
49152–49152 (UDP)	SmartPTT Express Server	Real-time voice traffic between SmartPTT Express Server and DIMETRA Express. For details, see Adding & Editing DIMETRA Express Connection on page 43.
61000–61000 (UDP)	SmartPTT Express Server	Voice records reception from DIMETRA Express. For details, see Connecting to DIMETRA Express Voice Logging Service on page 49.
6006* (TCP)	SmartPTT Express Server	Radio user coordinates reception from DIMETRA Express. For details, see Connecting to DIMETRA Express Short Data Service on page 52.
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 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 [Technical Support](#) on page 90.

2.9 Map Providers

SmartPTT Express uses the OpenStreetMap (OSM) format of maps to show radio user location. The source of maps (map provider) must be an external HTTP server. No other protocols and formats are supported (including maps stored as files, without a server).

Important:

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

The URL address of the OSM 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>

Description of substitutions is available in [Table 7](#).

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 to set individual credentials to each dispatch console.

If authentication credentials must be provided in the URL, additional substitutions must be used. They are described in [Table 8](#).

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 authentication configuration details, see [Configuring Location Service in SmartPTT Express](#) on page 54.

Chapter 3. Software Installation

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

3.1 Installing SmartPTT Express

Follow the procedure to install SmartPTT Express on a computer.

Prerequisites:

- Obtain the required authorization type and the SmartPTT Express Server IP address.
- Make the installation file (default name is **SmartPTTExpressSetup.exe**) available on the SmartPTT Express host using local or network storage.

Procedure:

1. Start the installation file from the SmartPTT Express host.
End-User License Agreement (EULA) appears.

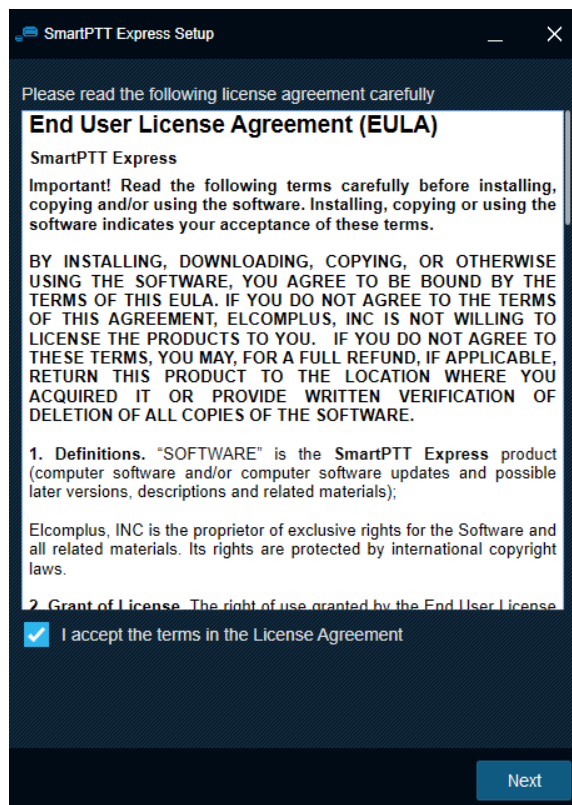


Figure 4: EULA in the Installation Program

- 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.

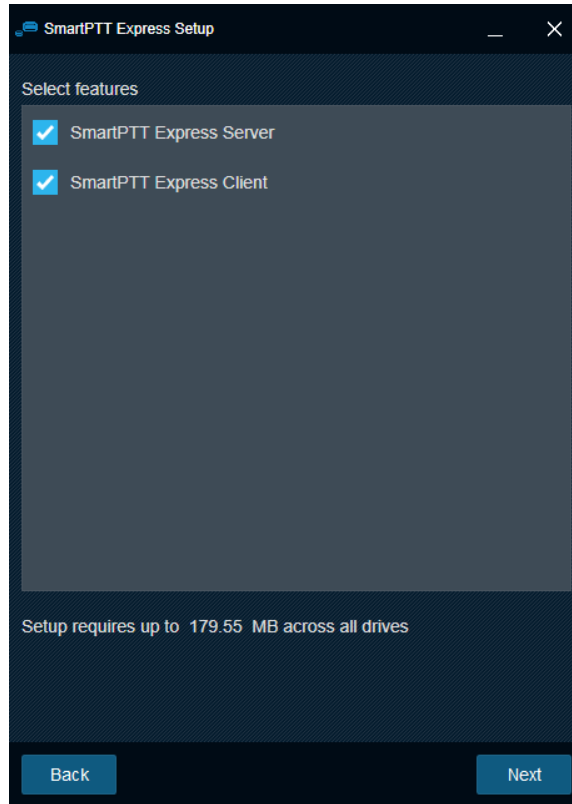


Figure 5: Software Components in the Installation Program

- In the window that appears, perform the following actions:

To install SmartPTT Express Server, select **SmartPTT Express Server**. Otherwise, clear it.

To install SmartPTT Express Client, select **SmartPTT Express Client**. Otherwise, clear it.

- Click **Next**.

Installation paths appear.

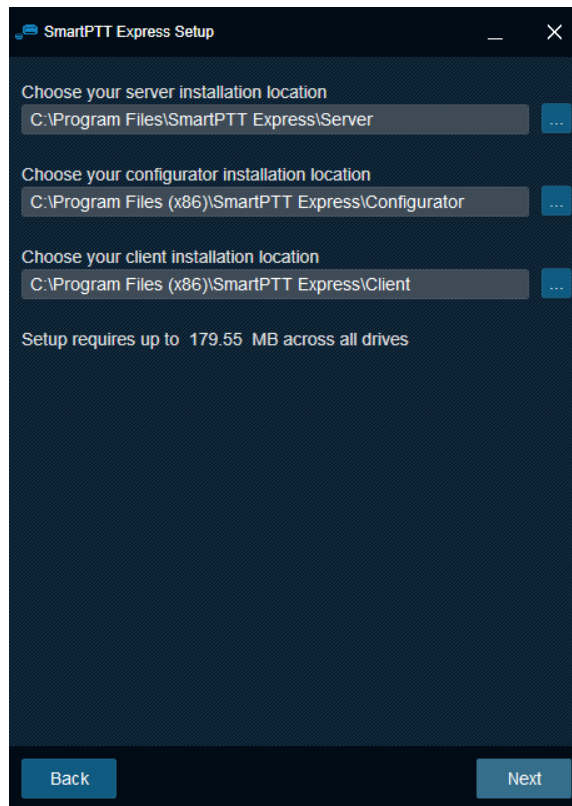


Figure 6: Software Installation Paths

5. (Optional) Change the installation path:
 - a. To the right of the text field of a component, click **Browse** .
 - b. In the dialog box, select the desired path. Then click **Open**.
The new path appears in the text field.
6. Repeat the previous step for other components. Then click **Next**.
Initial authentication settings appear.

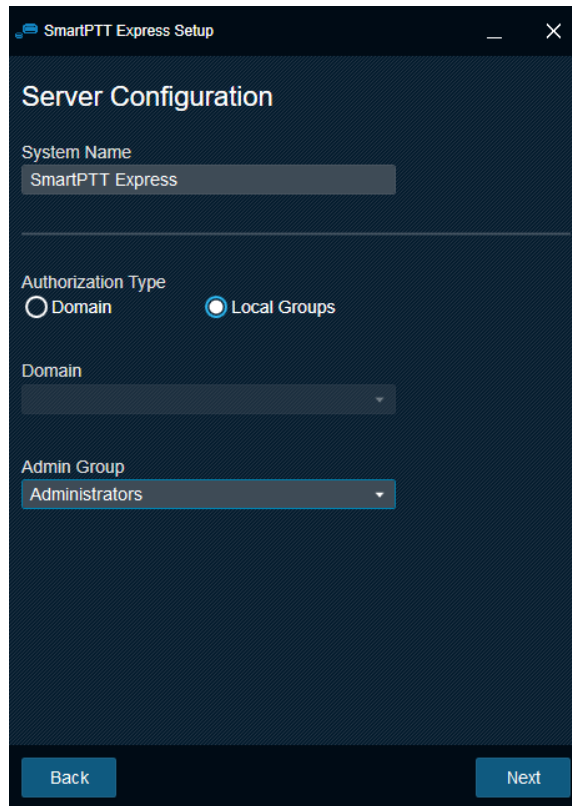


Figure 7: Authentication Settings

7. (Optional) In the window that appears, in the **System name** field, enter a name for the SmartPTT Express system.
8. Select the user authentication method:

To set domain authorization, ...

perform the following actions:

1. Click **Domain**.
2. From the **Domain** list, select the required domain name.

To set local authorization, ...

click **Local Groups**.

9. From the **Admin Group** list, select the Windows group that will be granted administrator permissions in SmartPTT Express. Then click **Next**.
Initial SmartPTT Express Configurator or SmartPTT Express Client settings appear.
10. In the window that appears, perform the following actions:
 - a. In the **Server IP Address** field, enter the network interface that will be used for connection between SmartPTT Express Configurator and SmartPTT Express Server. By default the current computer IP is used.
 - b. (Optional) If the **Port** field appears, enter the TCP port of the SmartPTT Express Server host.
 - c. Click **Next**.

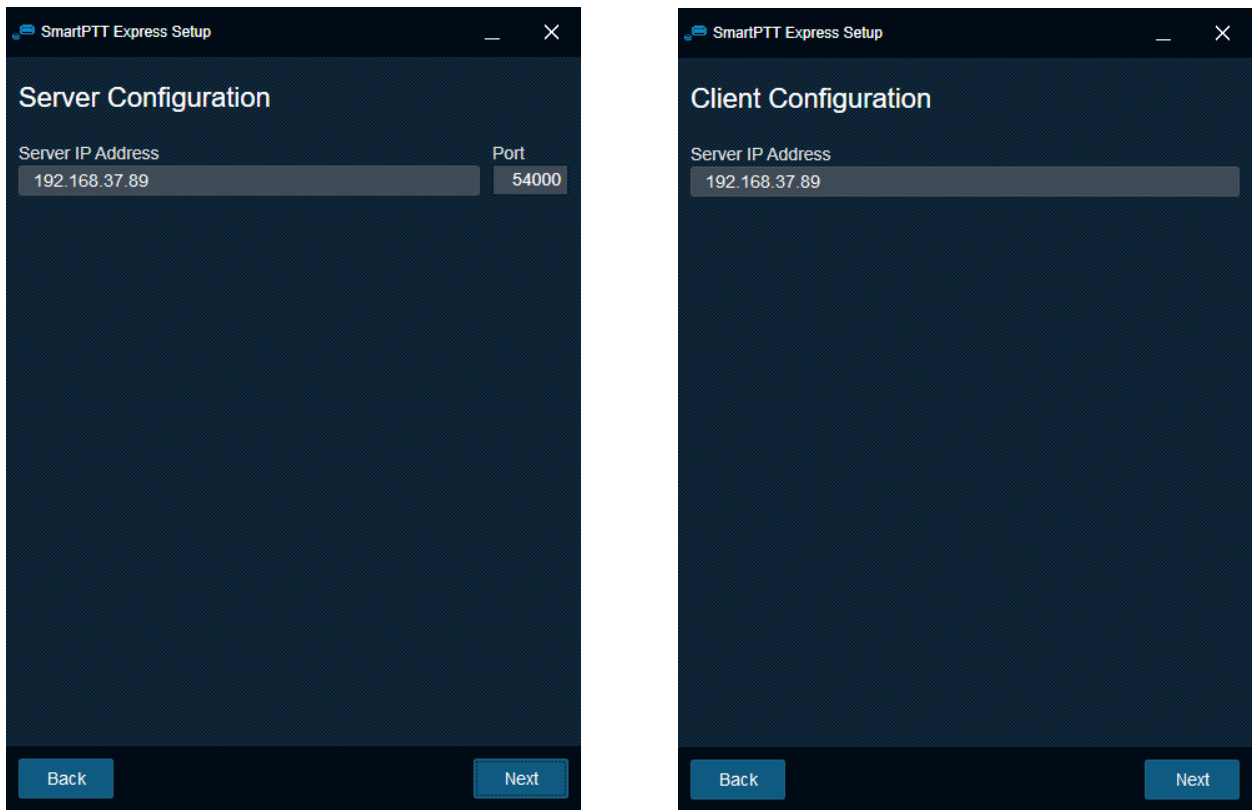


Figure 8: Initial SmartPTT Express Configurator and SmartPTT Express ClientSettings

11. 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. |

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

Installation summary appears.

13. In the window that appears, look through the installation summary. Then perform one of the following actions:

- | | |
|--------------------------------|--|
| If the information is correct, | click Install . |
| If incorrect data appears, | perform the following actions: <ol style="list-style-type: none"> 1. Click Back until the incorrect data fields appear. 2. Repeat the relevant steps of this instruction to make the necessary changes. |

-
3. Click **Next** until the installation summary appears again.
 4. Repeat the current step.
-

Important:

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

Postrequisites:

Change SmartPTT Express Server Event Log size. For details, see [Disk Space Management](#) on page 18.


3.2 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 24.

Prerequisites:

- Obtain the SmartPTT Express Server host IP.
- Make the installation file (default name is **SmartPTTExpressSetup.exe**) available on the dispatch console computer using local or network storage.

Procedure:

1. Start the installation file.
End-User License Agreement (EULA) appears (see [Figure 4](#) on page 24).
2. 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 ([Figure 5](#) on page 25).
3. In the window that appears, perform the following actions:
 - a. Clear **SmartPTT Express Server**.
 - b. Select **SmartPTT Express Client**.
 - c. Click **Next**.
Installation path appears.
4. (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.

5. Click **Next**.
SmartPTT Express Server IP address input appears (see [Figure 8](#) on page 28).
6. 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.
7. In the window that appears, select the check box to add a shortcut on Windows Desktop. Then click **Next**.
Installation summary appears.
8. 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.

3.3 Modification of the Installed Software

If you start the installation file on the computer with installed SmartPTT Express, the application offers the following 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 Software](#) on page 61.

Configure

The button starts the modification of the SmartPTT Express Server authentication and the SmartPTT Express Server network interface update. For details, see [Re-Configuring SmartPTT Express Server](#) on page 60.



Figure 9: Installed Software Modification Options

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 the SmartPTT Express Configurator

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

Important:

After you log on to the SmartPTT Express Configurator you must finish the 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 19.
- Obtain the SmartPTT Express Server IP address and TCP port. For details, see [Installing SmartPTT Express](#) on page 24.
- Start SmartPTT Express Server. For details, see [SmartPTT Express Server Service Control](#) on page 34.

Procedure:

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

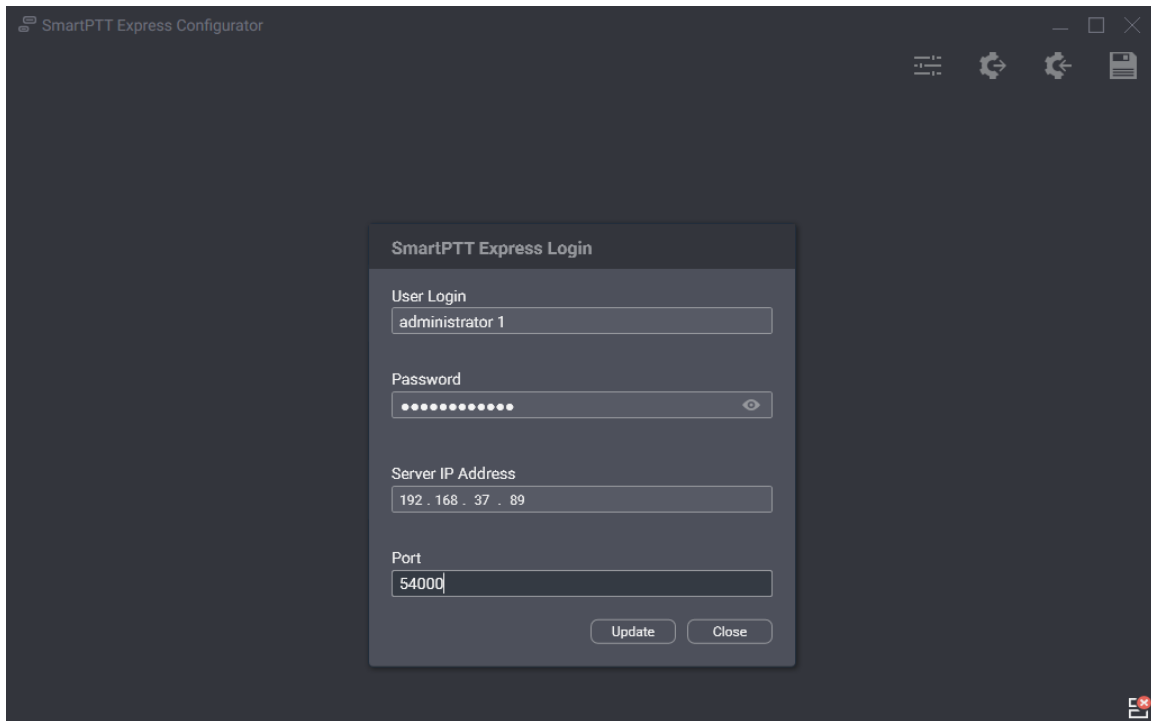





Figure 10: Logging on to SmartPTT Express Configurator

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.
 - c. In the **Port** field, type the TCP port number.
 - 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 30.

3. In the **User name / ID** field, type the user login.
4. In the **Password** field, type the user password.
5. Click **Log In**.
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 36.


4.2 Changing Language

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

Prerequisites:

Log on to the SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, on the Toolbar, click **Configurator settings**  . The **Configurator settings** window appears.

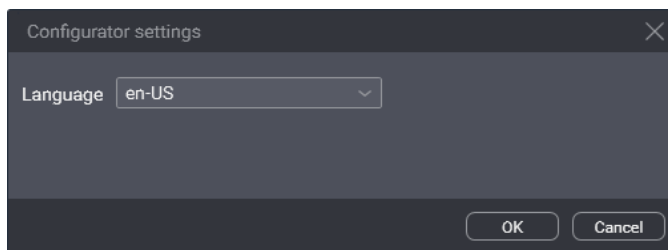


Figure 11: SmartPTT Express Configurator Language Selection

2. In the window that appears, from the **Language** list, select the required language by its IETF tag. 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. Restart may be required to apply configuration changes.

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

Prerequisites:

- Install SmartPTT Express Server.
- Log on to the SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, click the **Licenses** tab.
License information appears.

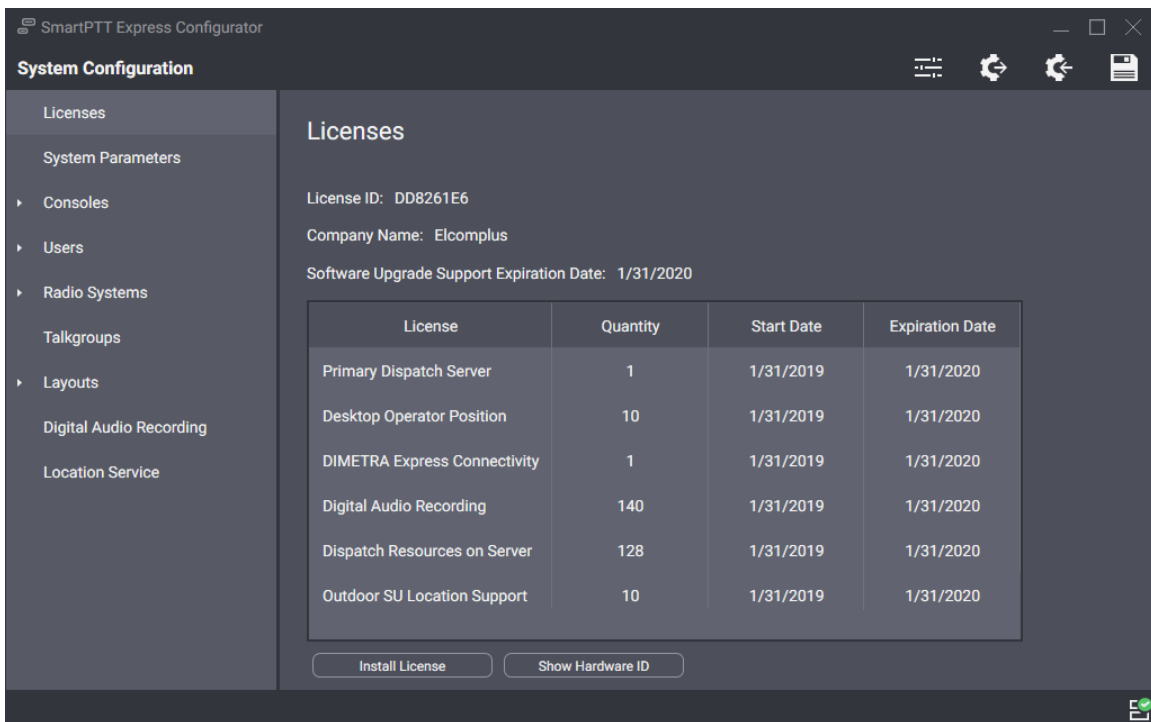


Figure 12: Accessing Licensing Settings

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

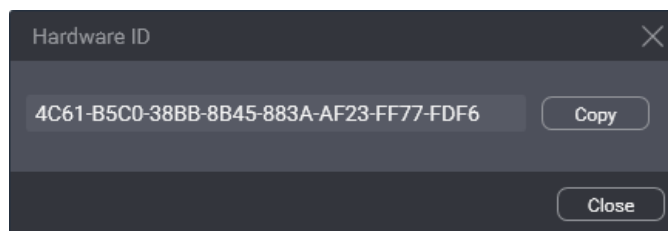


Figure 13: Viewing Hardware ID

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 36.

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 36.
- Select user groups for supervisors, operators, and privileged operators. For details, see [Assigning User Groups to System Roles](#) on page 37.
- Determine SmartPTT Express Server addresses and ports. For details, see [Configuring SmartPTT Express Server Interfaces](#) on page 38.

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 computer.
- Log on to the SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, click the **Licenses** tab.
Licensing information appears on the right pane (see [Figure 12](#) on page 35).
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. Ensure that the information is correct.

Postrequisites:

- Assign user groups to system roles. For details, see [Assigning User Groups to System Roles](#) on page 37.
- Configure SmartPTT Express Server interfaces. For details, see [Configuring SmartPTT Express Server Interfaces](#) on page 38.

4.5.2 Assigning User Groups to System Roles

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

Prerequisites:

- Obtain user group names for all system roles.
- Log on to the 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.

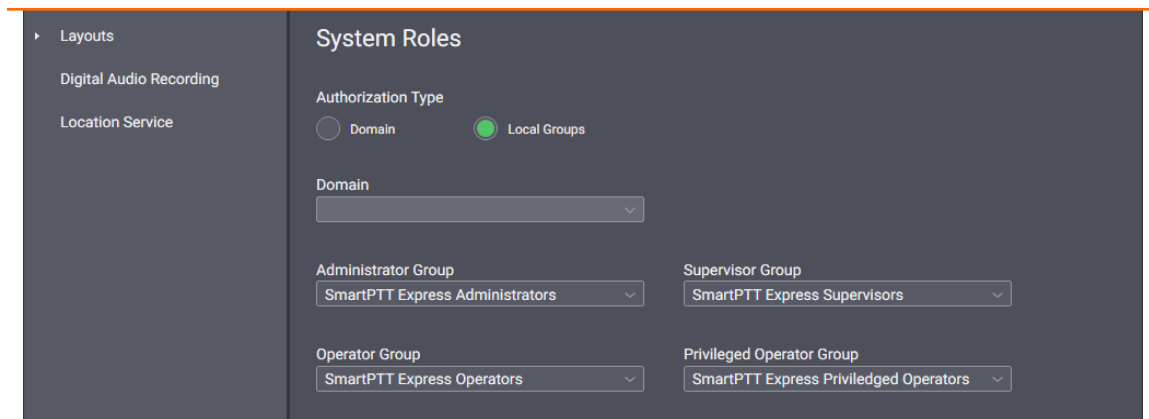


Figure 14: System Roles Configuration in SmartPTT Express Configurator

2. On the right pane, in the **System Roles** area, change the authentication method:

To set domain authorization, perform the following actions:

1. Click **Domain**.
2. From the **Domain** list, select the required domain name.


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

3. In the same area, select the desired user groups:
 - From the **Supervisor** list, select the user group for supervisors.

- From the **Operator** list, select the user group for regular operators.
 - From the **Privileged Operator** list, select the user group for privileged operators.
 - (Optional) From the **Administrator** list, select the user group for administrators.
4. Perform one of the following actions:

If you have completed first-start configuration, in 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 38.

If you are not performing first-start configuration, in 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 the SmartPTT Express Server IP address, TCP and the corresponding UDP ports.
- Log on to the 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.

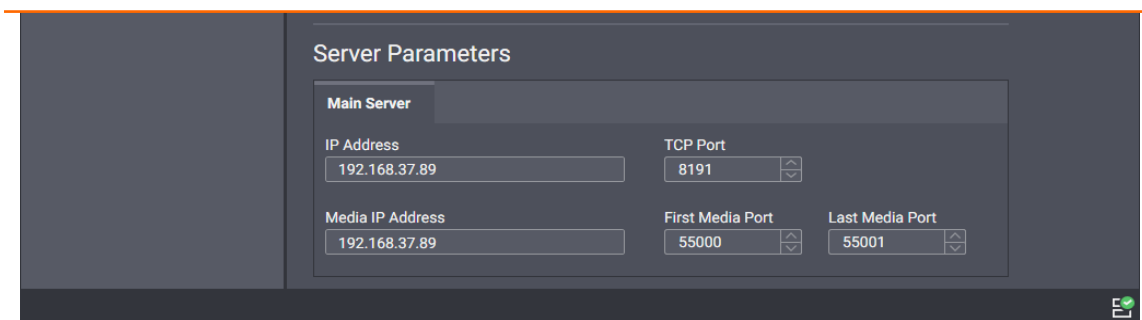



Figure 15: Interfaces Configuration in SmartPTT Express Configurator

2. On the right pane, in the **Main Server** area, in the **IP Address** field, type the SmartPTT Express Server IPv4 address in dot-decimal notation.
3. In the **Media IP** field, type the same address again.

4. In the **TCP Port** field, enter an unlocked TCP port number. For details, see [Table 6: Firewall Ignore List for Network Ports](#) on page 21.
5. Leave values in the **First Media Port** and **Last Media Port** fields unchanged.
6. Perform one of the following actions:

If you have completed first-start configuration, in 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 37.

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

Postrequisites:

To apply changes immediately, restart the SmartPTT Express Server. For details, see [SmartPTT Express Server Service Control](#) on page 34.

4.5.4 Editing Miscellaneous Settings

Follow the procedure to edit miscellaneous SmartPTT Express settings.

Prerequisites:

Log on to the 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.

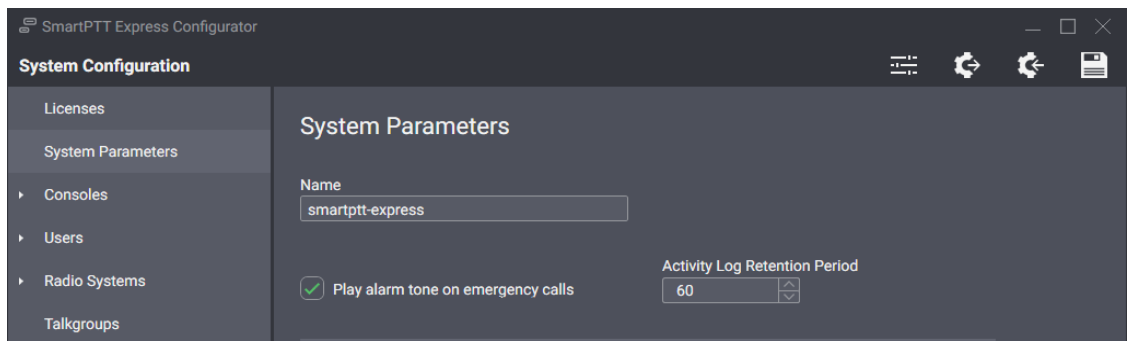



Figure 16: Miscellaneous SmartPTT Express Server Settings

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. (Optional) In the **Name** field, type a name for the SmartPTT Express system.
5. In 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 computer.
- Log on to the 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.

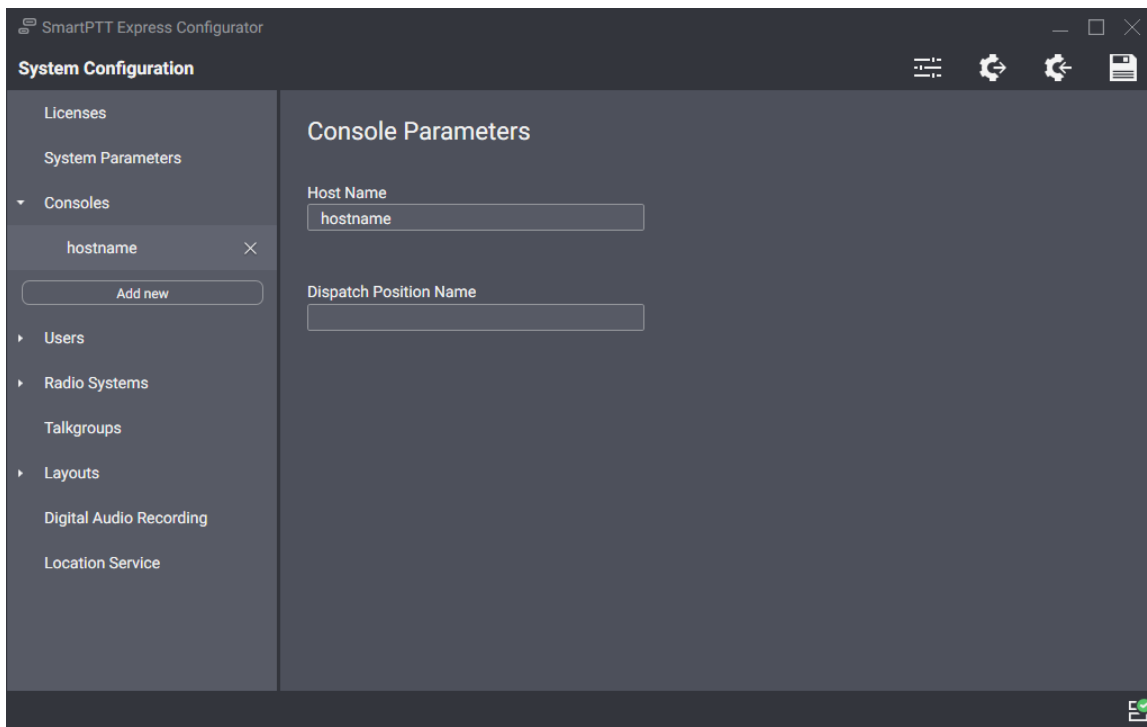



Figure 17: Console Configuration in SmartPTT Express Configurator

2. Perform one of the following actions:

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

3. On the right pane, in the **Host Name** field, type the computer name of the dispatch console computer (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. In the Toolbar, click **Save configuration**  .

Postrequisites:

- Repeat the procedure to add other consoles.
- To apply changes immediately, restart the SmartPTT Express Server. For details, see [SmartPTT Express Server Service Control](#) on page 34.


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 19.
- Log on to the 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.

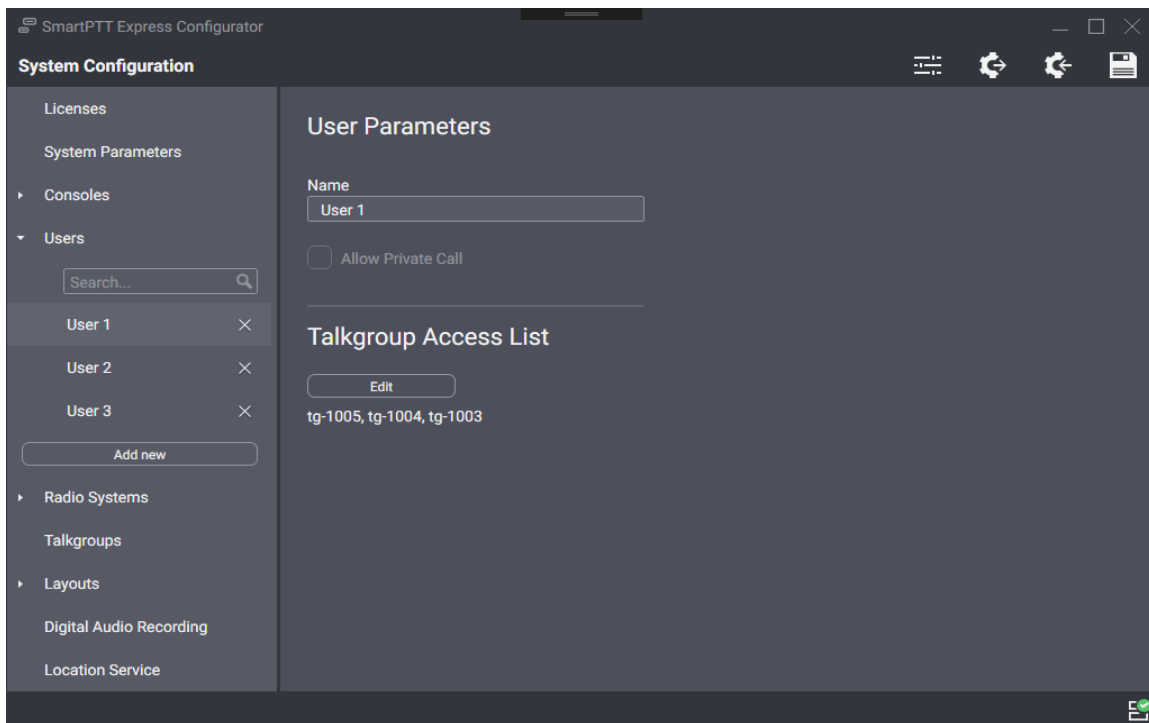


Figure 18: User Account Configuration in SmartPTT Express Configurator

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 available, configure private call permissions:

To allow private calls for the user, select **Allow Private Call**.

To deny private calls reception and initiation to the user, clear **Allow Private Call**.

Important:

The **Allow Private Call** parameter becomes available after SmartPTT Express Server synchronizes with DIMETRA Express.

5. In 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 18.
- Configuration of SmartPTT Express Server interfaces. For details, see [Adding & Editing DIMETRA Express Connection](#) on page 43.
- Account association. For details, see [Configuring Associations between DIMETRA Express and SmartPTT Express User Accounts](#) on page 45.

4.8.1 Adding & Editing DIMETRA Express Connection

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

Prerequisites:

- Add console users in SmartPTT Express Configurator. For details, see [Adding & Editing Users](#) on page 41.
- Obtain DIMETRA Express IP address and port number for API-type consoles. For details, see [DIMETRA Express Configuration](#) on page 16.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **Radio Systems** tab.
2. Perform one of the following actions:

To add a radio system,

click **Add new**.

To edit connection settings,

click a radio system name.

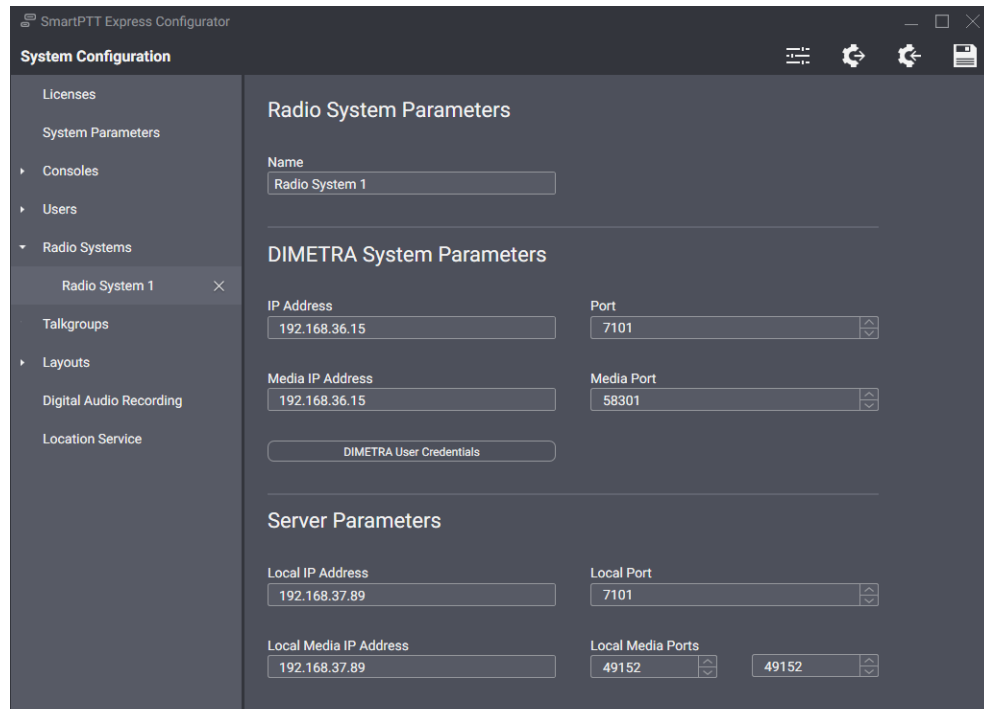


Figure 19: DIMETRA Express Connection Settings in SmartPTT Express Configurator

3. On the right pane, in the **Name** field, type the radio system name.
4. In the **DIMETRA System Parameters** area, enter DIMETRA Express interface parameters:
 - a. In the **IP Address** field, type DIMETRA Express IP.
 - b. In the **Media IP Address** field, type the same address again.
 - c. In the **Port** field, type the Corba TCP Port Number.
 - d. Leave the value in the **Media Port** field unchanged.
5. Synchronize DIMETRA Express and SmartPTT Express user accounts. For details, see [Configuring Associations between DIMETRA Express and SmartPTT Express User Accounts](#) on page 45.
6. In the **Server Parameters** area, enter the SmartPTT Express Server interface parameters:
 - a. In the **Local IP Address** field, enter the SmartPTT Express Server IPv4 address in dot-decimal notation.
 - b. In the **Local Media IP Address** field, type the same address again.
 - c. In the **Local Port** field, type the Corba TCP Port Number.
 - d. Leave values in the **Local Media Ports** fields unchanged.
7. In the **System Description** area at the bottom of the right pane, click the **Sync** button.
The connection and synchronization with DIMETRA Express starts; when it is completed, the corresponding dialog box appears.

8. In the Toolbar, click **Save configuration** .

Postrequisites:

- Allow private calls to SmartPTT Express users. For details, see [Adding & Editing Users](#) on page 41.
- Configure talkgroup availability to SmartPTT Express users. For details, see [Managing Talkgroup Access](#) on page 46.
- To apply changes immediately, restart the SmartPTT Express Server. For details, see [SmartPTT Express Server Service Control](#) on page 34.

4.8.2 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. 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 16.

Procedure:

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

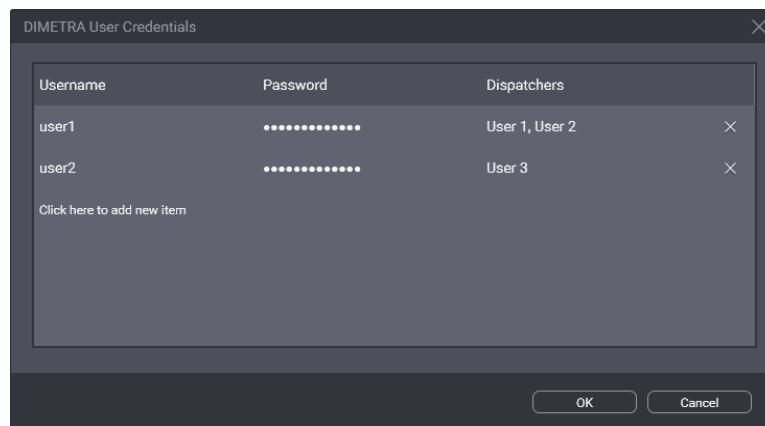




Figure 20: User Accounts Synchronization in SmartPTT Express Configurator

3. 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 bottom 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 the one or multiple SmartPTT Express Client users.
 - f. In the right part of the entry, click **OK**.
4. Repeat the previous step for other accounts.
 5. In the **DIMETRA User Credentials** window, click **OK**.
 6. In the Toolbar, click **Save configuration** .

4.8.3 Managing Talkgroup Access

Follow the procedure to manage talkgroup availability to users.

Prerequisites:

Synchronize SmartPTT Express Server with DIMETRA Express. For details, see [Adding & Editing DIMETRA Express Connection](#) on page 43.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, expand the **Users** tab, and then select the required user.
User settings appear on the right pane (see [Figure 18](#)).
2. On the right pane, in the **Talkgroup Access List** area, click **Edit**.
The **Talkgroup Access Assignment** window appears.

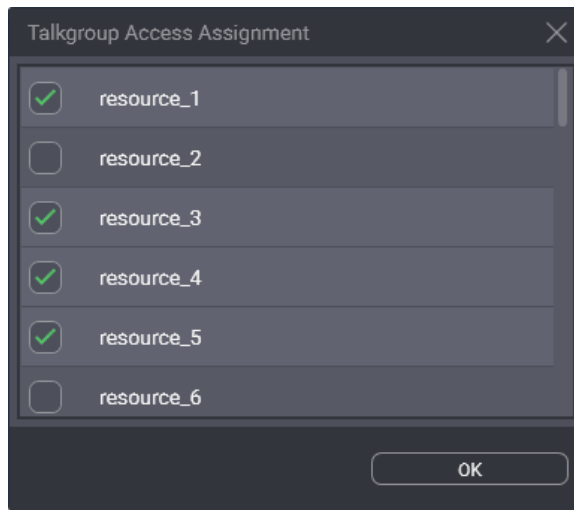



Figure 21: Talkgroup Access Configuration

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

To grant access to the talkgroups, select check boxes to the left of the talkgroups you would like to grant access to.

To deny access to the talkgroups, clear check boxes to the left of the talkgroups you would like to deny access to.

4. In the bottom right corner of the window, click **OK**.
5. In the Toolbar, click **Save configuration** .

Postrequisites:

Repeat the procedure to configure access settings for other users.

4.9 Configuring Talkgroup Availability

Follow the procedure to edit talkgroup availability settings.

Prerequisites:

Synchronize with DIMETRA Express. For details, see [Adding & Editing DIMETRA Express Connection](#) on page 43.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, click the **Talkgroups** tab.

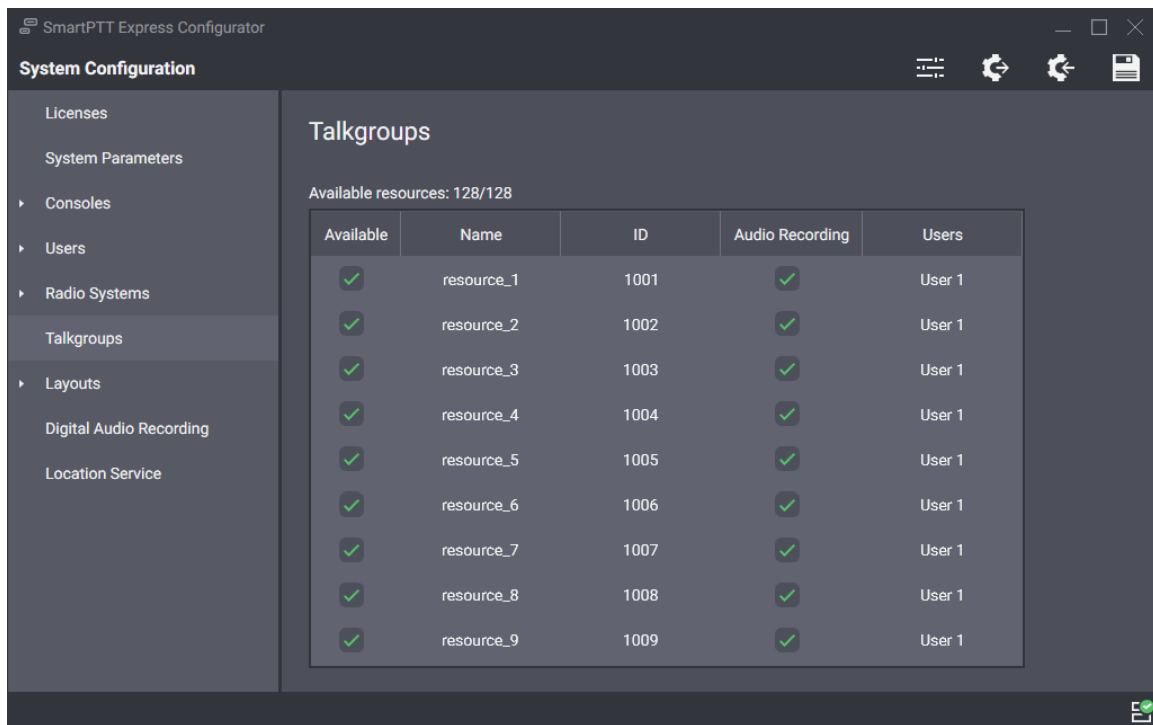



Figure 22: Talkgroup Availability Configuration

2. 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 **Available** column, select the check box to make the talkgroup available in SmartPTT Express.
 - c. In the **Audio Recording** column, select the check box to record the group calls.
 - d. In the **Users** column, click the cell.
User list appears.
 - e. To grant or deny a user access to the talkgroup, click that user's login in the list.
3. Repeat the previous step for other required talkgroups.
4. In the Toolbar, click **Save configuration**  .

4.10 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 49.
- Record storage configuration. For details, see [Configuring Voice Record Storage](#) on page 50.

4.10.1 Connecting to DIMETRA Express Voice Logging Service

Follow the procedure to connect to DIMETRA Express Voice Logger.

Prerequisites:

- Obtain the following parameters from DIMETRA Express:
 - DIMETRA Express Server IP and TCP port for external voice loggers.
 - External voice logger credentials.

For details, see [DIMETRA Express Configuration](#) on page 16.

- 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 **Radio Systems** tab, and then select the radio system.
Radio system settings appear on the right pane.
2. On the right pane, in the **Digital Audio Recording Parameters** area, select **Enable Audio Recording**. Audio recording settings appear.

The screenshot shows the 'Digital Audio Recording Parameters' configuration window. It includes a checked checkbox for 'Enable Audio Recording'. The 'Local IP Address' field contains '192.168.37.90'. The 'Local Port' field contains '7101'. The 'Local Media IP Address' field also contains '192.168.37.90'. The 'Local Media Ports' field contains '61000'. The 'Username' field contains '123'. The 'Password' field is masked with dots. A 'Radio IDs' button is located at the bottom of the configuration area.

Figure 23: Voice Logging Configuration

3. In the **Local IP Address** field, enter the IP address configured as the external voice logger in DIMETRA Express.
4. In the **Local Media IP Address** field, enter the same address again.
5. In the **Local Port** field, enter the Corba TCP Port Number.
6. Leave values in the **Local Media Ports** fields unchanged.
7. In the **Username** field, type the external voice logger login.
8. In the **Password** field, type the external voice logger password.

9. Configure DIMETRA Express users whose voice transmissions will be stored in SmartPTT Express voice record database:

a. Click **Radio IDs**.

The **Radio IDs** window appears.

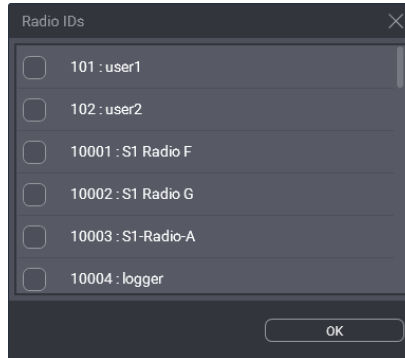


Figure 24: User Selection for Voice Logging

b. In the window that appears, select users whose transmissions will be stored in the database, and then click **OK**.

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 16.

Important:

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

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

10. In the Toolbar, click **Save configuration** .

4.10.2 Configuring Voice Record Storage

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

Prerequisites:

Determine storage size, retention period and overflow policy. For details, see [Disk Space Management](#) on page 18.

Procedure:

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

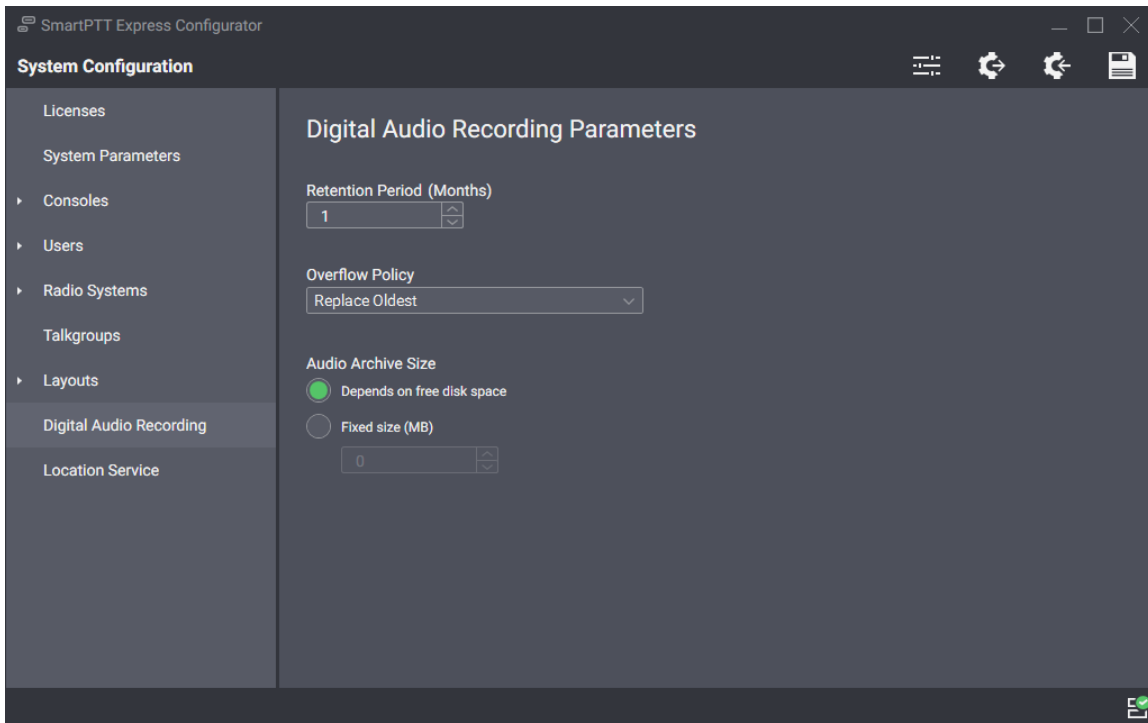


Figure 25: Audio Recording Configuration

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:

If SmartPTT Express Server is not restarted, changes will be applied on the next calendar day.

3. From the **Overflow Policy** list, select the desired behavior in case the Audio Archive exceeds its size limit:

To stop adding new voice records and keep older records until their retention period expires, select **Discard New**.

To start deleting older records in order to add new records to the archive, selects **Replace Oldest**.

4. Configure the size of the audio archive:

To limit the audio archive size by the amount of free disc space (the archive will grow as long as more than 20% of the disk space remains free), click **Depends on free disk space**.

To set a fixed limit on the Audio Archive size, perform the following actions:

1. Click **Fixed size**.
-

2. In the **Fixed size** field, enter the audio archive maximum size in megabytes.
-

Notice:

SmartPTT Express Server checks disk space every 30 minutes and stops the database size from growing if it exceeds the specified limit.

5. In the Toolbar, click **Save configuration** .

Postrequisites:

To apply changes immediately, restart the SmartPTT Express Server. For details, see [SmartPTT Express Server Service Control](#) on page 34.

4.11 Location Services Configuration

Location services configuration in SmartPTT Express includes the following actions:

- Map provider selection and configuration. For details, see [Map Providers](#) on page 22.
- Connection to the DIMETRA Express Short Data Service. For details, see [Connecting to DIMETRA Express Short Data Service](#) on page 52.
- Connection to the map provider and location data base configuration. For details, see [Configuring Location Service in SmartPTT Express](#) on page 54.

4.11.1 Connecting to DIMETRA Express Short Data Service

Follow the procedure to configure the connection to the Short Data Service in DIMETRA Express. This service is responsible for location requests and response handling.

Prerequisites:

- Ensure that you have unlocked location services in SmartPTT Express. For details, see [Installing License](#) on page 36.
- From DIMETRA Express, obtain the following parameters:
 - DIMETRA Express IP address (sometimes called Link 1 Address)
 - SDTS Port Number
 - Short Data Host ID and passnumber. For details, see [DIMETRA Express Configuration](#) on page 16.

Procedure:

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

- On the right pane, in the **Short Data Transport Parameters** area, select the **Enable Short Data Transport** check box.

Service connection settings appear in the area.

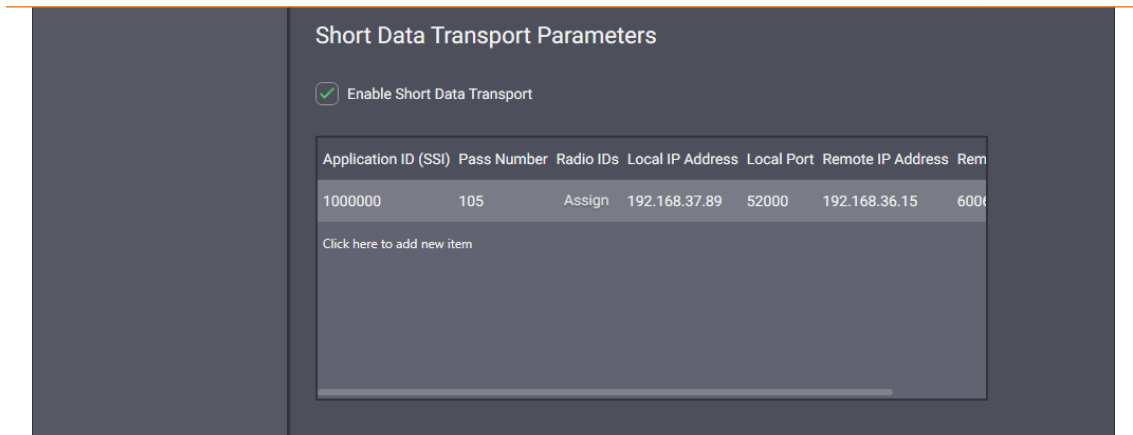



Figure 26: Short Data Service Connection

- If appears, in the table, click **Click here to add new item**.
- In the entry, in the **Application ID (SSI)** column, enter a Short Data Host ID configured in DIMETRA Express.
- In the **Pass Number** column, enter the passnumber of the corresponding Short Data Host configured in DIMETRA Express.
- In the **Radio IDs** column, perform the following actions:
 - Click **Assign**.
The **Radio IDs** window appears.
 - In the window that appears, enter IDs of the radio users that must be tracked in SmartPTT Express.
 - Click **OK** to accept changes and close the window.
- In the **Local IP Address** column, enter the SmartPTT Express Server IP address.
- In the **Local Port** column, enter the SmartPTT Express Server port used to receive radio user location updates.
- In the **Remote IP Address** column, enter the DIMETRA Express Server IP address.
- In the **Remote Port** column, enter the SDTS port number.
- In the rightmost column, click **OK**.
- 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 (SSI).

4.11.2 Configuring Location Service in SmartPTT Express

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

Prerequisites:

- Determine the retention period for radio user coordinates.
- Determine the map provider connection and authentication (if required) parameters. For details, see [Map Providers](#) on page 22.

Procedure:

1. In SmartPTT Express Configurator, on the left pane, click the **Location Service** tab. Location settings appear.

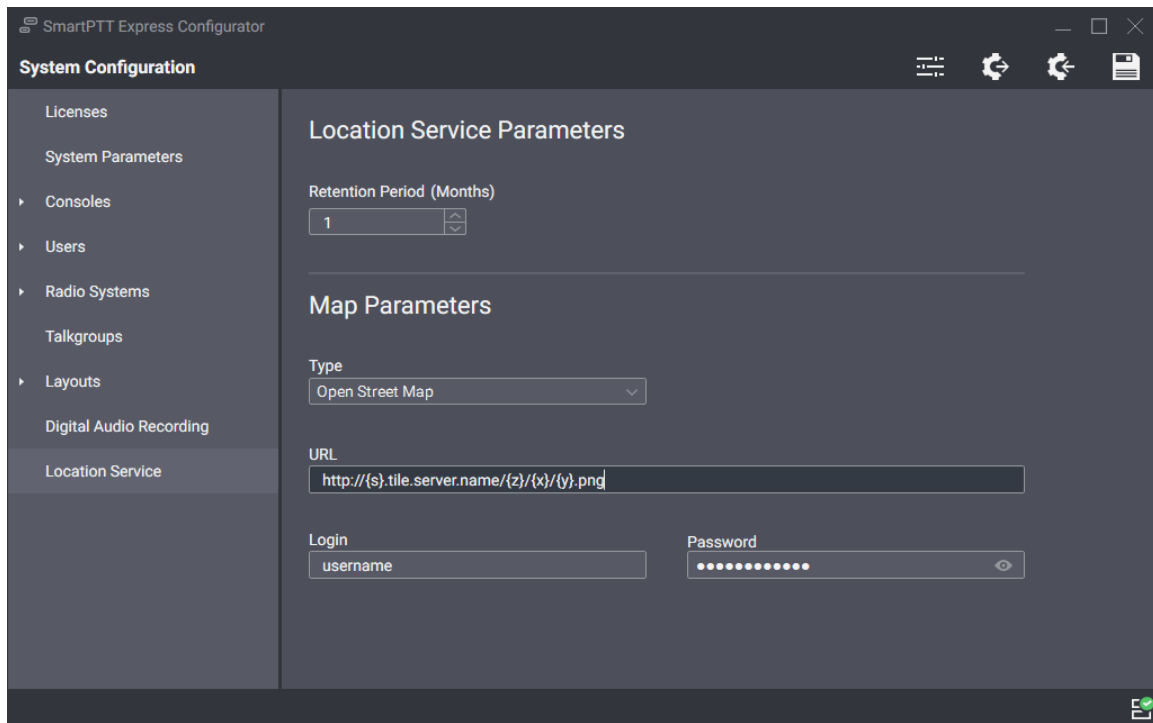


Figure 27: Location Service Configuration

2. On the right pane, in the **Retention period** field, enter the retention period (in months) for radio user coordinates.

Notice:

SmartPTT Express defines “month” as 30 days.

3. In the **Map Parameters** area, from the **Type** list, select **OpenStreetMap**.
4. Configure map provider access:

If the provider does not require authentication,	perform the following actions: <ol style="list-style-type: none">1. In the URL field, type the URL address.2. Leave the Login and Password field empty.
If the provider requires basic HTTP authentication,	perform the following actions: <ol style="list-style-type: none">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 the provider requires user credentials included in the URL address,	perform the following actions: <ol style="list-style-type: none">1. In the URL field, type the URL address template.2. In the typed address, in place of the login, type <code>{login}</code>3. In the same address, in place of the password, type <code>{password}</code>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.

Important:

SmartPTT Express supports only HTTP protocol for map provider addressing.

5. In the Toolbar, click **Save configuration** .


4.12 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 the SmartPTT Express Configurator.

Procedure:

1. In SmartPTT Express Configurator, in 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.

Notice:

If SmartPTT Express Configurator is open at the time of a new layout creation, the layout will not appear on layout list until SmartPTT Express Configurator is restarted.

Prerequisites:

- Create and configure layouts using SmartPTT Express Client. For details, see Chapter 2 “Layout Configuration” in *SmartPTT Express User Guide*.
- Reopen SmartPTT Express Configurator to view the updated list of layouts.

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.

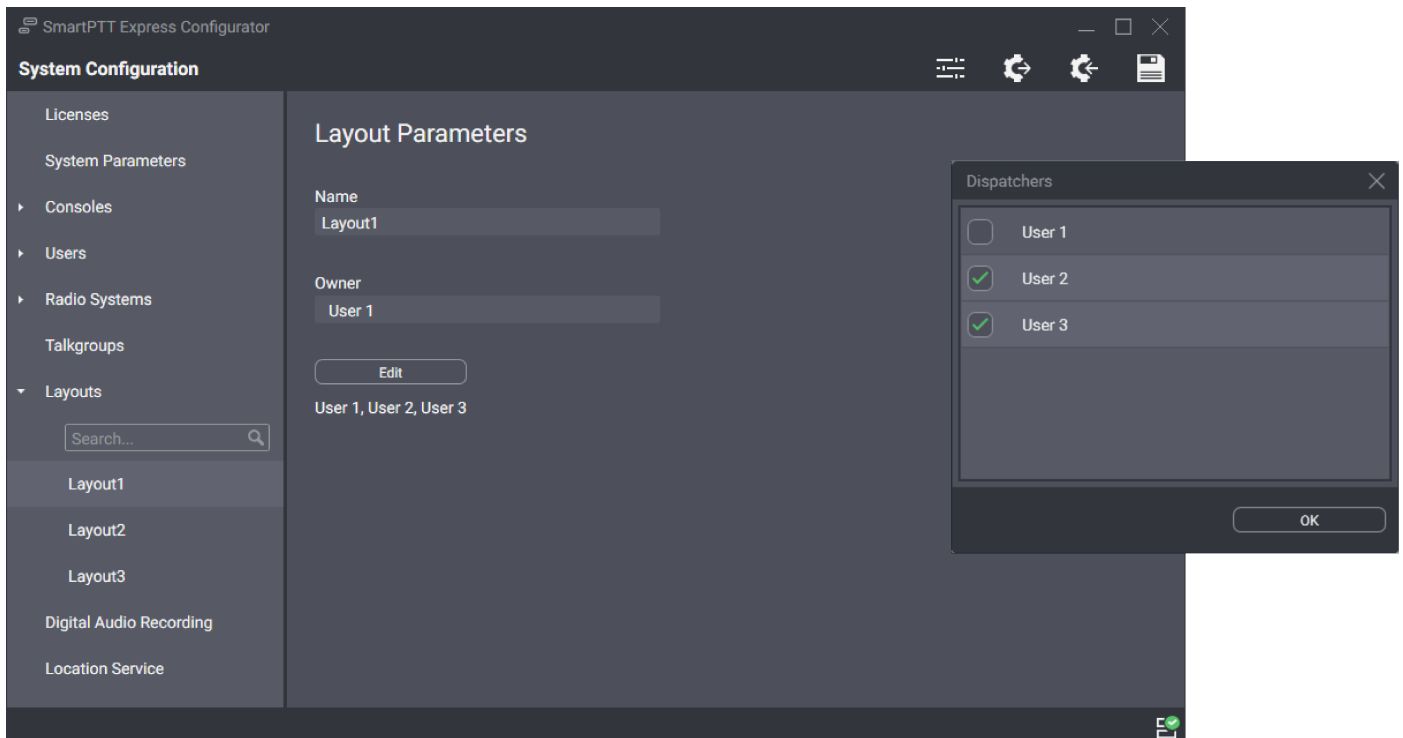


Figure 28: Layout Settings Modification

2. On the right pane, click **Edit**.
The **Dispatchers** window appears (see [Figure 28](#)).
3. In the window that appears, 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.

4. In the **Dispatchers** window, click **OK** to finish editing.
5. (Optional) View additional information:
 - a. In the **Name** field, view the selected layout name.
 - b. In the **Owner** field, view the name of the supervisor who created the layout.

Notice:

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

6. In the Toolbar, click **Save configuration**  .

5.2 Upgrading SmartPTT Express

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

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 55.

Procedure:

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

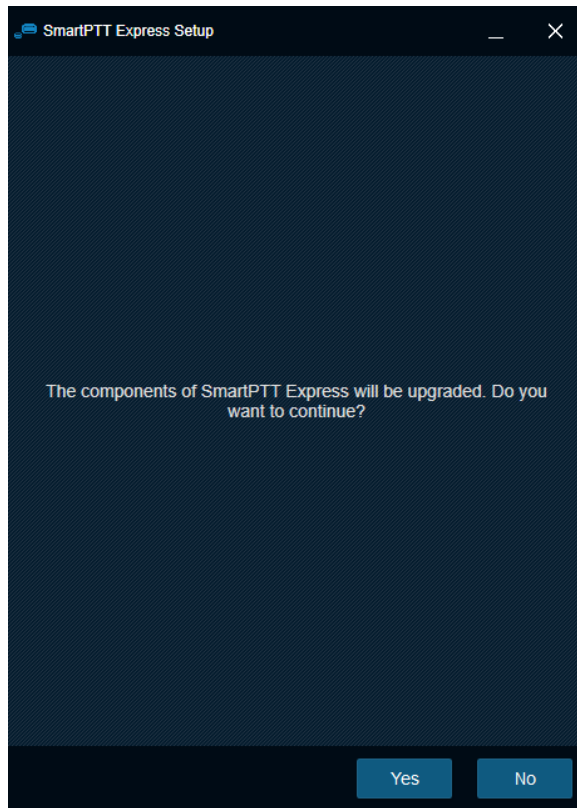


Figure 29: Installed Software Upgrade

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 [Importing Configuration](#) on page 59.


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 the 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 34.

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 computer.
- 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 9](#) on page 31).
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 [Figure 8](#) on page 28).
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 Uninstalling Software

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

Prerequisites:

Create a configuration backup. For details, see [Exporting Configuration](#) on page 55.

Procedure:

1. On the computer with SmartPTT Express, start the installation file.
The **SmartPTT Express Setup** window appears.

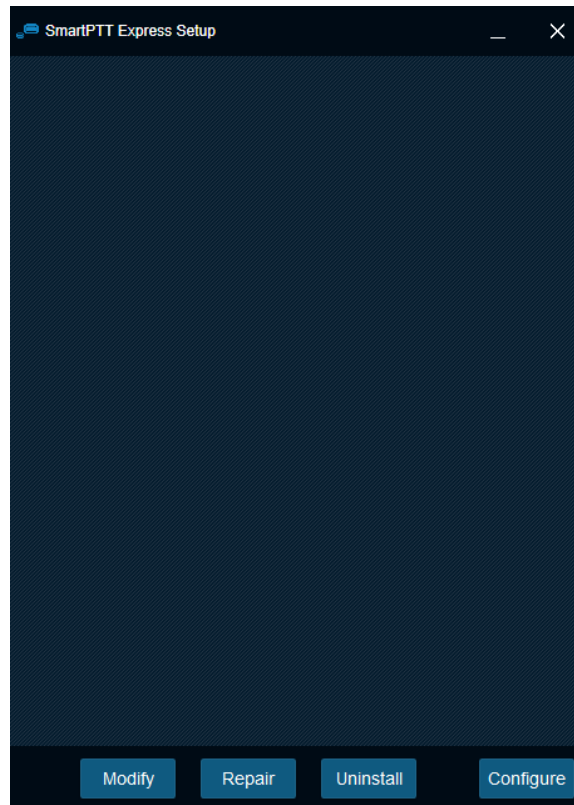


Figure 30: Installed Software Modification

2. In the window that appears, click **Uninstall**.
Uninstallation options appear.

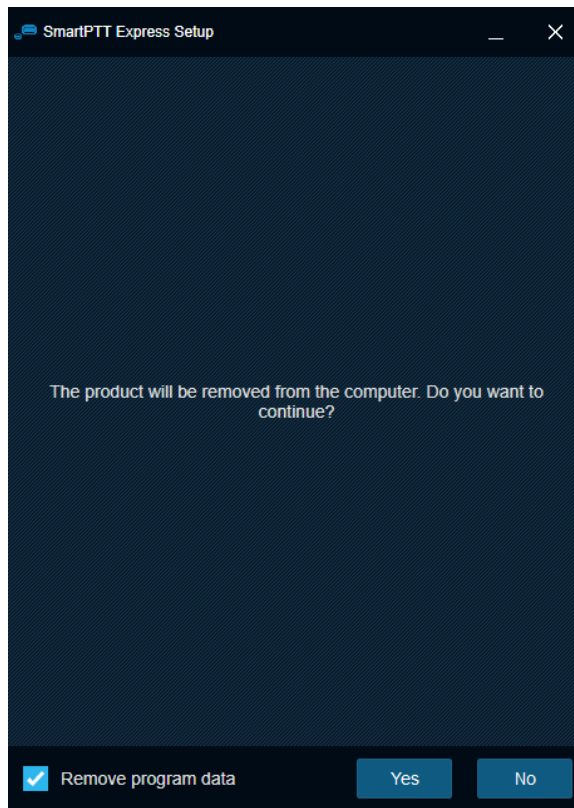


Figure 31: SmartPTT Express uninstallation confirmation

3. 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.**

4. Click **Yes**.

5. 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, save and apply 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 not other firewall software is used, voice call reception and initiation may be unavailable for dispatchers. It 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 21.

6.5 Delays in Audio Archive Settings Application

When audio archive settings are modified and changes are saved, new settings are not applied immediately. The following rules apply to them:

- Database size is checked and adjusted every 30 minutes.
- New retention period is applied at midnight.

To apply changes immediately, restart SmartPTT Express Server. If no changes occur within the abovementioned time, and SmartPTT Express Server restart does not apply them, contact SmartPTT technical support. For details, see [Error: Reference source not found](#) on page Error: Reference source not found.

6.6 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 34. To avoid such issues in the future, complete DIMETRA Express configuration before configuring SmartPTT Express.

6.7 Absence of the 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 of the Short Data Transport Service (SDTS), not the Packed Data Service.
- Ensure that the correct Short Data Host ID is used.
- Use the LTP protocol (LRRP is not supported in SmartPTT Express).
- Disable Packet Data Service.

Appendix A. Configurator User Interface

The appendix describes 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 32: 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 19.

Password

Password of the SmartPTT Express user. For details, see [System Roles & Authorization](#) on page 19.

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 con-

nection requests. Default 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 33: SmartPTT Express Configurator Toolbar

On the Toolbar, the following buttons are available:

Configurator Settings

Opens the **Configurator Settings** window. For details, see [Configurator Settings Window](#) on page 67.

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 34. If the changes are invalid, the **Invalid Configuration Data** window appears. For details, see [Invalid Configuration Data Window](#) on page 67.

A.2.1 Configurator Settings Window

This window provides the ability to change the SmartPTT Express Configurator interface language.

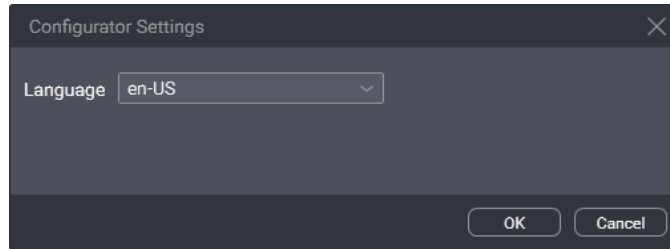


Figure 34: Configurator Settings Window

In the window, the **Language** list is available. It provides the list of IETF-like tags referring to languages for which localization is available.

A.2.2 Invalid Configuration Data Window

This window displays invalidly configured parameters of SmartPTT Express.

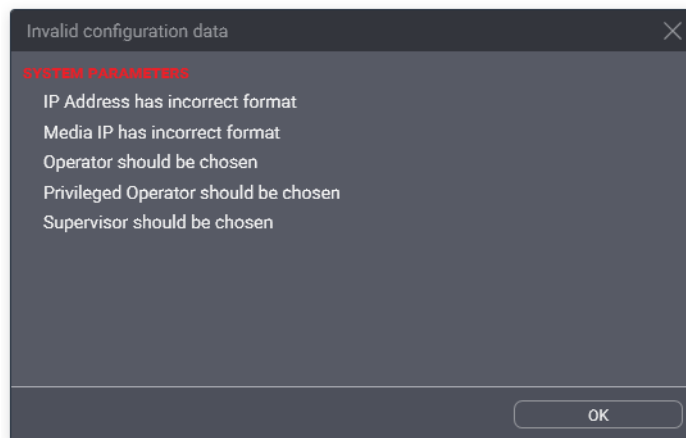


Figure 35: Invalid Configuration Data Window (Example)

The window does not block access to SmartPTT Express Configurator tabs and fields. 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.

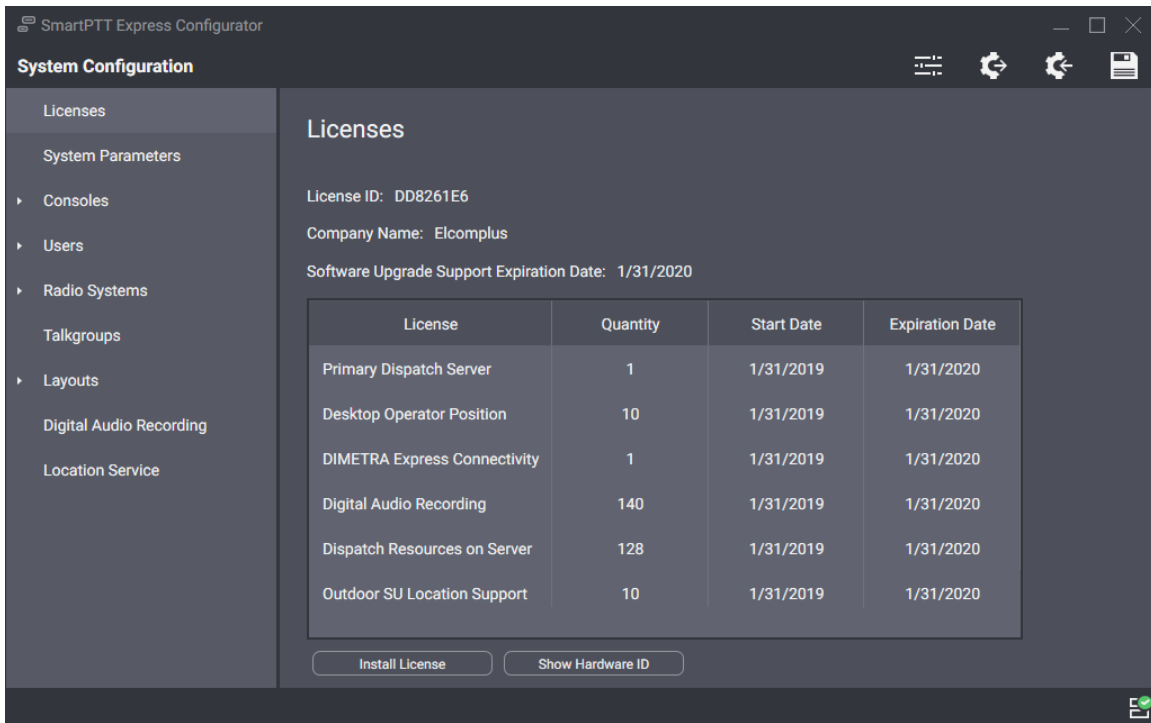


Figure 36: Licenses Tab

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 li-

cense. 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 69.

A.3.1 Hardware ID Window

In the window, the Hardware ID value appears.

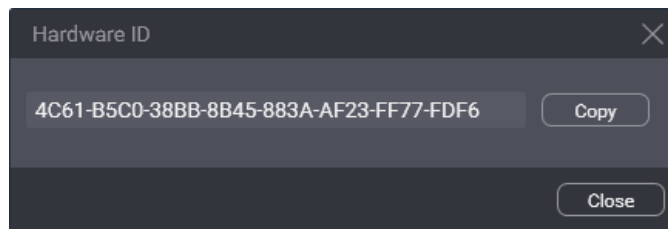


Figure 37: Hardware ID Window

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 [System Parameters](#) on page 70.
- System Roles. For details, see [System Roles](#) on page 71.
- Main Server. For details, see [Server Parameters](#) on page 72.

A.4.1 System Parameters

The area provides miscellaneous SmartPTT Express settings.

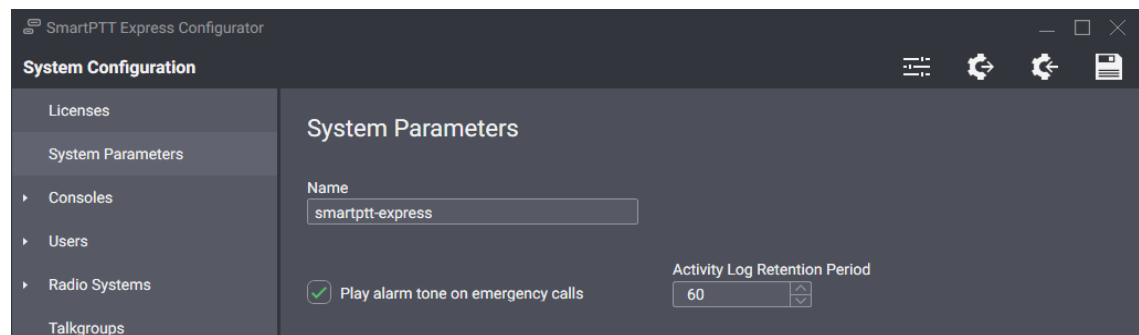


Figure 38: General System Parameters

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.

A.4.2 System Roles

The area provides SmartPTT Express authentication and authorization settings.

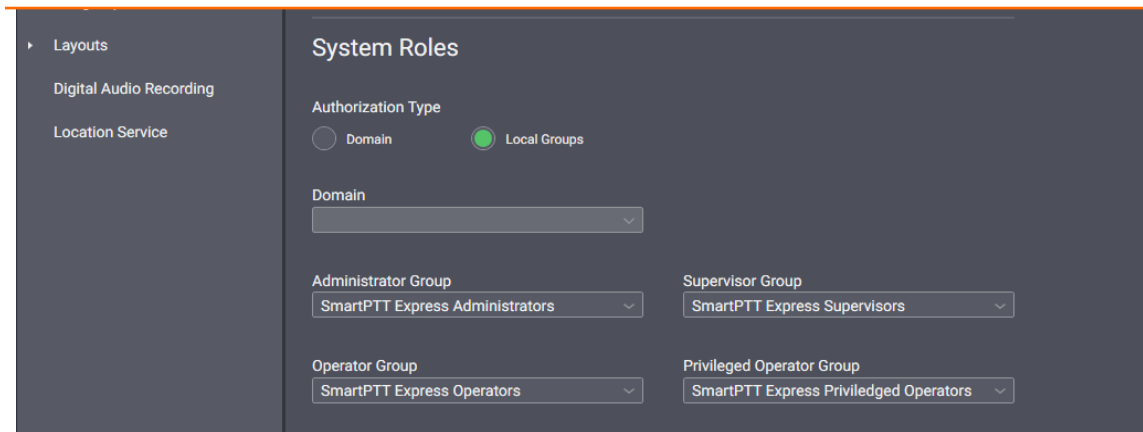


Figure 39: User Roles in System Parameters

In the area, the following settings are available:

Ⓐ Domain

Sets domain authorization in SmartPTT Express.

Ⓑ Local Groups

Sets “local” authorization in SmartPTT Express, based on user accounts and groups created on the SmartPTT Express Server host.

Domain

The list of domains discovered on the Customer Enterprise Network. Available and required only if the Ⓐ **Domain** option is selected.

Administrator

The user group whose members are granted administrator permissions in SmartPTT Express. Only one group can be selected. For details, see [System Roles & Authorization](#) on page 19.

Notice:

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

Supervisor

The user group whose members are granted supervisor permissions in SmartPTT Express. For details, see [System Roles & Authorization](#) on page 19.

Operator

The user group whose members are granted regular operator permissions in SmartPTT Express. For details, see [System Roles & Authorization](#) on page 19.

Privileged Operator

The user group whose members are granted privileged operator permissions in SmartPTT Express. For details, see [System Roles & Authorization](#) on page 19.

A.4.3 Server Parameters

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

Figure 40: SmartPTT Express Server Interface Settings

In the area, the following settings are available:

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 control interface that is used to manage SmartPTT Express Clients. If **127.0.0.1** is entered, only the locally installed SmartPTT Express Client will be able to connect to SmartPTT Express Server.

TCP 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**.

Media IP

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 Clients. If **127.0.0.1** is entered, only the locally installed SmartPTT Express Client will be able to connect to SmartPTT Express Server.

First Media Port

Administrators must leave the default value (**55000**) in the field unchanged. The port number must not be considered during the port unlock process.

Last Media Port

Administrators must leave the default value (**55000**) in the field unchanged. The port number must not be considered during the port unlock process.

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.

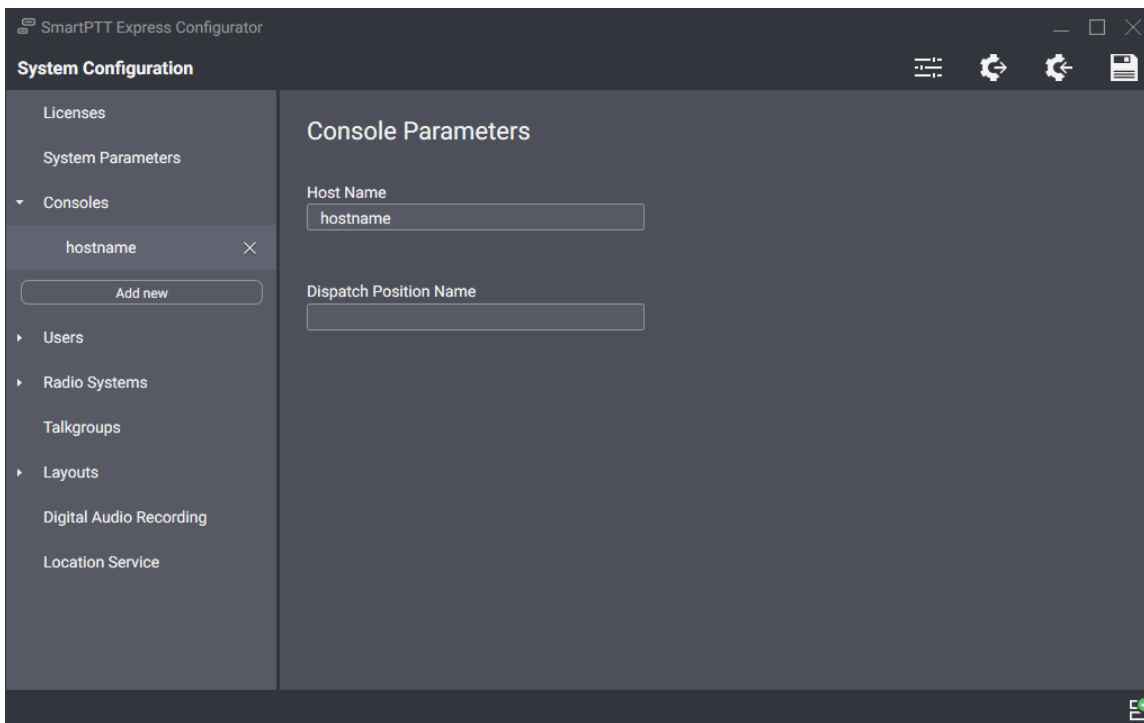


Figure 41: List of Consoles and Console Settings

On the right pane, the following settings are available:

Host Name

Computer (system) name of the dispatch console computer.

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.

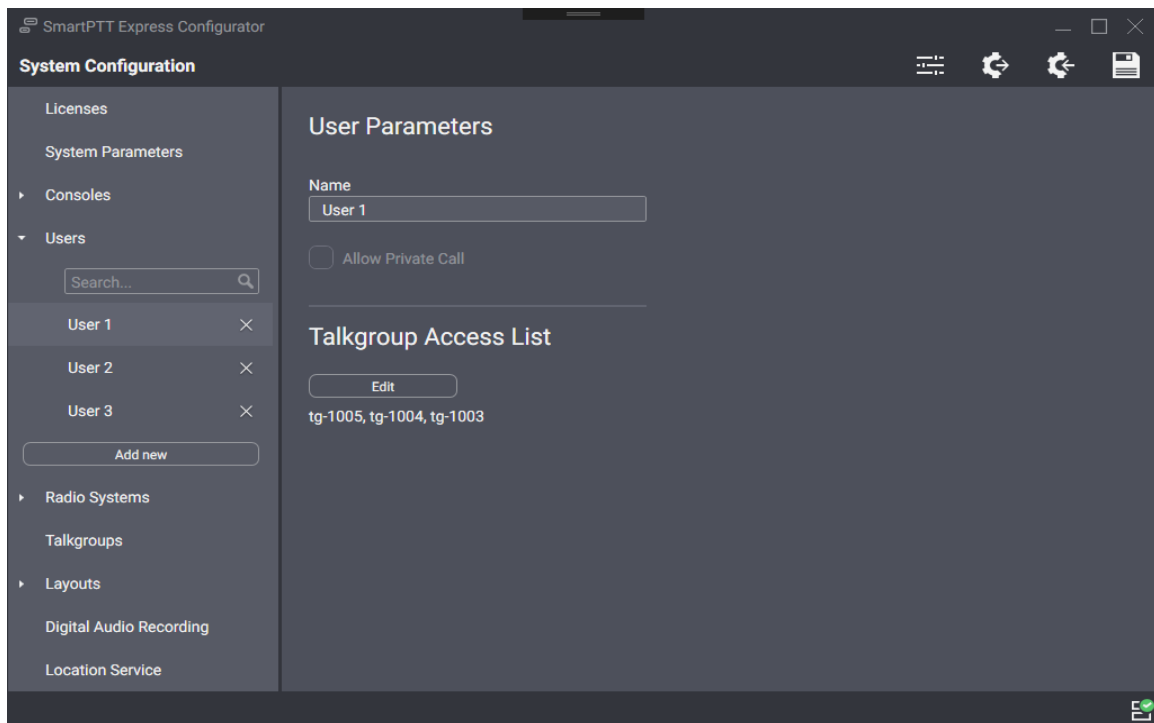


Figure 42: User Settings

On the right pane, the following settings are available:

Name

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

Notice:

If administrators need to be authorized in SmartPTT Express Client, their logins must be added to the list of users as well as those of other system roles.

Allow Private Call

If this check box is selected, the user will be able to use the private call feature in SmartPTT Express Client. If it is cleared, private calls will be unavailable to the user and the corresponding layout controls will be blocked/disabled.

Notice:

The check box does not affect users with administrator permissions.

Edit

This button appears in the **Talkgroup Access List** area. It opens the **Talkgroup Access Assignment** window. For details, see [Talkgroup Access Assignment Window](#) on page 75.

A.6.1 Talkgroup Access Assignment Window

The window provides the list of talkgroups received from DIMETRA Express after SmartPTT Express Server is synchronized with it. For details, see [Talkgroups](#) on page 83. By selecting and/or clearing check boxes, the user controls talkgroup availability.

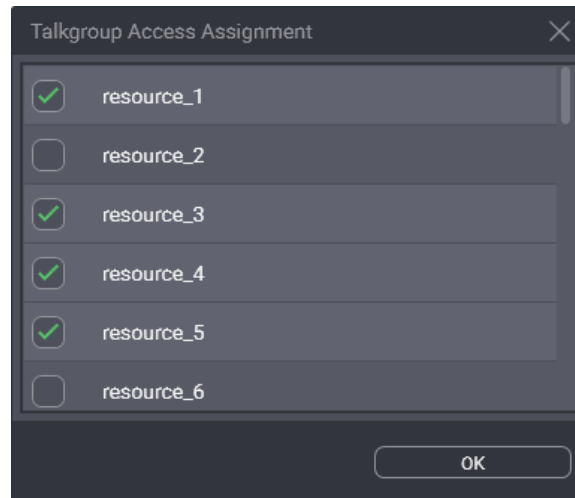


Figure 43: Talkgroup Access Assignment Window

In the window, the following elements are available:

{Talkgroup Name}

Selecting the check box to the left of a talkgroup name makes the talkgroup available to the user being edited. Clearing the check box makes the talkgroup unavailable to the same user. If the user is working in SmartPTT Express Client, the talkgroup disappears from the layout.

OK

Accepts changes and closes the window.

A.7 Radio 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.7.1 Radio System Parameters

This area provides the **Name** field where the user types the radio system name. The name is used for internal purposes only.

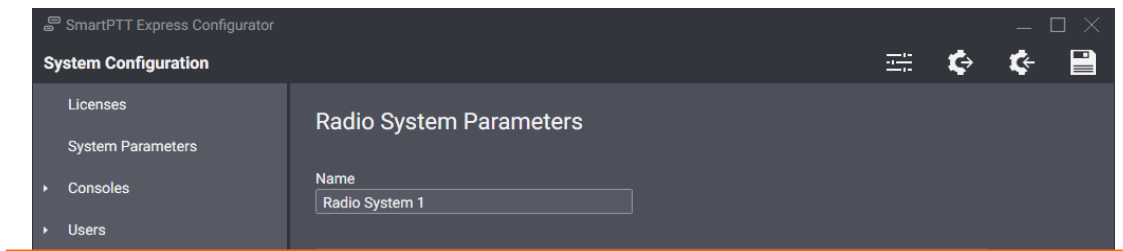


Figure 44: DIMETRA Express System Name

A.7.2 DIMETRA System Parameters

This area provides network interface settings of DIMETRA Express.

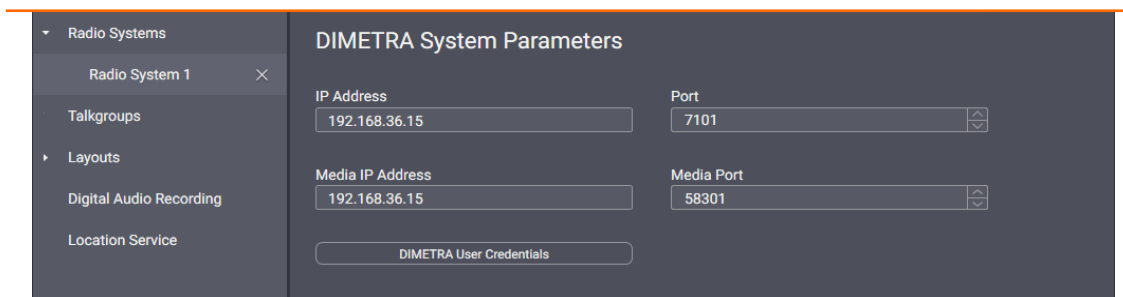


Figure 45: DIMETRA System Parameters Area

In the area, the following settings are available:

IP Address

DIMETRA Express Server IP address, exactly as it is provided in DIMETRA Express configuration. For details, see [DIMETRA Express Configuration](#) on page 16.

Port

Corba TCP Port Number, exactly as it is provided in DIMETRA Express.

Media IP Address

Link 1 IP Address, exactly as it is provided in DIMETRA Express. For details, see [DIMETRA Express Configuration](#) on page 16.

Media Port

The user leaves the value in the field unchanged. Default port number is **58301**.

DIMETRA User Credentials

Opens the **DIMETRA User Credentials** window. For details, see [DIMETRA User Credentials Window](#) on page 77.

A.7.3 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.

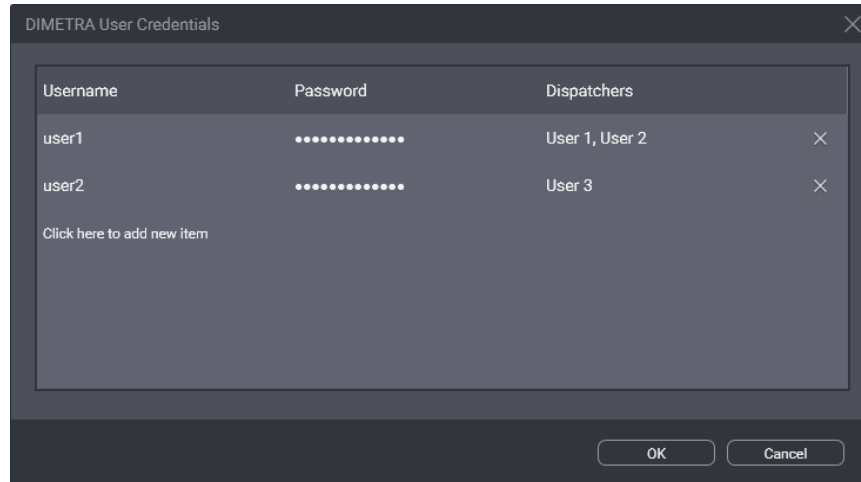


Figure 46: DIMETRA User Credentials Window

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 73.

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 substituted with **OK** buttons to prevent accidental removal.

The **Click 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. It helps to restore accidentally removed entries.

A.7.4 Server Parameters

The area provides the ability to configure SmartPTT Express Server network interfaces opened to DIMETRA Express.

Figure 47: Server Parameters Area

In the area, the following settings are available:

Local IP Address

IP address of the SmartPTT Express Server host configured as the API-type console address in DIMETRA Express. For details, see [DIMETRA Express Configuration](#) on page 16.

Local Port

TCP port number configured as Corba TCP Port Number in DIMETRA Express. Default port number is **7101**.

Local Media IP Address

The same IP address as in the **Local IP Address** field.

Local Media Ports

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**.

A.7.5 Digital Audio Recording Parameters

The area provides DIMETRA Express Voice Logger network interface settings .

Figure 48: 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.

Local IP Address

The IPv4 address designated as the external voice logger in DIMETRA Express. The address must be different from that used in the **Server Parameters** area. For details, see [Server Parameters](#) on page 78.

Local Port

TCP port number of the dedicated SmartPTT Express Server interface. The port is used as the control port between SmartPTT Express Server and DIMETRA Express Voice Logger. It must be the same as the Corba TCP port. Default port number is **7101**.

Local Media IP Address

The same IP address as in the **Local IP Address** field.

Local Media Ports

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

Username

External voice logger Login Name, exactly as it is set in DIMETRA Express. For details, see [DIMETRA Express Configuration](#) on page 16.

Password

External voice logger password, exactly as it is set in DIMETRA Express. For details, see [DIMETRA Express Configuration](#) on page 16. 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 80.

A.7.6 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 **Short Data Transport Parameters** area.

If opened by clicking the **Radio IDs** button, it provides the ability to select radio users whose transmissions will be stored in the SmartPTT Express database as voice records. User can be either recipient or 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 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.

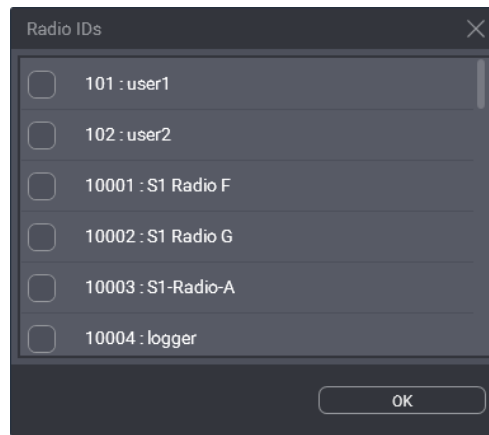


Figure 49: Radio IDs Window

In the window, the following elements are available:

{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.

OK

Accepts changes and closes the window.

A.7.7 Short Data Transport 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 coordinates.

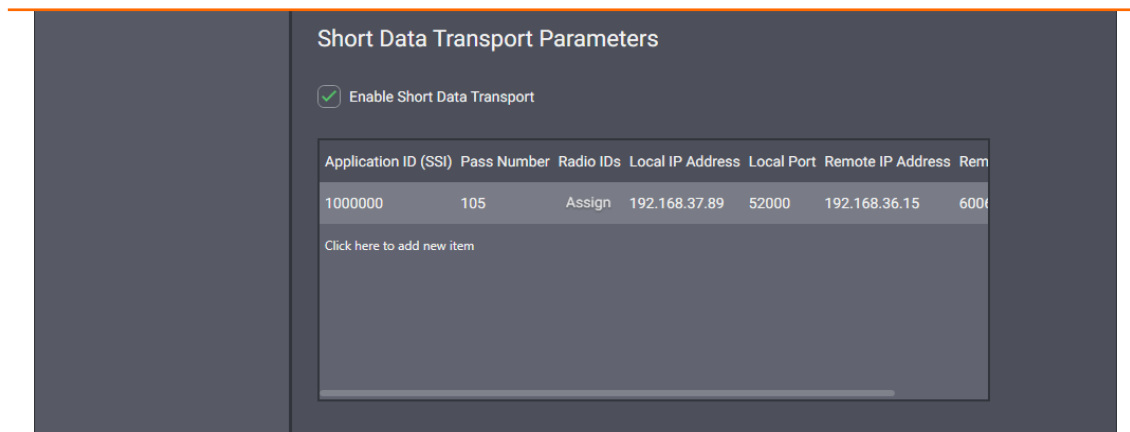


Figure 50: Short Data Transport Parameters

In the area, the **Enable Short Data Transport** check box is available. 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. The table consists of the following columns:

Application ID (SSI)

Unique SmartPTT Express Server identifier. 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* .

Possible values range from **1** to **13900000**.

Pass Number

A unique code that is used for SmartPTT Express Server authentication by DIMETRA Express as a Short Data Host. 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 Online Help* .

Important:

In DIMETRA Express, passnumbers cannot be viewed after configured. Contact the DIMETRA Express service engineer to receive the passnumber used in DIMETRA Express for SmartPTT Express Host ID.

Radio IDs

Identifiers of the radio users that will be tracked by SmartPTT Express Server. “Tracking” means receiving regular location updates from radio users as well as explicitly requesting location updates. If no ID is set, the **Assign** button appears. The button opens the **Radio IDs** window. For details, see [Radio IDs Window](#) on page 80.

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 **Server Parameters** area). For details, see [Server Parameters](#) on page 78.

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**; the default is **52000**.

Remote IP Address

The IP address of DIMETRA Express. This must be the same IP address as the one used in the **DIMETRA System Parameters** area. For details, see [DIMETRA System Parameters](#) on page 76.

Remote Port

The number of the port used by DIMETRA Express for receiving location requests and providing location updates to SmartPTT Express. The number must be exactly the same as the SDTS port number in DIMETRA Express configuration (**6006**). For details, see “Short Data Transport” in *DIMETRA Express Online Help* .

A.7.8 System Description

The area provides a text box where the DIMETRA Express description appears. The description is imported from DIMETRA Express.

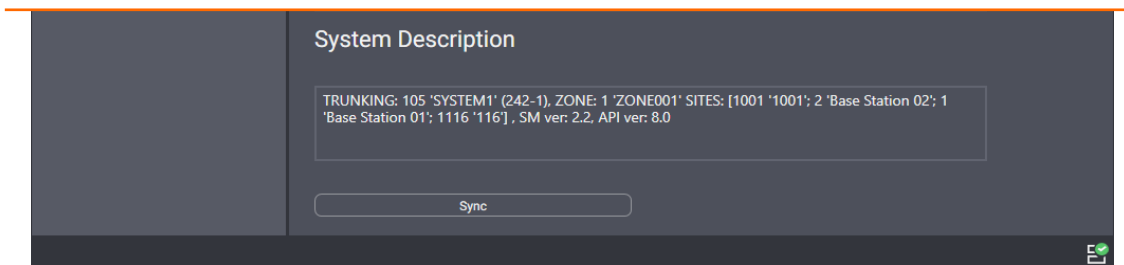


Figure 51: DIMETRA Express System Description

At the bottom of the right pane, the **Sync** button is available. When the user clicks it, SmartPTT Express Server starts connecting to DIMETRA Express and authenticating in it to receive talkgroups, system description, and perform other necessary actions.

A.8 Talkgroups

The tab provides a list of talkgroups configured in DIMETRA Express and controls to configure their availability in SmartPTT Express.

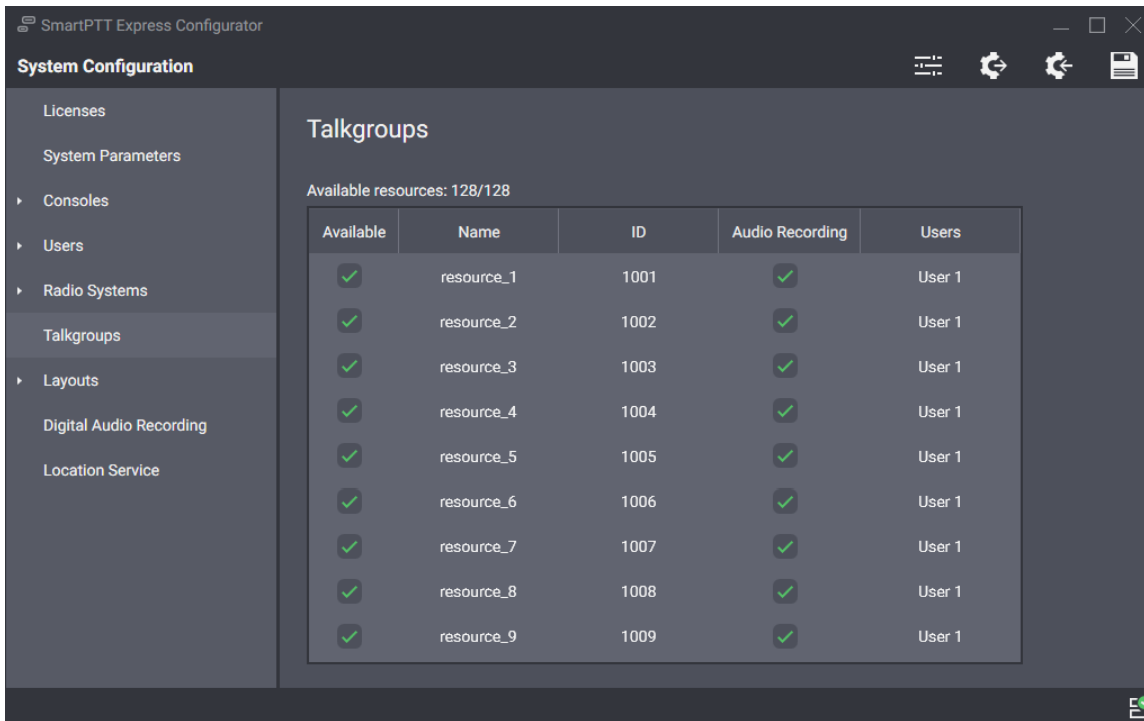


Figure 52: Talkgroup Parameters

Above the list of talkgroups, a counter shows the number of talkgroups available in SmartPTT Express and the maximum number of talkgroups determined by the license. For details, see [Licenses](#) on page 68.

Talkgroups are listed in a table that consists of the following columns:

Available

If the check box in this column is selected, the talkgroup is available to add in SmartPTT Express Client. If the maximum number of talkgroups has been reached, selecting the check box becomes impossible. If the check box is cleared, the talkgroup becomes unavailable in SmartPTT Express and is hidden in all layouts.

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.

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.

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 open at the time of a new layout creation, the layout will not appear on layout list until SmartPTT Express Configurator is restarted.

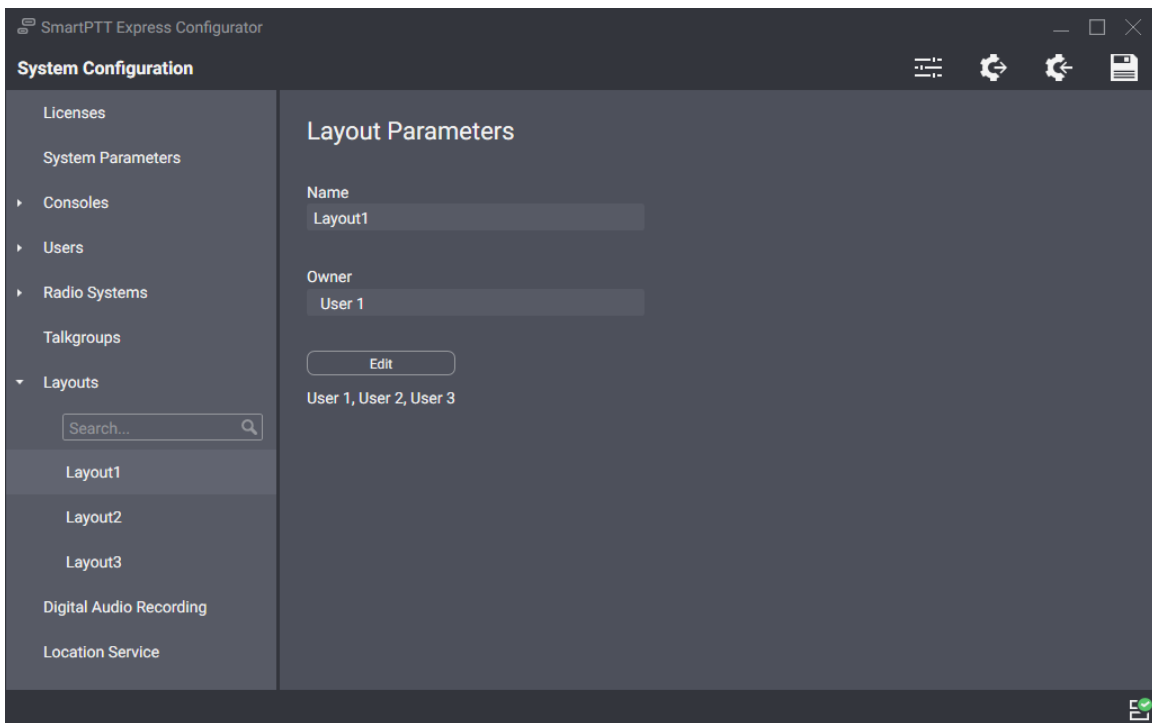


Figure 53: List of Layouts and Their Settings

On the right pane, the following settings are available:

Name

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 **Dispatchers** window. For details, see [Dispatchers Window](#) on page 85.

A.9.1 Dispatchers Window

The window provides the ability to manage access to a layout.

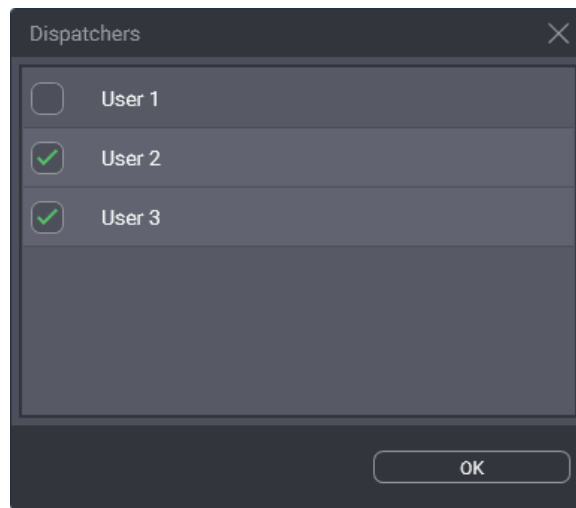


Figure 54: List of SmartPTT Express Client Users

In the window, the following elements are available:

{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 84.

OK

Accepts changes and closes the window.

A.10 Digital Audio Recording

The tab provides limited settings for the voice record database. All other parameters are determined in SmartPTT Express Server and cannot be changed.

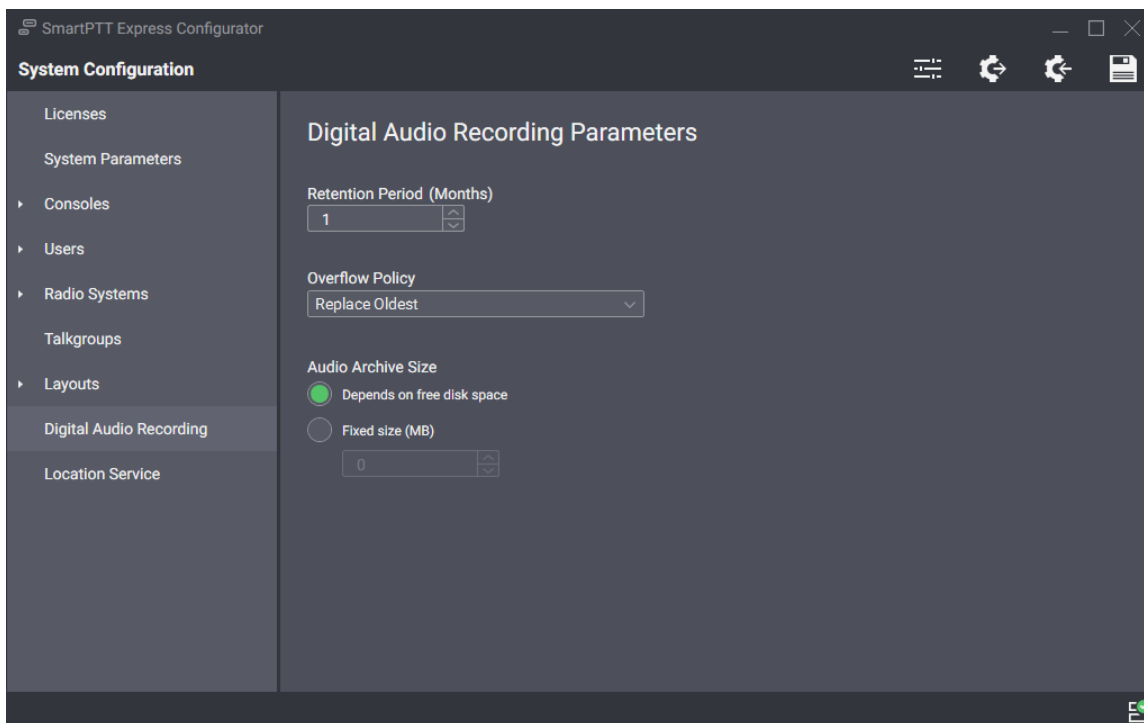


Figure 55: Digital Audio Recording Parameters

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; increment is 1; default value is 1.

Notice:

If you edit this parameter and save changes, they will only apply from the next calendar day. To apply changes immediately, restart SmartPTT Express Server.

Overflow Policy

SmartPTT Express behavior when the maximum size of the Audio Archive is reached. If **Replace Oldest** is selected, the oldest records in the archive will be deleted to free up space for new records. If **Discard New** is selected, new records will not be added to the archive as long as the overflow policy is in effect.

The **Audio Archive Size** area provides the following elements:

Ⓒ **Depends on free disk space**

If this option is selected, the Audio Archive will increase in size as needed while more than 20% of disc space is free. Once this threshold is reached, the archive size stops growing and the overflow policy comes into effect. It will remain in effect as long as less than 20% of disc space is free. Disk space is checked every 30 minutes.

Important:

The amount of free disk space may change as a result of operating system or third-party software activity (for example, events logging, space buffering, updates downloading).

Fixed Size (option)

If this option is selected, the size of the Audio Archive is limited by the value in the **Fixed Size** field.

Fixed Size (field)

The maximum size of the Audio Archive in megabytes according to Microsoft Windows convention (can be different from other conventions). The minimum value is **0** (zero); increment is **1** (one); default value is **0** (zero). If the value is 0, the Audio Archive size reverts to the **Depends on free disk space** option.

Editing the parameters in the tab and saving changes does not apply them immediately. For this, SmartPTT Express Server restart is required.

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.

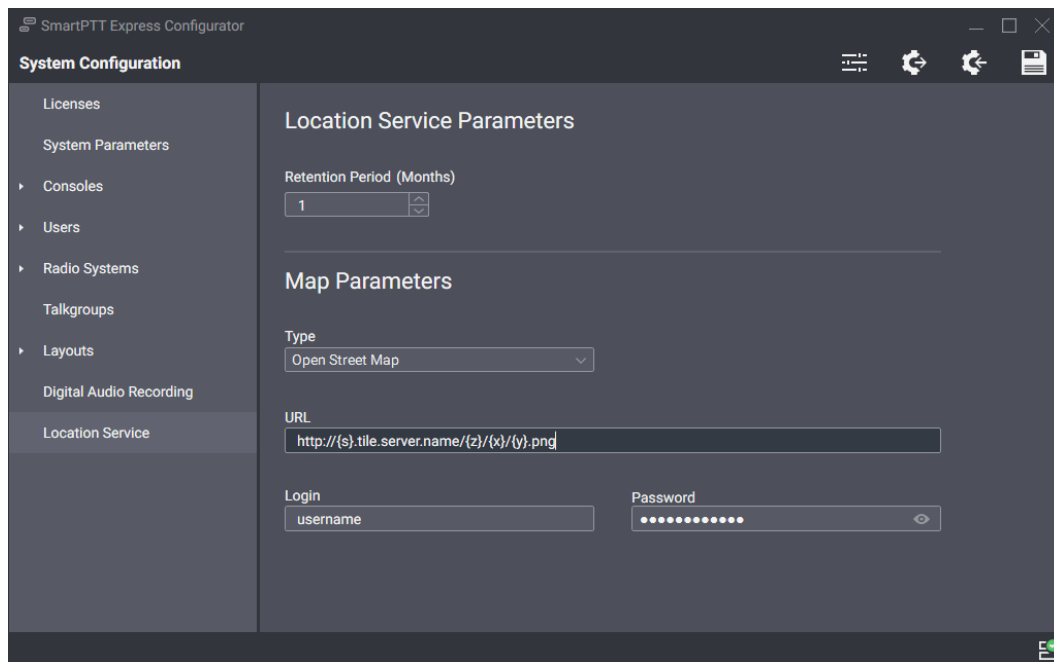


Figure 56: Location Service Parameters

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. Currently, only OpenStreetMap is supported.

URL

URL address of the map provider that supports HTTP protocol. Other protocols are not supported.

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.

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 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.

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	https://support.smartptt.com/hc/en-us/requests/new
Phone/fax number	+7 38-22 522-511 (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
Online email	https://smartptt.com/contacts/

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 the 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.

Index

C

Component 9

SmartPTT Express Client 10

SmartPTT Express Configurator 10

SmartPTT Express Server 9

Console 40

Computer name 41

Requirements 13

SmartPTT Express Client 10

L

Licensing 35

Hardware ID 35

Location 17, 52

Map provider 54

Authentication 54

Short Data 17, 52

Logging 18

Events 18

Voice 18

Storage 19, 50

N

Network 21

Firewall 21

Host names 18

Requirements 14

S

Software Server 32

Configuration 32

API-type console 18, 43

Export 55

External voice logger 18, 49

Requirements 13

Support 90

Disclaimer 90

T

Talkgroup 46

Availability 46

U

Upgrade 58

Users 41

Authentication 37

Roles 19, 37

V

Voice 11

Calls 11

Private calls 42

Records 19

