

SmartPTT System Requirements

Introduction

SmartPTT-based dispatch system can include several dispatch consoles, SmartPTT Radioservers and communication channels connecting them. Thus, technical requirements are related to the following system components:

- SmartPTT Dispatcher
- SmartPTT Radioserver Configurator
- Communication channels connecting SmartPTT Dispatcher and SmartPTT Radioserver, and communication channels connecting SmartPTT Dispatcher, MOTOTRBO repeaters, and control stations.

Number of the required components can increase. This depends on the product type and required functionality.

Minimum System Requirements for SmartPTT Dispatcher

Software Requirements

SmartPTT Dispatcher can be installed and used on Windows computers only.

OS Family	Version
Windows 10	Pro version 1809 or later (64 bit)
	Enterprise 2016 LTSC (64 bit)
Windows 8.1	Windows 8.1 (64 bit)

NOTE
Windows 8.1 must have the latest updates or the KB 2919355 update. For details, see [Microsoft Support information](#).

NOTE

To ensure operating system security and SmartPTT stable operation, it is recommended to install the latest Windows updates.

Hardware Requirements

Processor:	Intel® Core™ i5 (7th generation or higher) for systems with less than 3,000 subscribers.
	Intel® Core™ i7 for systems with more than 3,000 subscribers or activated GPS/Monitoring/Indoor services.
Memory (RAM):	4 GB for systems with less than 3,000 subscribers.
	8 GB for systems with more than 3,000 subscribers or activated GPS/Monitoring/Indoor services.
Storage:	7200 rpm SATA drive.
	20 GB space for software and database.
Graphics adapter:	1 GB RAM PCI-E or similar CPU-integrated for systems with voice transmission only.
	2 GB RAM PCI-E or similar CPU-integrated for systems with activated GPS/Monitoring/Indoor services.

Minimum System Requirements for SmartPTT Dispatcher

Monitor:	display size: 23" screen resolution: 1366 × 768 px color depth: 16 bit
Input/output ports:	1 input port per input device or Human Interface Device (HID). 1 analog audio output per playback device (speaker or headset). 1 audio input per microphone.
Sound adapter:	Multichannel sound adapter.
Audio recording device:	A microphone or a headset.
Playback device:	Headphones or a headset.
LAN:	10/100/1000 Mbps Ethernet adapter.
Pointer:	A mouse or a trackball.
Keyboard:	A standard keyboard.

NOTE

These are standard system requirements for SmartPTT Dispatcher. They can change depending on the configuration, complexity and/or workload of the system.

Minimum System Requirements for SmartPTT Radioserver

Software Requirements

SmartPTT Radioserver can be installed on Windows computers only.

OS Family	Version
Windows Server	Windows Server 2016
	Windows Server 2012 R2
Windows 10	Pro version 1809 or later (64-bit)
	Enterprise 2016 LTSC (64-bit)
Windows 8.1	Windows 8.1 (64-bit)

NOTE
Windows 8.1 must have the latest updates or the KB 2919355 update. For details, see [Microsoft Support information](#).

NOTE

To ensure operating system security and SmartPTT stable operation, it is recommended to install the latest Windows updates.

Hardware Requirements

Processor:	Intel® Core™ i5 (7th generation or higher) for systems with less than 3,000 subscribers.
	Intel® Core™ i7 for systems with more than 3,000 subscribers or activated GPS/Monitoring/Indoor services.
Memory (RAM):	4 GB for systems with less than 3,000 subscribers.
	8 GB for systems with more than 3,000 subscribers or activated GPS/Monitoring/Indoor services.
Storage:	7200 rpm SATA drive.
	40 GB space (software and database only).
	190 GB space (software, database, and voice records).

Minimum System Requirements for SmartPTT Radioserver

Input/output ports:	1 USB port per each control station connected directly to the computer.
	1 analog audio input/output per each control station connected directly to the computer.
	1 input port per each input device.
Sound card:	External sound cards required to support multiple control stations connected directly to the computer.
LAN:	10/100/1000 Mbps Ethernet adapter.

NOTE

These are standard system requirements for SmartPTT Radioserver. They can change depending on the configuration, complexity and/or workload of the system.

Networking Requirements

Network Quality

Computer networks where SmartPTT is installed and used, must comply with the following requirements:

Parameter	Value
Packet Loss	Slightly distorted voice: 0.0–2.5 %
	Distorted voice: 2.5–15.0 %
Two-Way Delay	Radio network connection: 0–90 ms
	PBX connection: 0–60 ms
Jitter	Radio network connection: 0–90 ms
	PBX connection: 0–60 ms

IP access to the radio network means the connection to hardware/software solution that provides access to the radio network:

- Connection to an RG-1000e device.
- Connection to repeaters:
 - Master repeater (for voice calls and monitoring).
 - Other repeaters (for monitoring).
- Connection to a computer with a MNIS Data Gateway Relay application.
- Connection to a computer with Device Discovery and Mobility Service (DDMS).
- Connection to the XRC controller (Connect Plus).
- Connection to the XRT gateway (Connect Plus).
- Capacity Max System Server (CMSS) connection.

NOTE

Motorola radio hardware may have more specific requirements for the above parameters. For this information, refer to the respective hardware documentation.

Bandwidth Requirements

Computer networks where SmartPTT is installed and used must provide specific bandwidth between the computer with SmartPTT Radioserver and the other IP devices of the dispatch system. All following requirements are applicable to one-way transmissions.

Voice transmission

All following requirements are applicable to a single voice stream.

Source/Target	Minimum	Comments
SmartPTT Dispatcher application	13 kbps	For DMR vocoder
	100 kbps	For G.711 vocoder
RG-1000e radio gateway	from 65 kbps	Exact value depends on vocoder parameters
Master repeater	20 kbps	
XRT Gateway	20 kbps	Applicable to Connect Plus only
Capacity Max System Server	20 kbps	
PBX	65 kbps	For G.729 or Speex vocoders
	100 kbps	For G.711 vocoder
Applications that use SmartPTT WebSocket	from 65 kbps	For each of the following applications: <ul style="list-style-type: none"> SmartPTT Web Client SmartPTT Mobile Third Party app over SmartPTT Server API Exact value depends on vocoder parameters.

Required bandwidth should be increased if you use the bridging, cross patches, conference calls, or voice communication between dispatchers. For details on increased bandwidth, contact Elcomplus LLC representative in your region.

If you have an alternate/redundant SmartPTT Radioserver, the bandwidth to that computer must comply with the synchronization settings between the main and redundant servers.

Voice traffic between SmartPTT Dispatcher applications (the Dispatchers feature) is not sent to SmartPTT Radioserver. To provide this feature, the bandwidth between dispatcher computers must be 65 kbps or more per each configured contact.

Data transmissison

In SmartPTT, data transmissison includes text messages, indoor and outdoor location, telemetry information and control commands.

Source/Target	Minimum	Comments
SmartPTT Dispatcher application	3.5 kbps	For Enhanced CSBK location data from 10 subscribers and location update period 7.5 s
Master repeater	20.0 kbps	For each repeater without a revert channel
	45.0 kbps	For each repeater with a revert channel
Remote MNIS host	20.0 kbps	For each repeater without a revert channel
	45.0 kbps	For each repeater with a revert channel
XRC controller	20.0 kbps	For each repeater without a revert channel
	45.0 kbps	For each repeater with a revert channel
Avigilon server	3150 kbps	For each camera. This value is obtained based on the following conditions: <ul style="list-style-type: none"> Resolution is 1920 x 1080. FPS is 25. Service packets in stream no more than 5% of the video stream. <i>H.264 Base codec - medium quality.</i> Average dynamics of the image change.

Bandwidth must be increased if you activate and use the Bridging feature in SmartPTT Radioserver, create a cross patch, or organize a conference call.

If you have a redundant SmartPTT Radioserver, the bandwidth to that computer must comply with the synchronization settings between the main and redundant servers.

Monitoring service

Source/Target	Minimum	Comments
SmartPTT Dispatcher application	42 kbps	For each configured repeater if the Monitoring

Source/Target	Minimum	Comments
		panel is closed
	45 kbps	For each configured repeater if the Monitoring panel is opened
Repeater	42 kbps	For each configured repeater

Support and Compatibility

MOTOTRBO Infrastructure

SmartPTT supports the following MOTOTRBO firmware and software:

Firmware/Software	Version	Comments
Subscriber radio Firmware	R02.11.XX	
	R02.10.XX	
	R02.09.XX	
Repeater Firmware	R02.11.XX	
	R02.10.XX	
	R02.09.XX	
Control Station Firmware	R02.11.XX	
	R02.10.XX	
	R02.09.XX	
MOTOTRBO Network Interface Services Software (MNIS)	R2.105.X	Provides data transmission in IP Site Connect, Capacity Plus, and Linked Capacity Plus
	R2.100.X	
	R2.90.X	
Device Discovery and Mobility Service Software (DDMS)	R3.100.X	Provides radio registration information in IP Site Connect, Capacity Plus, and Linked Capacity Plus
	R3.70.X	
XRC and XRT Firmware	R02.80.XX	Connect Plus only
Capacity Max System Server (CMSS) Firmware	R02.11	
	R02.10	
	R02.09	

Additional information on infrastructure:

- Within the radio system, all repeaters, subscriber radios and control stations should use the same or compatible firmware versions.
- If you activate the Bridging feature, you should bridge only the radio fleet objects which are associated with the same or compatible firmware versions.
- Access and operation in radio systems for SmartPTT require separate licensing.

Elcomplus Products

SmartPTT is compatible with the following Elcomplus LLC products:

Product	Version	Comments
Radio gateway RG-1000e	R3.X	Current version of firmware used on the device for control station remote connection and operation.
	R2.2	Previous version of firmware used on the device.
SmartPTT File Transfer	2.0	Application for file transmission over the radio network.
SmartPTT SCADA	1.1	New version of software SmartPTT extension for data acquisition and remote control in civil engineering.
	1.0.1	Software SmartPTT extension for data acquisition and remote control in civil engineering.

Third Party Products

SmartPTT is compatible with a range of third-party products. Below you will find a list of hardware and software products that proved to be compatible with the SmartPTT applications.

Database Management Systems

SmartPTT uses Microsoft SQL Server as a database. The following versions are supported:

- Microsoft SQL Server 2014 Express
- Microsoft SQL Server 2008 R2 Enterprise

For information on use of other Microsoft SQL Server versions and editions, submit a request to [SmartPTT Technical Support Center](#).

Option Boards

- Connect-RTLS RF800 (BluFi Wireless).
- K-TERM 44 (Kilchherr Elektronik AG).

Beacons

- Connect-RTLS RF800 (BluFi Wireless).
- K-TERM 70IC Beacon Transmitter (Kilchherr Elektronik AG).
- iBeacons.

Option Boards Software

SmartPTT supports MOTOTRBO™ option boards programmed using Tallysman Sprite Configurator. For specific features, the corresponding software versions are required:

- Version 0.2.68 for the Heartbeats feature.
- Version 0.3.16 for the Movement Reports Restoration feature.

These software versions are incompatible and they do not provide both features to one option board.

Sound cards

- Internal PCI-E Sound Blaster Audigy RX.
- External Sound Blaster X-Fi Go.
- ESI MAYA44XTe.
- ICON Digital Cube Pro USB.

Accessories

- Desktop USB microphone [D-9 by Holmco](#)
- Desktop USB microphone [PS12 by pei tel](#)
- Desktop microphone [DM-160 by CXD](#)
- Push-to-talk button [PTT-13 by Imtradex](#)
- USB corded headsets [Blackwire C310-M and C320-M by Plantronics](#)
- Yellow foot switch [X-keys XK-3 USB Switch Interface by P.I. Engineering](#)

Hardware

- SmartPTT Dispatcher can be installed and used on [BeFREE 10](#) computers.
- SmartPTT supports the IP Gear Claro 30 SIP-gateway (by ESTel) for access to analog telephone networks.
- SmartPTT can connect to [NexLog recorders](#) running under NexLog Recorder Software 2.8.2.
- SmartPTT can connect to [Avigilon](#) system cameras using the [Avigilon Control Center Server 7](#) software.

Ports Used by SmartPTT System

All port numbers below are default ones. They can be changed if required. However, some port ranges are limited. For details, see the corresponding documentation and/or embedded help files.

Conventions

List of ports is available in the table view. Corresponding tables consist of the following columns:

Value

Number of the single port or the initial boundary of the port range (interpretation depends on the **Quantity** column). In the column, the following options are available:

- *any* — port number is selected automatically.
- *<port number>* — default port number.
- *<port number>** — port number can be used for simultaneous use by multiple connections.

Quantity

Number of ports that must be unlocked (including the one that is specified in the **Value** column):

- *<number of ports>* — number of ports in the range.

Initiator

Name of the process that initiates the connection. In the column, the following options are available:

- *RadioService.exe* — name of the radioserver process (available for both main/primary and alternate/redundant radioservers).
- *Client.exe* — name of the SmartPTT Dispatcher process (available on dispatch console computers only).
- *ext.* — reference that the connection is initiated by an external process.

Direction

Shows if the connection request is incoming/inbound or outgoing/outbound. In the column, the following options are available:

- *in* — incoming/inbound request.
- *out* — outgoing/outbound request.

Protocol

Type of the transport protocol that is used for data provision. In the column, the following options are available:

- *TCP* — transmission control protocol.
- *UDP* — user datagram protocol.

Brief description of each connection is provided in the table before the connection parameters (port numbers, quantities, etc.).

Radioserver Host

Table below provides information about network ports that used by the radioserver computer. For information on table conventions, see [Conventions](#).

- [DBMS Connection](#)
- [MOTOTRBO Radio Systems](#)
 - [ERDM Systems](#)
 - [IP Site Connect](#)
 - [Capacity Plus](#)
 - [Capacity Plus Multi-Site \(Linked Capacity Plus\)](#)
 - [Capacity Max](#)
 - [Connect Plus](#)
- [Control Stations](#)
 - [MOTOTRBO](#)
 - [APX and I/O](#)
- [Clients](#)
 - [Desktop Client](#)
 - [Web Client](#)
 - [SmartPTT Mobile](#)
 - [Third-Party Apps](#)
- [Services](#)
 - [DDMS](#)
 - [MNIS](#)
 - [Email](#)
 - [SmartPTT File Transfer](#)
- [Add-on Modules](#)
 - [Option Board Features](#)
 - [Indoor Tracking using Kilchherr](#)
 - [NexLog Recording System](#)
 - [Avigilon Connection](#)
 - [Phone Line Connection over SIP trunk](#)
 - [Network Monitoring](#)

DBMS CONNECTION

Value	Quantity	Initiator	Direction	Protocol
1433	1	RadioService.exe	out	TCP
1434	1	RadioService.exe	out	UDP

ERDM SYSTEMS

Value	Quantity	Initiator	Direction	Protocol
Repeater connection:				
50000	1	RadioService.exe	out	UDP
DDMS connection:				
3000	1	RadioService.exe	out	UDP
MNIS connection:				
any	1	RadioService.exe	out	TCP
Radio location updates:				
4001	1	RadioService.exe	out	UDP
		ext.	in	
Incoming and outgoing text messages:				
4007	1	RadioService.exe	out	UDP
		ext.	in	
Telemetry data and remote control commands:				
4008	1	RadioService.exe	out	UDP
		ext.	in	

IP SITE CONNECT

Value	Quantity	Initiator	Direction	Protocol
Master repeater connection:				
50000	1	RadioService.exe	out	UDP

Value	Quantity	Initiator	Direction	Protocol
DDMS connection:				
3000	1	RadioService.exe	out	UDP
MNIS connection:				
any	1	RadioService.exe	out	TCP
Radio location updates over LIP:				
5017	1	ext.	in	UDP
Radio location updates over LRRP:				
4001	1	RadioService.exe	out	UDP
		ext.	in	
Incoming and outgoing text messages:				
4007	1	RadioService.exe	out	UDP
		ext.	in	
Telemetry data and remote control commands:				
4008	1	RadioService.exe	out	UDP
		ext.	in	

MOTOTRBO™ CAPACITY PLUS

Value	Quantity	Initiator	Direction	Protocol
Master repeater connection:				
50000	1	RadioService.exe	out	UDP
DDMS connection:				
3000	1	RadioService.exe	out	UDP
MNIS connection:				
any	1	RadioService.exe	out	TCP
Radio location updates:				

Value	Quantity	Initiator	Direction	Protocol
4001	1	RadioService.exe	out	UDP
		ext.	in	
Incoming and outgoing text messages:				
4007	1	RadioService.exe	out	UDP
		ext.	in	
Telemetry data and remote control commands:				
4008	1	RadioService.exe	out	UDP
		ext.	in	

MOTOTRBO™ CAPACITY PLUS MULTI-SITE (LINKED CAPACITY PLUS)

Value	Quantity	Initiator	Direction	Protocol
Master repeater connection:				
50000	1	RadioService.exe	out	UDP
DDMS connection:				
3000	1	RadioService.exe	out	UDP
MNIS connection:				
any	1	RadioService.exe	out	TCP
Radio location updates:				
4001	1	RadioService.exe	out	UDP
		ext.	in	
Incoming and outgoing text messages:				
4007	1	RadioService.exe	out	UDP
		ext.	in	
Telemetry data and remote control commands:				
4008	1	RadioService.exe	out	UDP
		ext.	in	

MOTOTRBO™ CAPACITY MAX

Value	Quantity	Initiator	Direction	Protocol
Connection to the single Presence Server (up to 5 connections are supported):				
any*	1	RadioService.exe	out	TCP
Connection to the single MNIS VRC Service (voice gateway; up to 15 connections are supported):				
any*	16	RadioService.exe	out	TCP
Voice transmission between radioserver and voice gateway:				
40000*	16	RadioService.exe	out	UDP
		ext.	in	
Radio location updates through the primary MNIS data gateway:				
4001	1	RadioService.exe	out	UDP
		ext.	in	
Incoming and outgoing text messages through the primary MNIS data gateway:				
4007	1	RadioService.exe	out	UDP
		ext.	in	
Telemetry data and remote control commands through the primary MNIS data gateway:				
4008	1	RadioService.exe	out	UDP
		ext.	in	
Radio location updates through the alternate/redundant MNIS data gateway:				
4011	1	RadioService.exe	out	UDP
		ext.	in	
Incoming and outgoing text messages through the alternate/redundant MNIS data gateway:				
4017	1	RadioService.exe	out	UDP
		ext.	in	
Telemetry data and remote control commands through the alternate/redundant MNIS data gateway:				
4018	1	RadioService.exe	out	UDP

Value	Quantity	Initiator	Direction	Protocol
		ext.	in	
Connection to the locally installed MNIS service:				
any	1	RadioService.exe	out	TCP
Connection to the remotely installed MNIS service:				
any	1	RadioService.exe	out	TCP

MOTOTRBO™ CONNECT PLUS

Value	Quantity	Initiator	Direction	Protocol
Connection to the network monitoring service that is hosted in XRC controllers:				
38000	1	RadioService.exe	out	TCP and UDP
Connection to the presence notification service (ARS) that is hosted in XRC controllers:				
50005	1	RadioService.exe	out	TCP and UDP
Connection to the radio location service that is hosted in XRC controllers:				
50001	1	RadioService.exe	out	TCP and UDP
Connection to the text message service that is hosted in XRC controllers:				
50007	1	RadioService.exe	out	TCP and UDP
Connection to XRT gateways:				
any	1	RadioService.exe	out	TCP and UDP
Voice call reception and initiation (for details, see Connect Plus Ports):				
19000	100	RadioService.exe	out	UDP
		ext.	in	

MOTOTRBO CONTROL STATION

Value	Quantity	Initiator	Direction	Protocol
Radio location updates over LIP (local stations only):				

Value	Quantity	Initiator	Direction	Protocol
5017	1	ext.	in	UDP
Radio location updates over LRRP (local stations only):				
4001	1	RadioService.exe	out	UDP
		ext.	in	
ARS information updates (local stations only):				
4005	1	RadioService.exe	out	UDP
		ext.	in	
Incoming and outgoing text messages (local stations only):				
4007	1	RadioService.exe	out	UDP
		ext.	in	
Telemetry data and remote control commands (local stations only):				
4008	1	RadioService.exe	out	UDP
		ext.	in	
Connection over RG-1000e (remote stations only):				
1024	1	ext.	in	TCP
1024	1	ext.	in	UDP
Radio gateway connection for TX station control (remote stations only):				
1024	1	RadioService.exe	out	TCP
		ext.	in	
Radio gateway connection for voice and data communication (remote stations only):				
1024	1	RadioService.exe	out	UDP
		ext.	in	
Radio location updates (remote stations only):				
1025	1	RadioService.exe	out	TCP and UDP
		ext.	in	

Value	Quantity	Initiator	Direction	Protocol
Incoming and outgoing text messages (remote stations only):				
1026	1	RadioService.exe	out	TCP and UDP
		ext.	in	
ARS information updates (remote stations only):				
1027	1	RadioService.exe	out	TCP and UDP
		ext.	in	
Telemetry data and remote control commands (remote stations only):				
1028	1	RadioService.exe	out	TCP and UDP
		ext.	in	

APX AND I/O CONTROL STATIONS

Value	Quantity	Initiator	Direction	Protocol
Connection over RG-1000e:				
1024	1	RadioService.exe	out	TCP
1024	1	RadioService.exe	out	UDP
Radio gateway connection for TX station control:				
1024	1	RadioService.exe	out	TCP
		ext.	in	
Radio gateway connection for voice and data communication:				
1024	1	RadioService.exe	out	UDP
		ext.	in	

DESKTOP CLIENT

Value	Quantity	Initiator	Direction	Protocol
Radioserver connection:				
8888	1	ext.	in	TCP

Value	Quantity	Initiator	Direction	Protocol
Exchange voice traffic with the radioserver:				
18500*	1	RadioService.exe	out	UDP
		ext.	in	

WEB CLIENT

Value	Quantity	Initiator	Direction	Protocol
Application connection:				
8443*	1	ext.	in	TCP
STUN service:				
3478	1	ext.	in	TCP and UDP
Exchange voice traffic with the radioserver:				
18500*	1	RadioService.exe	out	UDP
		ext.	in	

SMARTPTT MOBILE

Value	Quantity	Initiator	Direction	Protocol
Application connection:				
8443*	1	ext.	in	TCP
Exchange voice traffic with the radioserver:				
18500*	1	RadioService.exe	out	UDP
		ext.	in	

THIRD-PARTY APPS

Value	Quantity	Initiator	Direction	Protocol
Application connection:				
8191*	1	ext.	in	TCP

Value	Quantity	Initiator	Direction	Protocol
Exchange voice traffic with the radioserver:				
18500*	1	RadioService.exe	out	UDP
		ext.	in	

DDMS SERVICE

Value	Quantity	Initiator	Direction	Protocol
Radio presence information:				
any	1	RadioService.exe	out	TCP and UDP
Radio user information:				
5055	1	RadioService.exe	out	TCP and UDP

MNIS SERVICE

Value	Quantity	Initiator	Direction	Protocol
Local or remote MNIS connection:				
any	1	RadioService.exe	out	TCP and UDP

EMAIL SERVERS

Value	Quantity	Initiator	Direction	Protocol
Email Message Reception (IMAP or POP):				
any	1	RadioService.exe	out	TCP
Email Message Transmission (SMTP):				
any	1	RadioService.exe	out	TCP

SMARTPTT FILE TRANSFER

Value	Quantity	Initiator	Direction	Protocol
File Receive service:				
5001	1	RadioService.exe	out	UDP

OPTION BOARD FEATURES

Value	Quantity	Initiator	Direction	Protocol
Heartbeats:				
5000	1	ext.	in	UDP
Movement reports:				
4010	1	ext.	in	UDP

INDOOR TRACKING USING KILCHHERR

Value	Quantity	Initiator	Direction	Protocol
Location reports reception:				
3100	1	ext.	in	UDP

NEXLOG RECORDING SYSTEM

Value	Quantity	Initiator	Direction	Protocol
Voice streams reception:				
13000	200	RadioService.exe	out	UDP

AVIGILON CONNECTION

Value	Quantity	Initiator	Direction	Protocol
any	1	RadioService.exe	out	TCP and UDP

PHONE LINE CONNECTION OVER SIP TRUNK

Value	Quantity	Initiator	Direction	Protocol
Control connection:				
5060	1	RadioService.exe	out	TCP or UDP
Full-duplex voice communication with individual phone:				
18650	300	RadioService.exe	out	UDP

NETWORK MONITORING

Value	Quantity	Initiator	Direction	Protocol
Listening to requests from the SNMP server:				
161	1	ext.	in	TCP and UDP
Interaction with a device:				
162	1	RadioService.exe	out	TCP and UDP

Connect Plus Ports

In Connect Plus, UDP ports that are related to the voice call reception and initiation are used according to the following rules:

- Each voice call requires UDP connection.
- Port numbers are **not** fixed to talkpaths.
- Port numbers are allocated starting the one that is configured in SmartPTT Radioserver Configurator (default value is *19000*).
- Maximum number of ports is determined by the number of voice call IDs configured in all XRT gateways.

If SmartPTT is connected to multiple Connect Plus radio systems, each system must have its own range of UDP ports for voice calls. Port ranges must be different.

Dispatch Console Host

Table below provides information about network ports that used by dispatch console computers. For information on table conventions, see [Conventions](#).

Value	Quantity	Initiator	Direction	Protocol
Radioserver connection:				
any	1	Client.exe	out	TCP
Voice reception from the radio network and voice transmission to the radio network over the radioserver; voice reception from another dispatcher and voice transmission to another dispatcher:				
18500	1	Client.exe	out	UDP
Connection to another dispatch console (for console intercom) and data transmission:				
18501	1	Client.exe	out	TCP
Connection to PBX over the SIP trunk protocol (transport protocol depends on PBX settings):				

Ports Used by SmartPTT System**Dispatch Console Host**

Value	Quantity	Initiator	Direction	Protocol
5060	1	Client.exe	out	TCP or UDP

Voice reception and transmission between dispatch console and PBX:

18700	48	Client.exe	out	UDP
-------	----	------------	-----	-----

Contact Information

The document describes the product developed by Elcomplus LLC. The official product website is www.smartptt.com.

For contact information of Elcomplus LLC representatives, see www.smartptt.com/contacts.

Technical Support

Customer support is provided by SmartPTT Technical Support Center. The official website of the Center is support.smartptt.com.

To contact a support engineer, perform one of the following actions:

- Fill in and submit a [support request](#) on the website.
- Email a support request to support@smartptt.com.

In America, customer support is also provided by Elcomplus, Inc. To contact support engineers, use the following contact information:

- Phone: +1 786-362-5525
- Email: miami@smartptt.com
- Mailbox: 290 NW 165th St, Ste P-200, 3rd Flr
Miami, FL, 33169, USA

SmartPTT Technical Support Center and Elcomplus, Inc. do not consult on deployment and maintenance of Motorola Solutions products except on settings related to SmartPTT connection and data communication. For technical support on Motorola Solutions products, please contact an authorized Motorola Solutions representative in your region.

Customer Documentation

This document is authored and published by Elcomplus LLC. If you have any comments and suggestions on it, please email them to support@smartptt.com.

No part of this document must be reproduced, quoted, or translated to another language without explicit permission from Elcomplus LLC.