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1 Introduction

1.1 About This Guide

This document is intended for administrators setting up evaluation and proofof-concept deployments of MOTOTRBO Dispatch over IP solutions. The document describes the minimum steps to configure the Phone Connect feature in TRBOnet.

1.2 About TRBOnet

TRBOnet is a suite of professional applications for MOTOTRBO digital two-way radio networks. TRBOnet manages voice and data communication paths across network endpoints. It provides a unified graphical dispatcher workbench interface for the entire range of workforce fleet management tasks.

For more information about TRBOnet products, refer to our <u>website</u>.

1.3 Contacts

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2 **Overview**

The Phone Connect feature is designed to extend the TRBOnet voice functions to SIP and PSTN endpoints. From the dispatcher's perspective, the multi-line phone connection becomes part of the voice dispatch workspace along with the radio PTT boxes.

When the feature is activated, the phone subscribers registered on the built-in or external SIP servers as well as PSTN users become first-class peers in TRBOnet: the phone calls can be joined to a conference with the radio subscribers, the phone endpoints can directly dial into and be reachable for the radios and the dispatcher, the audio messages can be sent to phones (played back when the number answers), etc.

TRBOnet includes an internal SIP PBX server. You can also create SIP trunk connections with external PBX servers or route calls to an external PBX server as if it is just another SIP endpoint.



3 Configuration

You will need to use the following three software tools to edit the configuration settings for the Phone Connect feature:

- TRBOnet Server
- TRBOnet Dispatch Console
- Motorola CPS to edit the codeplugs for the repeater and the radio stations

Follow the guidance below to configure the necessary Phone Connect-related settings.

3.1 TRBOnet Server

 Navigate to Radio Systems > Repeater > Advanced settings and from the Phone System list, select either 'Motorola Phone System' or 'TRBOnet Phone System (TX Interrupt)'.

Configuration		Advanced Settings		
🛱 Redundancy				
Database		Voice Call Hang Time	(ms):	
😪 Reports		Group Call:	3000 ‡	
🗘 Service Management		Private Call:	4000 1]
🗶 Advanced Settings				
Geocoding Servers		Emergency Call:	4000 🇘	
🖶 Radio Systems		TX Preamble:	100 *	1
Services		TA Freditible:	120 ‡	
PSC 1		TX Timeout:	60 🇘	seconds
🔀 Advanced Settings		\frown		
🔒 Privacy		Phone System:	Motorola Phone System	Ψ
		TX Interrupt Mode:	MSI Proprietary	*
Slot #2				
Local Slots		Allow CSBK Data		
🚛 PTT over Cellular				
📘 TRBOnet.Mobile gateway				
Remote Agents				
Friendly Servers				
🐻 Telephony	5			
())	*			
Set Defaults			Apply	OK Cancel

- In the Configuration pane, select Phone Connect
- In the **Phone Connect** pane, select **Use Phone Connect**.

TRBOnet Phone Connect – User Guide



Configuration		Phone Connect
Advanced Settings Privacy DDMS service Advanced Settings MNUS data service Advanced Settings PTT over Cellular Advanced Settings Remote Agents Ptone Connect Advanced Settings Phone Connect Advanced Settings Internal PBX Server Advanced Settings Internal PBX Server Advanced Settings Email SMS Notifications Push Notifications License	*	✓ Use Phone Connect SIP Server 1 ✓ Internal PBX Server
Set Defaults		Apply OK Cancel

3.1.1 Phone Connect Advanced Settings

• In the **Configuration** pane, under **Phone Connect**, select **Advanced Settings**.

• In the **Advanced Settings** pane, specify the following parameters:

Max Ring Time

Specify the maximum ringing time, in seconds.

Max Call Time

Specify the maximum call time, in minutes.

Public Address

This is the public IP address of your PC. Enter the Public Address if your TRBOnet Server is behind a router and an <u>External PBX Server</u> will be used. To detect the public address, click the ellipsis (...) button.



Public IP Address	×
Detect p	oublic IP Address over STUN server
STUN Server:	stun.ekiga.net 👻
Port:	3478 ‡
IP Address detected	80.246.253.115
Detect	OK Cancel

• STUN Server

From the drop-down list, select the STUN Server.

• Detect

Click this button to detect your public IP address.

Phone owner address

From the drop-down list, select 'Take from database'. This will enable determining the street address of a caller.

Click the **Configure** link.

\times
•
1

• Add the required fields to the address information.

3.1.2 Internal PBX Server

- Make sure the **Internal PBX Server** option is selected in the **Phone Connect** pane.
- In the **Configuration** pane, select **Internal PBX Server**.

Configuration	1	Internal PBX Server				
Configuration Advanced Settings DDMS service Advanced Settings MNUS data service Advanced Settings Units data service Advanced Settings TRBOnet.Mobile gateway # Remote Agents Friendly Servers Phone Connect Advanced Settings Triendly Servers	^	Internal PBX Server Use Internal PBX Server Local IP: Dispatch Center User Extension: User Name:	10.10.10	0.99	Port:	5060 \$
Advanced Settings						
📩 Email						
SMS Notifications						
Push Notifications						
🗔 License	~					
< >	•					
Set Defaults				Apply	ОК	Cancel

• In the **Internal PBX Server** pane, specify the following parameters:

TRBOnet Phone Connect – User Guide



Local IP

Enter the IP address of the PC with TRBOnet Server.

Port

Enter the local UDP port number for the SIP service (5060, by default).

Dispatch Center

User Extension

Enter the user extension number that will be used by the Dispatch Center.

User Name

Enter the user name that will be used by the Dispatch Center.

3.1.2.1 Advanced Settings

• In the **Configuration** pane, under **Internal PBX Server**, select **Advanced Settings**.

Configuration	Advanced Settings	
-X Advanced Settings 🛛 🗸		
	Packet time (ms):	60 ‡
DDMS service	Codecs:	G711µ,G711a,OPUS,OPUS,G729 -
Advanced Settings	Desidentian Televicel (see).	3600
MNIS data service	Registration Interval (sec):	
Advanced Settings	DTMF Send Mode:	RFC 2833 -
Audio Paths	First VoIP port:	Default 🗘
TT over Cellular	Use VoIP ports:	All
Advanced Settings		
TRBOnet.Mobile gateway #1		
Remote Agents		
Friendly Servers		
Advanced Settings		
Thernal PBX Server		
Advanced Settings		
Data Sources		
Email		
SMS Notifications		
Push Notifications		
📮 License		
< >		
Set Defaults		Apply OK Cancel

- In the **Advanced Settings** pane, specify the following Internal PBX Serverrelated advanced settings:
 - Packet time

Enter the packet length, in milliseconds.

Codecs

In the drop-down list, select/unselect the codecs to be used for audio compression.

Registration Interval (sec)

Enter the time interval, in seconds, to check the SIP registration status of subscribers.

DTMF Send Mode

Enter mode for sending DTMF tones. The available modes are RFC 2833, SIP INFO (DTMF relay), and SIP INFO (DTMF).



First VoIP port

Enter the number of the first VoIP port for audio communications

Use VoIP ports

From the drop-down list, select which VoIP ports will be used (all, even, or odd).

3.1.3 External PBX Server

You can enable multiple external PBX servers to use the SIP Interconnect feature. This feature enables calls from the radio to the phone and vice versa. The dispatcher can make a call from the Dispatch Console to a phone as well as redirect a phone call to a subscriber radio.

• In the **Phone Connect** pane, click **Add**.

Or, in the **Configuration** pane, right-click **Phone Connect** and choose **Add PBX Server**.

Configuration	Ext	ernal PBX Server			
PSC 1	^	Use External PBX S			
		Provider optio	ns		
DDMS service		Address:	yourprovider.com		UDP -
X Advanced Settings Q MNIS data service		Port:	5060 ‡		Test
Advanced Settings		Local IP:	10.10.100.99	· 후 Port:	5061 ‡
TT over Cellular		Dispatch Cent	er		
TRBOnet.Mobile gateway #1		User Extension:	57068		
Remote Agents		User Name:	Dispatcher 1		
👬 Friendly Servers 🏗 Phone Connect		User Password:	****		
Advanced Settings				Te	st Call
Advanced Settings External PBX Server Advanced Settings Redundancy					
don in	×				
< >					
Set Defaults			Apply	ОК	Cancel

• In the External PBX Server pane, specify the following parameters:

Use External PBX Server

Select this option to enable an external PBX server.

Provider options

Address

Enter your SIP provider address, and select the protocol from the dropdown list on the right of the address (for more details, contact your SIP provider).

Port

Enter the port number of the SIP provider (5060, by default).

- Click **Test** to check the connection to the provider.
- Local IP

Enter the IP address of the PC with TRBOnet Server.

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Port

Enter the local port number to make connections from.

Dispatcher Center

Note: This information is provided by the SIP provider.

User Extension

Enter the extension number that will be associated with TRBOnet Server to make and receive calls.

- User Name Enter the user name for the login.
- **User Password** Enter the user password for the login.
- Test Call

Click this button to make a test call.

Note: To make a test call, make sure that the TRBOnet Server service is not running.

3.1.3.1 Advanced Settings

• In the **Configuration** pane, under the corresponding **External PBX Server**, select **Advanced Settings**.

Configuration	Advanced Settings		
Configuration IPSC 1 Advanced Settings Privacy DDMS service Advanced Setting Advanced Setting TRIONet. Mobile gateway Remote Agents Friendly Servers Phone Connect Advanced Settings External PBX Server Advanced Settings	Packet time (ms): Codecs: Registration Interval (sec): DTMF Send Mode: Do not register users on a F	users on a PBX server	
Set Defaults		Apply OK	Cancel

- In the **Advanced Settings** pane, specify the following External PBX Server-related advanced settings:
 - Packet time

Enter the same value as specified in the phone system;

Codecs

In the drop-down list, select/unselect the codecs specified in the phone system.



Registration Interval (sec)

Enter the time interval, in seconds, to check the SIP registration status of subscribers.

Do not register users on a PBX server (SIP trunk)

Select this option so that radios will use the SIP trunk system to get extensions.

Configure user's authorization

Click this link to set up user authorization for the systems with enhanced authorization parameters. It is recommended to be used when Radio ID is equal to SIP ID. In case when Voice is transmitted via Radio Channel, Radio ID is used. When voice is transmitted via GSM channel, SIP ID is used.

SIP	Authorization users	;		×
	User Extension	Authorization L		
Þ	010101	User1		
4	Add X Delete			
			ОК	Cancel

• Click **Add** to add a new user authorization.

• User Extension

Enter the extension number for the new user.

• Authorization User Name

Enter the name that will be used as the authorization user name.

• Click **OK** to save the new user authorization.

First VoIP port

Enter the number of the first VoIP port for audio communications. The default value is specified in Network Parameters.

Use VoIP ports

From the drop-down list, select which VoIP ports will be used (all, even, or odd).

Available SIP numbers

Enter the range of SIP phone numbers that will be available for outgoing calls.

3.1.3.2 Redundancy

A Redundant PBX Server be used when a connection to the main PBX Server fails.



• In the **Configuration** pane, under the corresponding **External PBX Server**, select **Redundancy**.

Configuration	R	edu	ında	ncy			
Advanced Setting A	R	edu	ndar	t PBX Servers:			
Advanced Setting				PBX Server Address	PBX Server Port	TRBOnet Local Port	
Audio Paths		1	\checkmark	123.21.102.201	5060	5061	
🛒 PTT over Cellular							
🛄 📘 TRBOnet.Mobile gateway							
📷 Remote Agents							
🥫 Friendly Servers							
The Connect							
Thernal PBX Server							
Advanced Settings							
External PBX Server							
Advanced Settings							
Redundancy							
Ψ Data Sources							
🔀 Email							
SMS Notifications							
Push Notifications	l F	Z R	ereq	ister users when chang	ing PBX server		
📮 License					-		_
< >			Add	Delete		Test 🔺	Ψ
Set Defaults					Apply	OK Cancel	

• In the **Redundancy** pane, click **Add**.

PBX Server Address

Enter the IP address of the redundant server.

- Check the corresponding port numbers (PBX Server Port and TRBOnet Local Port).
- Select the check box beside the server address.
- Register users when changing PBX server
 Select this check box so that phone users will be registered when the PBX server is switched to the redundant server.



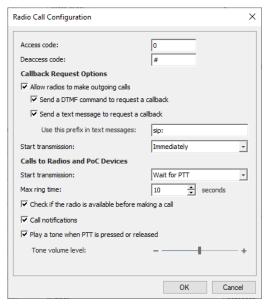
3.2 TRBOnet Dispatch Console

- Go to Administration (1), Phone Calls (2).
- In the **Phone Calls** pane, click the **Configuration** tab (3).

Administration Phone Calls
Consect of the section of the secting of the secting of the secting of the secting of the s
Image: System Forger Facility Call Configuration 3 System Forger System Forger 0 Task 0 0 0 Task 0 0 0 Task 0 0 0 0 Task 0 0 0 0 0 Task 0 0 0 0 0 0 Task 0 0 0 0 0 0 0 Task 0 0 0 0 0 0 0 0
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Image: Second
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Image: Construction Call additionation: Yes Image: Construction Call additionation: Call additionation: Image: Construction Call additionation: Redirect to online dispatchers Image: Construction Call additionation: Yes Image: Construction Yes Yes Image: Construction Yes Yes Image: Construction Yes Yes Image: Construction Yes <td< th=""></td<>
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Image: Care Profile (TRIDO version biological care Profile care Profile (TRIDO version biological care Profile care P
Compare Construction Compare Construction Constential Construction Construction Constential Cons
Model Clerk Profile (TBORNet Communicator) Mound Call Configuration Tetrosita Profile (TBORNet Communicator) Mound Call Configuration Mound
Introduction Call Configuration Total Call to Depatch Configuration Or Stock Arrs Call to Depatch Configuration Or Stock Arrs Call to Depatch Configuration Or Stock Arrs Call to Depatch Configuration Or Depatch Process Call to Depatch Configuration Depatch Process Do not establish call with Called party responds: Depatch Process Do not establish call with Called party responds: Depatch Process Do not establish call with Called party responds: Depatch Process Do not establish call with Called party responds: Depatch Process Do not establish call with and or party responds: Maximum number of digits: Unimited Hours with Process code: #
Tools Inboard Cloatfol Scheduler Rudos Calls Depath Ciremin: Referct to orine dispathers Distabler Rudos Calls Unregistreet number: Referct to orine dispathers Dispather Rugos Calls Unregistreet number: Referct to orine dispathers Dispather Rugos Contentibility and unregistreet number: Referct to orine dispathers Dispather Rugos Contentibility and unregistreet number: No Dispathers Interactive Voice Response (VIV) Options Interactive Voice Response (VIV) Options Image: Structure of dispather Maximum number of digits: Unlemed Image: Voice Dispather # Conce cloatic: #
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Image: Construction Call burregreetered number: Repet: Image: Depather Groups Do not setable had party responde: No Image: Depather Groups Interactive Voic Gesponse (UVI) Options Teractive Voic Gesponse (UVI) Options Image: Depather Groups Do not matify Axcopt code: Yes Image: Depather Groups Maximum number of digits: Unlimited Image: Depather Groups Accept code: #
Image: Second
Depatchers D
Binal Groups Do not wait for Accept code: Ves Maximum number of digits: Unlimited Joint wait for Accept code: #
Maximum number of digits: Utilimited Lig Voice Dispatch Accept code: #
Voice Dispatch Accept code: #
Location Tracking 0 Cal displate (my woulde) Other Dery Cal displate (my woulde) Other Dery Cal displate (my woulde)
Bob Ticketing Configure
5
2 Route Management Conference Configuration
Max Call Duration: 60 minutes
Text Messages Automatic Voice Detection: No
Automatic Gair Control: No
Voice Recording Automstic Noise Reduction: No
Reports 6
Event Viewer Voice Message Loop Settings
Play into message: No
Radio Allocation Play viola message this many times: 2
rely volce message us many volce. 2
Administration Configure 7
🕜 Connected 🎭 🕵 🕵 🔥 🕵 🔥 🙎 Administrator 🛄 Licensed to: demo (Walt) (Demo License) 🖉 Active -

3.2.1 Radio Call Configuration

• Click the **Configure** button (4) to set radio call configuration parameters:



• Access Code

Set the value to that configured for the radios as **Access Code** in MOTOTRBO CPS.



• Deaccess Code

Set the value to that configured for the radios as **Deaccess Code** in MOTOTRBO CPS.

Callback Request Options

- Allow radio users to make outgoing calls Select this option to enable outgoing phone calls from the radios.
- Send a DTMF command to request a callback Select this option to allow radio users to dial the phone number as a sequence of DTMF tones sent over the radio channel.
- Send a text message to request a callback Select this option to allow radio users to initiate phone calls via sending TMS messages with a specified prefix to the dispatcher.
 - Use this prefix in text messages Enter the specific prefix for a text message.
- Start transmission

Select the mode for starting transmission on the radio that initiates a call.

Wait for answer

Transmission will be started as soon as the called party answers the call.

Immediately

Transmission will be started immediately that is without waiting for the called party to answer the call.

Calls to Radios and PoC Devices

• Start transmission

Select the option how to start transmission on the radio receiving a phone call.

- **Immediately** Select to start the call immediately.
- Wait for PTT

Select to play a ringtone until the radio user presses the PTT.

• Max ring time

Specify a timeout that defines how long to attempt to connect to the radio.

• Check if the radio is available before making a call

Select this option to execute a Check Radio command before placing a call.

• Call notifications

Select this option to send a text message to the radio when the channel is busy and a phone call cannot be established.



• Play a tone when PTT is pressed or released

Select this option so that a tone will be played during the established phone call when PTT is pressed or released on the remote radio that doesn't support a Full-Duplex mode.

3.2.2 Inbound Call Configuration

• Click the **Configure** button (5) to set incoming call configuration parameters:

Inbound Call C	ontrol	
Call to Dispatch (Center:	Forward to IVR
Call to unregiste	red number:	Reject
🗌 Do not establi	sh call until ca	alled party responds
Interactive Vo	ice Respon	se (IVR) Options
🔽 Do not wait fo	r Accept cod	e if one of the fixed numbers below is dialed
Maximum numbe	r of digits:	3
Accept code:		#
Number	Destina	tion
0	Call disp	atcher (any available)
1 <number></number>	Call radi	io with Radio ID = <number></number>
235	Call radi	io 'Unknown'
56	Call disp	atcher (any available)
📑 Add 📑 Eo	lit 🔜 Delel	te

Inbound Call Control

• Call to Dispatch Center

Select the mode for handling incoming calls made to the dispatcher.

Reject

All incoming phone calls will be declined.

Forward to IVR

When an incoming call arrives, the phone user will hear Voice Menu commands.

Redirect to online dispatchers

All incoming voice calls will be redirected to all dispatchers of the Dispatch center and any free dispatcher will answer the phone call.

Use as a regular phone number

A call to the Dispatch Center's number will be processed as a call to a regular phone number, and will depend on the selection made in the parameter below.

• Call to unregistered number

Select the mode for handling incoming calls made from unregistered subscribers.

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Reject

Select this option to decline all phone calls from unregistered subscribers.

Use this number as Radio ID

Select this option so that the system will use unregistered numbers as a Radio ID and start a Private Call.

Use this number as Internal Phone Number Select this option to allow the system to read unregistered numbers according to Voice Menu rules.

Forward call to PABX

Select this option to forward all calls from unregistered numbers to the External PBX.

Interactive Voice Response (IVR) Options

• Do not wait for Accept code if one of the fixed numbers below is dialed

Select this option to search for fixed the number in the Extensions table automatically.

When this option is disabled, the subscriber must dial the number according to the following example: **(phone number)#**. The character **#** (or *****, if selected as the Accept code) is used to search for the phone number in the table.

• Maximum number of digits

Specify the maximum number of characters allowed in a phone number.

• Accept Code

Specify the character that will be used to finish dialing the extension number.

All available numbers are listed in the table below.

• Click the **Add** link to add a number to the table.

To add a static (fixed) number

• Choose **Static number**.

Extension numb	er		×
Static numb	-		
C Dynamic nur	mber		
Number:	123456		
Call Type:	Call Group		*
Channel:	IPSC 1: Slot #1		*
Group:	Cleaners		*
Priority:	Normal		*
		ОК	Cancel

Number

Enter a phone number to add to the table (contact list).



Call Type

Select the call type from the drop-down list.

• Call Dispatcher

Select this type to make a phone call to the dispatcher.

• Call Radio

Select this type to make a phone call to the selected radio.

• Call Group

Select this type to make a phone call to the selected group.

Channel

Select the channel to make a group phone call through (available for Group Calls only).

Dispatcher/Radio/Group

Select the dispatcher, radio, or group depending on what you have selected in the **Call Type** box.

To add a dynamic number

• Choose **Dynamic number**.

xtension numb	per	×
C Static numb	-	
Prefix:	123	
Call Type:	Call Radio	*
Channel:	Auto Detect	v
Radio:	Detected by Radio ID	v
Priority:	Normal	-
	OK Cance	4

Prefix

Specify a prefix to type in on the keyboard.

Call Type

Select the call type from the drop-down list.

• Call Radio

Select this type to make a phone call to a radio.

• Call Group

Select this type to make a phone call to a group.

Call Phone

Select this type to make a phone call to a phone number.

Channel

Select the channel to make a group phone call through (available for Group Calls only).



3.2.3 Conference Configuration

• Click the **Configure** button (6) to set conference parameters:



Max Call Duration

Enter the maximum time allowed for the conference, in minutes.

Automatic Voice Detection

Select this option to enable automatic voice detection during a conference call.

Automatic Gain Control

Select this option to enable automatic gain control during a conference call. In the list on the right, select the desired gain level, in dB.

Automatic Noise Reduction

Select this option to enable automatic noise reduction during a conference call.

3.2.4 Voice Message Loop Settings

• Click the **Configure** button (7) to configure Voice Message Loop Settings:

Note: These settings apply if the Voice Message task is enabled or the Voice Message or Text to Speech actions are selected in an Alarm Management rule.

Voice Message Loop Settings	×
I Play intro message Play voice message this many times: □ I Set delay between voice messages	
OK Cance	el



Play intro message

Select this option to play an introduction message before playing the voice message itself.

- Play voice message this many times
 Specify how many times to play the voice message.
- Set delay between voice messages
 Select this option to set a delay between repeated voice messages.

3.2.5 Phone Calls Options

- On the main menu, click **Tools > Options**.
- In the **Options** dialog box, click the **Phone Calls** tab.

und Map	Coverage Map	Hardware	Advanced	Alarm	Telephony	
	ncoming telepho ber of Recent F			10	<u>*</u>	
		mone Calls:		110	•	
Ringtone co						
Incoming Call	Call Waiting	Held Call				
Call Prior	ity I	Ringtone	Ac	tion		
Normal:		<u>Default</u>	►	<u>Play</u>		
Emergenc	y:	<u>Default</u>	►	Play		
High:		<u>Default</u>	►	<u>Play</u>		
Low:		<u>Default</u>	▶	Play		

Queue all incoming phone calls

Select this option so that when the phone line is busy, incoming calls will be queued rather than rejected.

Show this number of Recent Phone Calls

Enter the number of items to display in the list of recent calls. The list of recent phone calls appears when you click the arrow on the right of the dial string in the Contact Dialer box.

Ringtone configuration

On the **Incoming Call (Call Waiting)** tab:

- Click a corresponding link in the **Ringtone** column, and from the pull-down menu, select either **Set Default**, **Set Custom**, or **Disable**. If you select **Custom**, in the dialog box that opens, browse for the audio file on the local PC and click **Open**.
- Click a **Play** link in the **Action** column to play back the corresponding ring tone.



On the **Held Call** tab:

• Remind after

Enter the timeout, in seconds, that will be used for playing the reminder tone when a call is on Hold.

• Ringtone

Specify the reminder tone to be played when a call is on Hold.

3.2.6 Adding Extensions

- Go to Administration (1), Phone Calls (2).
- In the Phone Calls pane, click the Extensions tab (3), and then Add (4).

	Phone Calls						6
Server ^	Configuration Exte	nsions Cal Redi	ection Phone	Contacts Dial	Mans		
[1] License	🔁 Add 🔜 Edit 🗙	Delete 🛛 📸 Inten	nal Numbers 🖷	Grouping 🍸	Auto Filter 🇇 De	efault Settings	
🔒 Database 🔐 Systems	Туре	User Extension	User Name	First Name	Last Name	Display Name	Logical Groups
- Systems 4	📃 Dispatch Cente	1234	1234			Internal PBX	
@ Phone Calls	🗙 🔊 SIP Phone	2408	John	John	Bingham	John B.	
- 🖗 Tasks 🔨	X SIP Phone	2409	2409			Walt	
100 Custom Fields	X 🔊 SIP Phone	Phone User			×	Eugene	
- A Modbus TCP Connections 2	X 🔊 SIP Phone					Prune	
	/	General Logic	al Groups Custo	m Fields			
	3		n: 2408				
- Event/Alarm Management		User Extensio					
- 🕼 Telemetry		User Name:	John				
- 		User Passwor	d: ••••••				
Voice Dispatch		Password (rep	eat): •••••				
		First Name:	John				
Location Tracking		Last Name:	Bingham				
0		Display Name					
		Display Name	John B.				
🔐 Job Ticketing							
S Job Ticketing							
~							
Route Management Text Messages	•			ОК	Cancel		
Route Management Text Messages				ОК	Cancel		
Text Messages				ŌK	Cancel		
Text Messages Voice Recording				OK	Cancel		
Route Management Text Messages Voice Recording Reports	_1			ОК	Cancel		

In the **Phone User** dialog box, specify the following parameters:

User Extension

Enter the extension number that will be used by the phone user.

User Name

Enter the user name that will be used by the phone user.

User Password

Enter the password for the phone user to be authenticated by the phone system.

Password (repeat)

Enter the password again.

- Fist Name/Last Name/Display Name
 Enter the first, last and display names of the phone user.
- In addition, on the **Logical Groups** tab, specify logical groups for the phone user.
- On the **Custom Fields** tab, specify the desired values for the custom fields.



3.2.7 Call Redirection

If a dispatcher doesn't take a phone call within the set period or they have changed their status to unavailable, the call is automatically forwarded to a specified dispatcher, radio, radio group, or phone account. This can be useful during night shifts when no dispatcher is available.

• Click Administration (1), Phone Calls (2), Call Redirection (3), Add (4)

File View Map Tools Help	
Administration	
	Phone Calls Configuration Extensions Call Call Add Entrest Redirect Call X Call to: Destination: Destination: Dial Plant Redirect to: Type: Type: Radio Group System: P1 Destination: 11
Event Viewer Radio Allocation	OK Cancel
Administration	14 44 4 Record 0 of 0 > 39 39 4

In the Redirect Calls dialog box, specify the following parameters:

Call to

Destination

From the drop-down list, select the dispatcher or dispatcher group.

Timeout

Specify the time period, in seconds, defining how long to wait until the dispatcher answers a call.

Redirect to

• Туре

From the drop-down list, select one of the following:

• Decline

The calls will be declined.

• Dispatcher

The calls will be redirected to a specified dispatcher or dispatcher group.

• Radio unit

The calls will be redirected to a specified radio.

• Radio Group

The calls will be redirected to a specified radio group.



• Phone account

The calls will be redirected to a phone account from the phone book.

Radio System

If a radio group is selected as the redirection destination, select the radio system over which to make a call to the specified radio group.

Destination

From the drop-down list, select a particular dispatcher/dispatcher group, radio, radio group, or phone account, depending on what you have selected in the **Type** field.

Priority

If a radio or radio group is selected as the redirection destination, select the priority with which the call will be made over the radio system.

3.2.8 Phone Contacts

In addition to SIP extensions, the phone contacts can also be used in your Phone Connect system.

- Go to Administration (1), Phone Calls (2).
- In the **Phone Calls** pane, click the **Phone Contacts** tab (3), and then **Add** (4).

File View Map Tools Help				
Administration	Phone Calls			🔮 🚸 🕒
Server Conse Conse Conse Systems Systems	Configuration Extensions Call Redirection Phone Contacts Add Edit X Delete Grouping Auto Filter User Extension User Name First Name S546 Phone Contact		Display Name Walt Eugene	Logical Groups
Voice Dispatch	4 General Logical Groups Custom Fields User Extension: 5548 User Name: Pip		3	
Location Tracking	First Name: Philip Last Name: Wilson Display Name: P. Vilson			
Route Management	enging (derice			
· Voice Recording				
Reports	ОК	Cancel		
Event Viewer Radio Allocation Administration	1			
	Image: Weight of the second			Active •

In the **Phone Contact** dialog box, specify the following parameters:

User Extension

Enter the extension number for the phone contact.

User Name

Enter the user name for the phone contact.

• **Fist Name/Last Name/Display Name** Enter the first, last and display names of the phone contact.



- In addition, on the **Logical Groups** tab, specify logical groups for the phone contact.
- On the **Custom Fields** tab, specify the desired values for the custom fields.

3.2.9 Dial Plans

In order to restrict incoming and outgoing calls as well as set priority for calls, dial plans can be used in your Phone Connect system.

- Go to Administration (1), Phone Calls (2).
- In the **Phone Calls** pane, click the **Dial Plans** tab (3), and then **Add** (4).

File View Map Tools Help	
Administration	Phone Calls 🔮 🏟
Server ^	Configuration Extensions Call Redirection Phone Contacts Dial Plans
Systems	Name Dial Plan X Male General Patterns Inheritance
Tasks 2 v	4 Name: Draite Description: Restrict dailing for Bob's group
Voice Dispatch	
3 Job Ticketing	
🥂 Route Management	Apply to Incoming calls (Caller number)
Text Messages Voice Recording	I ✓ Apply to Outgoing calls (Destination number)
Reports	
Event Viewer	
Radio Allocation Administration	1
	W (v) 4 Record 1 of 2 > > > + + + + + + + + + + + + + + + +

In the **Dial Plan** dialog box, specify the following parameters:

Name

Enter a name for the dial plan.

Description

Enter a description for the dial plan.

- Apply to Incoming Calls (Caller number)
 Select this check box to apply the dial plan to incoming calls from the numbers specified in the patterns.
- Apply to Incoming Calls (Destination number)
 Select this check box to apply the dial plan to incoming calls to the numbers specified in the patterns.
- Apply to Outgoing Calls (Destination number)
 Select this check box to apply the dial plan to outgoing calls to the numbers specified in the patterns.



• Click the **Patterns** tab.

ial Plan		
General Patt	erns Inheritance	
* - any number of ? - one character?	card chars in pattern: of characters of numbers from xxx to yyy	
*411???		×
		^
Call Priority:	Normal	
Call Phoney.	Normal	
		OK Cancel

- Specify the pattern that will be used to match the numbers in the dial string or the incoming call numbers.
- Call Priority

From the drop-down list, specify the priority for the calls corresponding to the specified patterns.

• Click the **Inheritance** tab.

Dial Plan	×
General Patterns Inheritance	
Call Priority Profile Name	
🗹 Emergency 🔻 Fedora	
Inherit Mals	
Emergency	
High Normal	
Low	
ОК	Cancel

On this tab, you can select the profiles to include in the dial plan you are adding/editing.

Call Priority

From the drop-down list, select the priority for the inherited dial plan.



3.3 MOTOTRBO CPS

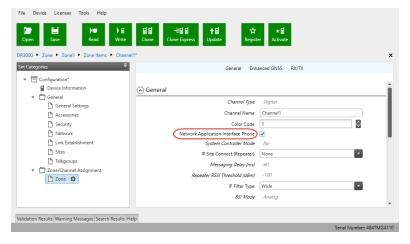
This section describes how to configure MOTOTRBO repeaters and radios using MOTOTRBO CPS.

3.3.1 Repeater

Note: The Motorola's Digital Phone Patch license is not required for repeaters.

If the NAI protocol is used in your radio system, then:

- In the Set Categories pane, select Zone/Channel Assignment> Zone>Zone Items>Channel.
- In the right pane, select the **Network Application Interface Phone** check box.



3.3.2 Subscriber Radio

3.3.2.1 Motorola Phone System

- In the Set Categories pane, select Systems > Phone Systems.
- In the right pane, click the plus sign button and add the corresponding phone system.
- In the left pane, select the phone system you have added.

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File Device Licenses Tools Help Open Save Par Par Help DP4801e Phone Systems Phone_100*	료료 ─=료료 ↑료 ☆ ★료 Clone Clone Express Update Register Activate	x
Set Categories 🕴	General DTMF	
 Job Tickets Job Tickets Job Tickets Options Job Tickets Templates Systems Signaling Systems User Defined 5 Tone S Tone Systems MDC Systems Quik-Call II Systems 	 	
Digital Emergency Systems	Pretime (ms) 500 TX Tone Duration (ms) 120	
Capacity Plus Emergency Syste	TX Tone Interval (ms) 80	
	Pause Duration (ms)	0
Validation Results(1*) Warning Messages Search Results	Help	Serial Number: 871TRVP888

• In the right pane, specify the following parameters:

Gateway ID

Enter the same ID as **TRBOnet Peer ID** in the Repeater settings of TRBOnet Server.

Repeater #1		
System Name:	Repeater #1	
TRBOnet Peer ID:	100	*
TRBOnet Radio ID:	64250	‡
TRBOnet Local Port:	50000	‡
Master Repeater Co	nnection Info:	

Access Code and Deaccess Code

These codes must be the same on all the radios and reflect the corresponding values set in the Dispatch Console.

• TX Tone Duration (ms)

Enter the duration of the DTMF tone digits, in milliseconds, for the phone system. It is recommended to set this value to **120**.

• TX Tone Interval (ms)

Enter the duration of the intervals between the DTMF tone digits in a transmission sequence, in milliseconds, for the phone system. It is recommended to set this value to **80**.

• In the Set Categories pane, select Zone/Channel Assignment> Zone>Zone Items>Channel.



File Device Licenses Tools Help		
Den Save Read Write	□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□	
DP4801e Zone Zone1 Zone Items Channe	n•	×
Set Categories 📮	General RX/TX	
▼		î
General Job Tickets	Channel Type Digital	1
 Systems 	Channel Name Channel1	
Encoder	Voice Announcement File None	
Decoder	Dual Capacity Direct Mode	
Contacts T RX Group Lists	Timing Leader Preference Eligible	
Zone/Channel Assignment	Scan/Roam List None	
▼ D Zone	Auto Scan No	
🖀 Zone1 🔅	Color Code 1	
Channel Pool	Repeater/Time Slot 1	
Can Lists	Phone System Phone_100	
Capacity Plus Lists	ARS Disabled	
	Enhanced GNSS	
	Window Size 8	-
Validation Results(1*) Warning Messages Search Results	Help Serial Number: 871T	VP888

- In the right pane:
 - Phone System

Select the phone system you have previously specified.

3.3.2.2 TRBOnet Phone System

If your radio system uses TRBOnet Phone System, make sure that the following parameters are appropriately configured in the radios that are used as control stations and subscriber radios.

• In the Set Categories pane, select General > GeneralSettings

Open Save Read	↓ 目 日目 ←目 ☆ ★目 Write Clone Clone Express Update Register Activate	
DP4801e General Settings*		>
Set Categories	General CWID Audio Profile Microphone Backlight Battery Saver Alerts	Persistent LRRP Requests
▼	Lone Worker Power Up Password and Lock Front Programming Password Delete	e All 5 Tone ID
Device Information		
▼ 🗍 General	(A) General	
Welcome Bitmap	Radio Alias Motorola	
Language Packs		
🗋 General Settings 🔅	Radio ID 1	
Accessories	GNSS	
Control Buttons	GNSS GPS/GLONASS/QZSS	
Text Messages	Private Calls	
Telemetry	Site Search Timer (sec) 15	
Menu Dia a	ARS Initialization Delay (min) 0	
Security	TX Preamble Duration (ms) 960	
Network	TX Inhibit Quick Key Override	
1	Manitor Type Open Squelch	

- In the right pane, make sure the **Private Calls** check box is selected.
- In the Set Categories pane, select Zone/Channel Assignment> Zone>Zone Items>Channel.



File Device Licenses Tools Help		☆ ★i Register Activate	×
Set Categories 4 Configuration* Configuration	⊙ RX/TX	General RX/TX	^
General Job Tickets Systems Calculate Calculate Calculate Calculate Calculates Calculate Calculates Calculate Calculates Calculate Calculat	RX Frequency (MHz) 300.025000	Offset (MHz) 0.000000 Copy	300.025000
 X Group List Cane/Channel Assignment D Zone Zone 2 Zone 1 Qr Channel Pool Channel Pool Capacity Plus Lists 	Group List DigitalRXGroupList/List Emergency Alarm Indication Emergency Call Indication Emergency Call Indication Emergency Call Decode No	Power Level TOT (sec) TOT Rekey Delay (sec) Allow Interruption (X Interruptible Frequencies)	None P No P High P 60 O 0 O V V
Validation Results(1*) Warning Messages Sear	ch Results Help	Admit Criteria	Color Code Free

- In the right pane, navigate go to **RX/RTX** section.
- Select both the **Allow Interruption** and **TX Interruptible Frequencies** check boxes.
- From the Admit Criteria drop-down list, select 'Color Code Free'.
- From the **In Call Criteria** drop-down list, select 'TX Interrupt'. If the radio will be used as a control station, select 'Follow Admit Criteria'.

Making calls from radios

When TRBOnet Phone System is used, making phone calls from a radio can be done in two ways:

- 1. While pressing and holding the PTT key, dial a number ending with a **#**. Then release the PTT key. For example, **700#**.
- 2. Send a private message to the dispatcher in the format *sip:phone_number*, for example, **sip:700**.
- To terminate the phone call, press and hold the PTT key, press the **#** key, and then release the PTT key.