





TRBOnet Enterprise/PLUS Extended Range Direct Mode **Deployment Guide**

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1 Introduction

1.1 About This Document

The information in this guide is intended for administrators setting up evaluation and proof-of-concept deployments of MOTOTRBO Dispatch over IP solutions. This document describes the steps required to configure communication with a MOTOTRBO Extended Range Direct Mode (ERDM) system.

For more comprehensive information on the Neocom TRBOnet family of radio network software tools, refer to the <u>Documentation section</u> of our web site.

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.

1.3 Contacts

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2 System Components

2.1 TRBOnet Enterprise/Plus

The TRBOnet software consists of several modules which enable you to build enterprise dispatch solutions of different levels of complexity and redundancy. The first step in implementing the best solution is determining the topology for the customer's system; then identifying the combination of modules to implement the best customer solution.

2.2 IP Connection (Wireline Connection)

TRBOnet Server can be connected to a two-way radio system via an IP connection creating a direct communications path for all voice and data information between them. The topologies can be in the form of a LAN, WAN, or VLAN and/or any combination thereof.

2.3 Wireless Connection (Control Stations)

If TRBOnet Server doesn't have an IP connection to the radio system, it can be connected via a control station (also known as control radio or donor radio).



3 System Description

The Extended Range Direct Mode system utilizes a time division duplex repeater that receives a direct mode transmission and repeats it 90 ms later. This system's primary purpose is to extend direct mode range while utilizing a single frequency.

A radio initiates a transmission as it does in direct mode and can receive transmissions directly from a radio or from the repeater. At the beginning of reception, the radio selects the best signal. Therefore, direct mode operation is still supported in the absence of the repeater without having to change channels. When receiving directly from a radio, the receiving radio displays the talkaround icon. When receiving from the repeater, the receiving radio does not display the talkaround icon.

Extended Range Direct Mode is a single site conventional mode solution that supports the following features:

- Voice Calls (Group, Individual and All)
- IP Data (Unconfirmed Group, Unconfirmed Individual and Confirmed Individual)
- Control (Radio Check, Radio Inhibit and Uninhibit, Remote Monitor, and Call Alert)
- Privacy (Basic, Enhanced, and AES)
- Restricted Access to System (RAS)
- Voice Transmitter Interrupt
- NAI wireline interface for voice and control for 3rd Party Voice and Control Applications
- MNIS Wireline Data gateway for MSI and 3rd Party Data Applications
- Remote Repeater Programming
- RDAC
- Analog CWID and FCC Level 1 Monitoring

3.1 Interactions between ERDM Radios and Direct Mode Radios

If both Direct Mode radios and Extended Range Direct Mode radios are programmed with the same frequency, color code, and talk group, they are able to communicate with each other in direct mode. However, in the presence of the Extended Range Direct Mode repeater, there is an imbalance in range that is dependent upon the receiving radio.

The repeater re-transmits either the Direct Mode radio's transmission or the Extended Range Direct Mode radio's transmission. However, only the Extended Range Direct Mode radio is able to receive the repeater's transmission. Because a Direct Mode radio does not receive the repeater's transmission,



there is an imbalance in coverage. Therefore, it is recommended that Direct Mode and Extended Range Direct Mode radios are not used to communicate with each other in the presence of the Extended Range Direct Mode repeater.

3.2 Licensing

A software license is required in the repeater for this feature to be operational. However, license is not required in the radio.

3.3 System Topologies

There are two possible topologies when using the MOTOTRBO Extended Range Direct Mode system with TRBOnet software.

3.3.1 IP Connection to Repeater

This topology is used when TRBOnet Server has an IP connection to the repeater. Note the use of NAI Voice and NAI Data in this configuration.



Figure 1: IP Connection to the repeater

3.3.2 Connection via Control Station

This topology is used when TRBOnet Server doesn't have an IP connection to the repeater. In this case, it can be connected via a control station (also known as control radio or donor radio).



Figure 2: Wireless connection to the repeater



4 Configuring MOTOTRBO Equipment

This section describes how to configure MOTOTRBO equipment, such as repeaters, control stations and subscriber radios, using MOTOTRBO Customer Programming Software (CPS).

- Launch MOTOTRBO CPS.
- On the menu bar, select **View > Expert**.

4.1 Configuring a Repeater

This section describes how to configure a repeater to be used in an ERDM system.

- Connect your repeater to the PC via a programming cable (USB).
- Click the **Read** button on the toolbar.

4.1.1 General Settings

• In the **Set Categories** pane, select **General > General Settings**.

Set Categories 4	General Battery Alarm Type CWID Voting	
	Radio Alias S1R2_Link(erdm) Radio ID 102 SIT (ms) 6000 Group Call Hang Time (ms) 3000 Vrivate Call Hang Time (ms) 4000 Call Hang Time (sec) 3 Repeat Gain (dB) 0.0 Mana Relay Delay Timer (ms) 100	Î

• In the right pane, specify the **Radio ID** of the repeater. This must be a unique Peer ID among the repeaters in a radio system and also not in conflict with any other third party application Peer ID. The recommended range is from 1 to 255.

4.1.2 Network

• In the **Set Categories** pane, select **General > Network**.



utegones	General Radio Network Network Setting IP Repeater Programming Time Zone NTP Sett	ings
Configuration*	DNS Addresses	
Device Information		
General	(A) General	
General Settings	Radio IP 192.168.40.1	
Accessories	102 150 10 2	
Security	Accessory IP 192.108.40.2	
	Radio Network	
MOTOTRBO Link	CAI Network 12	
Sites	CAI Group Network 225	
Zone/Channel Assignment	⊘ Network Setting	
	SLR Series Repeater	
	Link Speed Auto Negotiation	
	DHCP	
	Ethernet IP 10.102.131	
	Gateway IP 10.10.0.1	
	Gateway Netmask 255,255,0,0	
	Primary DNS Server IP 0.0.0.0	
	Gateway Netmask 255,255.0.0	
	Primary DNS Server IP 0.0.0.0 Secondary DNS Server IP 0.0.0.0	
	Primary DNS Server IP 0.0.0.0	

• In the right pane, specify the following parameters:

Radio IP

This is the IP address used by the repeater to communicate with the PC (using the USB connection) and has to be unique. To avoid conflicts in case there are several stations connected with USB, you can change the third octet of the address.

Network Setting

If your radio system is on a private network, specify the following network parameters:

Ethernet IP

This is the LAN address of the repeater that can be obtained from your network details; the last octet of the IP address must be unique for the system's local network.

Gateway IP

This is the address of an upstream system (router). If a router exists, specify its LAN address here.

Gateway Netmask

Set the Subnet Mask, for example, **255.255.255.0** or **255.255.0.0** depending on the subnet.

IP repeater Programming

Enable

Select this checkbox to provide the ability to remotely program the repeater.



4.1.3 Link Establishment

• In the **Set Categories** pane, select **General > Link Establishment**.

▼	X Network Setting IP Site Connect Capacity Plus
Accessories Accessor	Network Setting
Validation Results(1') Warning Messages Search Results Help	IP Site Connect Beacon Duration (ms) 4320 Beacon Interval (sec) 60 s Help

- In the right pane, specify the following parameters:
 - Link Type

From the drop-down list, select **Master** if you are configuring a master repeater, or **Peer** if you are configuring a peer repeater.

Authentication Key

Specify the authentication key that can optionally be used to access the repeater.

Master IP

Enter the Ethernet IP address of the master repeater.

Master UDP Port

Enter the UDP port number of the master repeater.

UDP Port

Enter the UDP port number of this repeater. If you are configuring a master repeater, set this value the same as that for **Master UDP Port**.

4.1.4 Channel

- In the **Set Categories** pane, select **Zone/Channel Assignment**.
- In the right pane, click the plus sign button to add a zone.
- In the **Set Categories** pane, select the zone you have added.
- In the right pane, click the plus sign button and then choose **Type: Digital**.
- In the right pane, select the channel (for example, named ERDM) you have added and click the pencil button.



SLR 5500 Zone Zone Zone Set Categories	- General Enhanced GNSS RX/TX	×
 Configuration* Device Information General General Settings Accessories Security Network Link Establishment MOTOTRBO Link Sites Talkgroups Zone/Channel Assignment 	General Channel Type Digital Channel Name ERDM Color Code 0 Extended Range Direct Mode Enabled Inbound Color Code 1 Outbound Color Code 2 Tetwork Application Interface Phone 2 System Controller Mode No	ĺ
Validation Results(1') Warning Messages Search Result	IP Site Connect (Repeater) None Messaging Delay (ms) 60 Repeater RSSI Threshold (dBm) -40	*

- In the right pane, specify the following channel-related parameters.
 - Extended Range Direct Mode From the drop-down list, select Enabled.
 - Inbound Color Code and Outbound Color Code
 Use different color codes for the inbound (radio transmission) and outbound (repeater) transmissions.
 - Network Application Interface Phone
 Select this option to enable NAI telephony on the repeater's channel.

t Categories	4	General Enhanced GNSS RX/TX	
C General Settings	RX	TX	
Security Network Link Establishment MOTOTRBO Link	Frequency 419.972500 (MHz)	Offset (MHz) 0.000000 Copy	419.972500
 Sites Talkgroups Zone/Channel Assignment 		Power Lev TOT (se	el Low
🗋 Zone 🏟		Enhanced Chann Access	el 🗌

• Enter the same frequency for **TX Frequency** and **RX Frequency**.

Note: Make sure that the channel you have added is the first in the list of channels as the repeater will work on the channel which is on top of the list.



egones					
General Settings	Zone Items				
Accessories	🖌 🕀 😔	\odot \blacktriangle \checkmark			
🗅 Security		<i>a</i> , 17	<i>a</i>		F • • • • • •
Network	Position	n Channel Type	Channel Name	Color Code	Extended Rang
Link Establishment		1 Digital	ERDM	0	Enabled
MOTOTRBO Link	► C 🛛	2 Capacity Plus Void	ce Channel2	1	
🗅 Sites					
Talkgroups					
Zone/Channel Assignment					
🗋 Zone 🏟 🗸 👻		_			
•	2 items found ((1 currently selected).			,

• Once you have finished configuring the desired repeater parameters, click the **Write** button on the toolbar.

4.2 Configuring a Control Station

This section describes how to configure the radio to be used as a control station in an ERDM system. Control stations are used in the scheme depicted in Figure 2.

- Connect your radio to the PC via a programming cable.
- Turn on the radio.
- Click the **Read** button on the toolbar.

871	TPH7036 🕨 General Settings*											×
Set (Set Categories	-1-2	Microp	hone	Backlight	Battery Saver	Alerts	Persistent LRRP Requests	Lone Worker	Power Up	Password and Lock	
Cate	▼	A	elete All	5 Tone	ID							
gorie	Device Information											
iñ.	▼ 🛱 General											-
	🗋 Welcome Bitmap		L									
	🗋 Language Packs					Radio Alias	Contro	ol Station				
	🕒 General Settings 🔅					Radio ID	64250					
	Accessories					GNSS	v					
	Control Buttons					GNSS	GPS/Q	ZSS				
		*				Private Calls						
					Ci++ C.+-	arch Timor (coc)	6					-
_	Validation Results Warning Messages Searc	ch Resu	ults Help									

4.2.1 General Settings

- In the **Set Categories** pane, select **General > General Settings**.
- In the right pane, specify the following:
 - Radio ID

Enter the Radio ID of the control station. The default value is **64250**.

Note: This value will then be used as the control station's **Radio ID** when connecting a control station to the TRBOnet Server. See section <u>5.1.2</u>, <u>Adding a Control Station</u>.



Control Station #1	
Name:	Control Station #1
Radio ID:	64250 🗘
IP Address:	192.168.98.2 ▼ Ø
Mode:	Single Control Station
System Identifier:	Department 1

4.2.2 Network

• In the **Set Categories** pane, select **General > Network**.

8711	PH7036 • Network*						×
Set	Set Categories +P	Services Control Station	IP Site Connect	Bluetooth	Bluetooth Serial Port Profile Data Routing	USB HID Data Routing	
Catego	Configuration*						
ories	Device Information						
	 General Welcome Bitmap 		Radio IP	192.168.98.1			
	Language Packs	(Accessory IP	192.168.98.2			
	General Settings	USB D	NS-SD Interval	90 sec			-
	Accessories						
	Control Buttons						
	Text Messages		CAI Network	12			*
	Telemetry	CALO	iroup Network	225			*
	🗅 Menu 🦯	Protected Mode (Control Station				
	Security	Max TX PI	OU Size (bytes)	750			-
	Network	Telen	netry UDP Port	4008			
	Voice Announcement	(Forward to PC	Via USB			
	Validation Results Warning Messages Search Res	ults Help					
						Serial Nun	ber: 871TPH7036

- In the right pane, specify the following parameters:
 - Radio IP

This is the IP address used by the radio to communicate with the PC (using the USB connection) and has to be unique. To avoid conflicts in case there are several stations connected with USB, you can change the third octet of the address.

Accessory IP

This is the IP address that is given to the PC by the radio that is connected to it.

Note: This value will then be used as the control station's **IP Address** when connecting a control station to the TRBOnet Server. See section <u>5.1.2, Adding a Control</u> <u>Station</u>.





Control Station #1	
Name:	Control Station #1
Radio ID:	64250
IP Address:	192.168.98.2 🔹 🕫
Mode:	Single Control Station
System Identifier:	Department 1

Forward to PC

From the drop-down list, select **Via USB**.

4.2.3 Contacts

- In the **Set Categories** pane, select **Contacts > Contacts**.
- In the right pane, click the plus sign button, then click **Digital** and choose the call type.

Sample_DP4801e Contacts*					x
Set Categories 📮	View by: 🖲 By Name 🗌) Ву Ту	pe 🗌 Name Only		
▼	≠ ⊕ ⊙				
General	Contact Name)	Call Type	Call ID	
▶ D Job Tickets	Firemen	лаө	Digital Calls-Group Call	20	
Systems Encoder	Police	лад	Digital Calls-Group Call	10	
Decoder					
 Contacts Contacts ↔ 					
Police					
Firemen					
RX Group Lists					
<					
Validation Results(4*) Warning Messages Sear	rch Results Help				
				Serial Number: 871TRV	P888

• Enter the **Contact Name** and **Call ID** for the contacts you have added.

4.2.4 RX Group Lists

- In the **Set Categories** pane, select **RX Group Lists > Digital RX Group List**.
- In the right pane, click the plus sign button and add the corresponding group list.



871TPH7036 🕨 Digital RGroup List 🕨 List1	*	×
Set Categories 7	General	
▼		
Device Information	🙆 General	
Job Tickets	Digital Name List1	
Systems Encoder	Available Membe	rs
Decoder	Fire	men
Contacts RX Group Lists Digital RX Group List		
List1 title Capacity Plus RX Group	Add	
Flexible Capacity Plus R)		
Zone/Channel Assignment	Remove	
Capacity Plus Lists		
·		
Validation Results(1*) Warning Messages Sear	ch Results Help	
		Serial Number: 871TPH7036

- In the left pane, select the group you have added.
- In the right pane, in the **Available** list select a group, or multiple groups using the SHIFT key, and click the **Add** button.

As a result, the group(s) will appear in the **Members** list.

4.2.5 Channel

- In the **Set Categories** pane, select **Zone/Channel Assignment**.
- In the right pane, click the plus sign button to add a zone.
- In the **Set Categories** pane, select the zone you have added.
- In the right pane, click the plus sign button and then choose **Type: Digital**.
- In the right pane, select the channel (for example, named ERDM) you have added and click the pencil button.





- In the right pane, specify the following parameters:
 - Extended Range Direct Mode
 From the drop-down list, select Enabled.
 - Inbound Color Code and Outbound Color Code
 Use different color codes for the inbound (radio transmission) and outbound (repeater) transmissions.
 - Note: The **Inbound Color Code** and **Outbound Color Code** must be the same as the corresponding color codes you have specified for the repeater.

Option Board

Select this option to enable the option board capability on the channel. The option board must be installed and enabled in the radio otherwise this feature will not function.

▼	
General General Job Tickets Systems General General	
Decoder Contacts	972500 Unset (WHz) Frequency 419.972500
BX Group Lists Discretionand Assignment Discretionand Assignment Discretion Discretion	ault Ref Frequency (MHz) Default ItalRXGroupL Emergency System DigitalEmergence
Capacity Plus Lists Emergency Alarm Ack No. Capacity Plus Lists Emergency Call Indication Emergency Call Decode Tone	VCX No Power Level Low TOT (see) 60 TOT Rekey Deby (see) 0

 In the **RX Frequency** box, set the same radio frequency that you have specified for the repeater.

RX Group List

Select the Group list you have specified in section <u>4.2.4, RX Group Lists</u>.



TX Contact Name

Select the contact to which a call will be initiated on the channel when pressing the PTT button. The contact is selected from the Contact list you have created in section <u>4.2.3, Contacts</u>.

• Once you have finished configuring the desired radio parameters, click the **Write** button on the toolbar.

4.3 Configuring a Subscriber Radio

This section describes how to configure a subscriber radio to be used in an ERDM system.

- Connect your radio to the PC via a programming cable.
- Turn on the radio.
- Click the **Read** button on the toolbar.

Categories	4	General CWID Audio Profile Microphone Backlight Battery Saver Alerts
Configuration*	A	Persistent LRRP Requests Lone Worker Power Up Password and Lock Front Programming Passwor
Device Information		Delete All 5 Tone ID
🔻 📋 General		
🗋 Welcome Bitmap	/	
🗋 Language Packs		(General
🗋 General Setting 🕻 🏟		Radio Alias Radio 235
Accessories		Radio ID 235
Control Buttons		GNS
Text Messages	-	GNSS GPS/QZSS
	•	Private Calls

4.3.1 General Settings

- In the **Set Categories** pane, select **General > General Settings**.
- In the right pane, specify the following:
 - Radio ID

Enter the Radio ID of the radio. This ID is used by other radios to contact this radio, for instance, communicating via a private call or text message.

GPS

Select this checkbox to track the location of the radio if the radio is equipped with a GPS module.

Private calls

Select this checkbox to enable the initiation of a Private Call on a digital channel. When disabled, a prohibit tone will sound when the user tries to initiate a Private Call.

4.3.2 Network

• In the Set Categories pane, select General > Network.

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Set Categories 7	General Radio Network Services	Control Station IP Site Connect Bluetooth	
▼ □ Configuration*	Bluetooth Serial Port Profile Data Routing	USB HID Data Routing	
Device Information			
▼ U General	General General		- II.
Welcome Bitmap	Radio IP	192.168.10.1	
	Accessons	102 168 10 2	- 1
			- 1
	USB DNS-SD Interval	90 sec	- 1
Text Messages	🔿 Radio Network		
		12	
D Menu	CALCENT Network		
P Security	CAI Group Network		
Network 🔅	Protected Wode Control Station	750	
Voice Announcement	Max 1X PDU Size (bytes)	/30	
► T Job Tickets	Telemetry UDP Port	4008	
Systems	Forward to PC	Disabled	
Encoder	Services		
Decoder	() Services		
Contacts	ARS Radio ID	64250	
RX Group Lists	ARS IP	13.0.250.250	
Zone/Channel Assignment	ARS UDP Port	4005	
	TMS Radio ID	64250	
			•

• In the right pane, specify the following parameters.

Radio IP

This is the IP address used by the radio to communicate with the PC (using the USB connection) and has to be unique. To avoid conflicts in case there are several stations connected with USB, you can change the third octet of the address.

Forward to PC

From the drop-down list, select **Disabled**.

ARS Radio ID

Specify the Radio ID of the ARS server.

TMS Radio ID

Specify the Radio ID of the TMS server.

Note: The ARS Radio ID and TMS Radio ID must be the same as either TRBOnet Radio ID in the Repeater settings if the master repeater is connected to TRBOnet Server via a wireline connection (see section 5.1.1, Adding a Repeater), or Radio ID in the Control Station settings if the control station is connected to TRBOnet Server via USB (see section 5.1.2, Adding a Control Station), or MNIS Application ID, if MNIS is enabled (see section 4.5, Configuring MOTOTRBO MNIS). The recommended value is 64250 for both parameters.



4.3.3 Contacts

- In the Set Categories pane, select Contacts > Contacts.
- In the right pane, click the plus sign button, then click **Digital** and choose the call type.

Sample_DP4801e 🕨 Contacts*					×
Set Categories 7	View by: By Name	Ву Ту	pe 🗌 Name Only		
Configuration*	1 🕀 🖯 💬				
General	Contact Name		Call Type	Call ID	
Job Tickets	Firemen	лаө	Digital Calls-Group Call	20	
Systems Encoder	Police	лаө	Digital Calls-Group Call	10	
Decoder					
 ▼ Contacts ▼ Contacts 					
Police					
Firemen					
🕨 🗋 RX Group Lists 🛛 👻					
<>					
Validation Results(4*) Warning Messages Sear	ch Results Help				
				Serial Number: 871TRV	P888

• Enter the **Contact Name** and **Call ID** for the contacts you have added.

4.3.4 RX Group Lists

- In the Set Categories pane, select RX Group Lists > Digital RX Group List.
- In the right pane, click the plus sign button and add the corresponding group list.



- In the left pane, select the group you have added.
- In the right pane, in the **Available** list select a group, or multiple groups using the SHIFT key, and click the **Add** button.

As a result, the group(s) will appear in the **Members** list.



4.3.5 Channel

- In the Set Categories pane, select Zone/Channel Assignment.
- In the right pane, click the plus sign button to add a zone.
- In the **Set Categories** pane, select the zone you have added.
- In the right pane, click the plus sign button and then choose **Type: Digital**.
- In the right pane, select the channel (for example, named ERDM) you have added and click the pencil button.



- In the right pane, specify the following parameters:
 - Extended Range Direct Mode From the drop-down list, select Enabled.
 - Inbound Color Code and Outbound Color Code
 Use different color codes for the inbound (radio transmission) and outbound (repeater) transmissions.
 - Note: The **Inbound Color Code** and **Outbound Color Code** must be the same as the corresponding color codes you have specified for the repeater.
 - ARS

Select **On System Change** to provide the automated registration for the radio.

Option Board

Select this option to enable the option board capability on the channel. The option board must be installed and enabled in the radio otherwise this feature will not function.



Set Categories *		General RX/TX	C		
Configuration* Device Information					-
General	RX	١	ГХ		
	Frequency 419.972500	Offset (MHz)	Frequency (MHz)	419.972500	
Channel Assignment Zone/Channel Assignment D Zone Zone Channel Pool	Ref Frequency (MHz) Default Group List DigitalRXGroupL Emergency Alarm Indication		Ref Frequency (MHz)	Default TG 10	
 Capacity Plus Lists 	Emergency Alarm Ack No Emergency Call Indication		VOX Power Level TOT (sec)	No Low •	
<	Emergency Call Decode Tone No		TOT Rekey Delay (sec)		;

- In the **RX Frequency** box, set the same radio frequency that you have specified for the repeater.
- RX Group List

Select the Group list you have specified in section <u>4.3.4, RX Group Lists</u>.

TX Contact Name

Select the contact to which a call will be initiated on the channel when pressing the PTT button. The contact is selected from the Contact list you have created in section <u>4.3.3</u>, <u>Contacts</u>.



4.4 Configuring MOTOTRBO DDMS

The DDMS, or Device Discovery and Mobility Service is a service for tracking the presence of radio subscribers in the radio network and transmitting the data to the server. The scheme using DDMS is depicted in Figure 1. This section describes how to configure and run MOTOTRBO DDMS service using MOTOTRBO DDMS Administrative Client.

- Launch MOTOTRBO DDMS Administrative Client.
- In the left pane, select Watcher Settings.

🐉 MOTOTRBO DDMS			_	\times
File Action Help				
۵ 🚯 🔜 🔹 🖗 🔘 💿 🕥				
Service	Watcher Settings			
🖃 🙀 Interfaces	PortWatcher	3000		
ARS Settings	WatcherTO	14400		
	NotifyGroup	0		
authentication Server Settings	NotifyRate	5		
🛄 🥤 Logging				
	PortWatcher			
	Port listening for Watcher S	ubscribe requests.		
	Hange, 1000 - 00000			
Settings for Watcher interface				.:

PortWatcher

This is the port number for listening TRBOnet Server requests.

Note: This value will be used when configuring DDMS parameters in section <u>5.1.1.2</u>, DDMS Service, **Service port**.

DDMS service		
🗹 Use DDMS service		
Local port:	0 ‡	
Service IP Address:	127.0.0.1 🔹	
Service port:	3000 🗘	
Authentication Port:	5055 ‡	



• In the left pane, select Authentication Server Settings.



AuthenticationServerIP

This is the authentication server IP address.

AuthenticationServerPort

This is the authentication server port number.

Note: These values will be used when configuring DDMS parameters in section <u>5.1.1.2</u>, DDMS Service,

Service IP Address and Authentication Port, respectively.

DDMS service			
Use DDMS service			
Local port:	0	÷	
Service IP Address:	127.0.0.1	•	
Service port:	3000	+	
Authentication Port:	5055	÷	

• Once you have finished configuring the desired DDMS parameters, click the **Start** button on the toolbar.

🐍 MOTOTRBO DDMS	
File Action Help	
000 🖗 🎕 🔡 🗶 💊	
Service	□ Service
E Start Interfaces	Version
🕤 Logging	ServiceName
	DisplayName
	Description
	ServiceMode



4.5 Configuring MOTOTRBO MNIS

The MNIS, or Motorola Network Interface Service, is a Windows application which acts as a data gateway between the data applications and the radio system. Data messages are routed through the MNIS. The topologies using MNIS are depicted in Figure 1. This section describes how to configure and run MOTOTRBO MNIS service using MNIS Configuration Utility.

- Launch MNIS Configuration Utility.
- In the left pane, select General.

MOTOTRBO Network Interface Service Configuration Utility - - × Configuration View Edit Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Image: Service Help Im				
Configuration View Edit Service Help	MOTOTRBO Network Interfa	ice Service Configuration Utility	-	×
ERDM Ceneral General System Operation Mode Conventional MNIS Application ID General MNIS Application ID MINIS IP Address 172.16.10.1 Dural IP Address 172.16.10.2	Configuration View Edit	Service Help		
ERDM General General	1			
Image: Source of the source	ERDM	General		^
Control R Advanced	Group List Group List	System Operation Mode Conventional MNIS Application ID 64250		
MNIS IP Address [172.16.10.1	🖶 🦣 Linked Capacity Plus	Tunnel Network		
Subnet Mask 255.255.0		MNIS IP Address 172.16.10.1 Tunnel IP Address 172.16.10.2 Subnet Mask 255.255.0		
▼]		× .:

System Operation Mode

From the drop-down list, select **Conventional**.

MNIS Application ID

This is an individual ID that uniquely identifies the MNIS application in the radio system. The recommended value is **64250**.

Note: This is the ID that TRBOnet Server uses as its **Radio ID** when connecting a master repeater.

MNIS IP Address

It is recommended that the value of **172.16.10.1** is used unless there are conflicts with other network interfaces on the PC.

Tunnel IP Address

This is the IP Address used by the MNIS to communicate with TRBOnet Enterprise (see <u>5.1.1.3, MNIS Data Service</u>, **IP Address**).

MNIS data service		
🗹 Use Data Gateway	al host	
IP Address:	172.16.10.2	+ ¢
Control port:	5000	÷



MOTOTRBO Network Interface	Service Configuration Utility *	-	×
Configuration View Edit	Service Help		
ERDM	Domain 1		^
🕬 Security II: 🥽 Group List	Master IP Address 10.10.102.123		
Conventional	Master UDP Port 50011		
🕒 🛟 🖉 Capacity Plus 🕀 🔨 Linked Capacity Plus	MNIS LE port Automatically Assigned		
🗄 💼 Advanced	Manually Assigned Nor	10 🛓	
	Authentication Key Ø		
	SFR Mode V		
	Repeater Slot 1		
	Enable		
	Revert Channel		
	Security Setting None ~		
	Security Alias		
	Group List None V		
	Repeater Slot 2		
	Enable		
	Revert Channel		~

• In the left pane, select **Conventional > Domain 1**.

Master IP Address

Enter the Ethernet IP address of the master repeater.

Master UDP Port

Enter the UDP port number of the master repeater.

Authentication Key

Enter the master repeater's authentication key (if any).

- SFR Mode Select this option to enable the Single Frequency Repeater (SFR) mode.
- Repeater Slot 2 Enable
 Select this options so that MNIS will be able to send or receive data over the slot.



• In the left pane, select **Advanced**.

MOTOTRBO Network Interface Service	Configuration Utility *	- 🗆 ×
Configuration View Edit Service	Help	
		dvanced
General Security Group List Group List Conventional Cie Capacity Plus Advanced Advanced Forwarding Rules Application Override Rules	Data Call Confirmed Compressed UDP Data Header Battery Saver Preamble Individual Data to Registered Site Selective Forwarding	✓ None ✓ ✓
	TX Preamble Duration (ms)	120
	Conventional Channel Access	Normal ~
	MNIS LE ID	Use MNIS ID Manually Assigned 200

Compressed UDP Data Header

From the drop-down list, select the type of compression protocol used for the UDP Data Header (None, MSI, DMR). It is recommended selecting **MSI**. Note that the same type must be set on all subscriber radio channels (*CPS>Channels>Compressed UDP Data Header*).

MNIS LE ID > Manually Assigned

Enter a unique Peer ID among the repeaters in a radio system.



• In the left pane, select **Network**.

MOTOTRBO Network Interface Service	onfiguration Utility *	-	×
Configuration View Edit Service	Help		
1			
Untitled			
- General	CAI Network 12 🜲		
Group List	CAI Group Network		
E Conventional			
- B Domain 1	Services		
Capacity Plus Capacity Plus Capacity Plus	ARS UDP Port 4005		
🖃 🚞 Advanced	TMS UDP Port 4007		
- Transmission Network	Telemetry UDP Port 4008		
Application Oven	Location Server UDP Port 4001		
	Battery Management UDP Port 4012		
	User Defined UDP Port 1 Disabled		
	User Defined LIDP Port 2 Disabled		
	XCMP Server UDP Port 4004		
	ABS Monitor		
	Device Discovery and Mobility Service		
	Server Address 127.0.0.1		
	Watcher Port 3000		
	MNIS Control Interface		
	MNIS Control Interface TCP Port		
>			

Device Discovery and Mobile Service

Server Address

This is the IP address of the MOTOTRBO Device Discovery and Mobility Service (DDMS). The recommended value is **127.0.0.1** if both DDMS and MNIS reside on the same PC.

Watcher Port

This is the port number on the MOTOTRBO Device Discovery and Mobility Service (DDMS) server to which the Watcher requests should be sent.

MNIS Control Interface

MNIS Control Interface TCP Port

This is the Transmission Control Protocol (TCP) port for the MNIS Control Interface server. This value is used when connecting TRBOnet Server to MNIS Service (see <u>5.1.1.3</u>, <u>MNIS Data Service</u>, **Control port**).

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Once you have finished configuring the desired MNIS parameters, do the following:

• Click the **Save** button on the toolbar.



• On the **Configuration** menu, click **Set as Active Configuration**.

MOTOTRBO Net	twork In	terfac	e Service	Configur	ation Utility	*					_	×
Configuration \	/iew	Edit	Service	Help								
New Open				0	?							
- Import Delete								G	eneral			
Set as Active Select Active	Configu Configu	uration uration	1			System	n Operatio	n Mode	Conventional	\sim		
Save						M	VIS Applic	ation ID	64250 🜩			
Save as												
Exit												
H Auvanc	eu						MNIS IP	Address	172.16.10.1			
						٦	Funnel IP	Address	172.16.10.2			
							Subn	et Mask	255.255.255.0			
												.:

• Click the **Start** button on the toolbar.





5 **Configuring TRBOnet Enterprise**

This section describes how to configure TRBOnet Enterprise software. By properly configuring TRBOnet Server and TRBOnet Dispatch Console, you will be able to utilize the full capabilities of your Extended Range Direct Mode system.

5.1 Configuring TRBOnet Server

To start TRBOnet Server, click the corresponding shortcut on the desktop, or click **Start > All Programs > Neocom Software > TRBOnet Server x.x**

For instructions on how to configure TRBOnet Server's Database, Service, Network parameters, etc., refer to *TRBOnet Enterprise Quick Start Guide*.

5.1.1 Adding a Repeater

This section describes how to configure TRBOnet Server for communication with the repeater of an ERDM system.

- In the **Radio Systems** pane, click **Add**. Or, in the **Configuration** pane, right-click **Radio Systems**.
- In the drop-down menu, click Add MOTOTRBO System.

Configuration		Radio Systems	5		
 Service Network Redundancy 		🗸 Enable Rad	io Systems		
Redundancy Database Reports Service Manage	Redundancy Database Reports Service Management		twork:	12 225	* *
X Advanced Settin	ngs	Registered F	Radio Systems		
Geocoding S	Servers	Name		Address	Radio ID
Radio System ↓ Qr Tover Cell ↓ PT over Cell ↓ Remote Ager ↓ Friendly Serv ☆ Friendly Server ☆ Telephony ↓ Data Sources ↓ Email ↓ Email ↓ SMS Notificat ↓ License ↓ Set De	Add MOTOTRB Add Capacity M Add DIMETRA E Add Control Sta Add TRBOnet S Add Friendly R5 Add ArRO9000 Add XRT-9000 C Add XRT-9000 C	System IAX xpress tion wift Agent -1000 Station Controller iontroller aeter aeter troller tion on stion	Delete	Apply	Test OK Cancel
>	K Remove All Set Defaults				

In the **Repeater** pane, specify the connection parameters. To ensure your connection parameters match the actual configuration of your radio network, you may need to use Motorola CPS to determine the values. Contact your radio network administrator, if you do not have this information.



Configuration		Repeater #1				
💣 Service	^					
🛜 Network		System Name:	Repeater #1			
🛱 Redundancy		TRBOnet Peer ID:	100	÷		
Database		TRBOnet Radio ID:	64250	*		
Reports			01200	*		
Service Management		TRBOnet Local Port:	50000	÷		
X Advanced Settings		Master Repeater Cor	nection Info:			
Geocoding Servers		Master IP Address:	10.10.102.131	*		
Radio Systems		Master UDP Port:	50000	<u>+</u>	Test	1
Repeater #1		Authentication Kev:	99999			
Advanced Settings Privacy MNIS data service Slot SF PTT over Cellular Remote Agents Telephony U Data Sources Kemal		System Type: System Identifier: Use NAI Voice Use NAI Data (MNIS a Use RCM for control r	Extended Range D and DDMS) adio activity	irect Mo	de	-
	× 1					
Set Defaults			Apply		OK Ca	ncel

• System Name

Enter a name for the repeater. This name will be displayed in the Dispatch Console.

• TRBOnet Peer ID

Enter a Peer ID for TRBOnet Server. The Peer ID must be unique among the repeaters in the radio system.

• TRBOnet Radio ID

Enter the Radio ID of the gateway for voice and data in the radio system. This Radio ID is used as **ARS Radio ID** and **TMS Radio ID** in the Network settings of subscriber radios (see sections <u>4.3</u>, <u>Configuring a Subscriber</u> <u>Radio</u>, <u>4.3.2</u>, <u>Network</u>). The default value is **64250**.

• TRBOnet Local Port

Enter the port number on the TRBOnet Server computer that will be used by TRBOnet Server to establish a connection to the repeater. Use unique port numbers for each repeater connection if there are several repeaters connected.

• Master IP Address

Enter the Ethernet IP address of the master repeater.

Note: This value is programmed for a repeater via MOTOTRBO CPS, in *Link Establishment>Master IP*. See section <u>4.1.3</u>.

Master UDP Port

Enter the UDP port number of the master repeater.

Note: This value is programmed for a repeater via MOTOTRBO CPS, in *Link Establishment>Master UDP Port*. See section <u>4.1.3</u>.



• Authentication Key

Enter the repeater's authentication key (if any).

Note: This value is programmed for a repeater via MOTOTRBO CPS, in *Link Establishment>Authentication Key*. See section <u>4.1.3</u>.

• System Type

From the drop-down list, select **Extended Range Direct Mode**.

• Test

Click this button to check the connection to your master repeater. If the test is successful, you'll see the information about the repeater you are connected to, such as the serial number, firmware version, and other relevant information.

• System Identifier

Enter the system identifier. Note that the system identifier should be the same for all control stations and repeaters used in the same radio system.

• Use NAI Voice, Use NAI Data (MNIS and DDMS)

These options are automatically selected.

Click **Apply** after entering all the required values. A confirmation dialog will appear, prompting you to save the configuration and restart the TRBOnet Server service. You can also restart the service manually.

5.1.1.1 Advanced Settings

• In the **Configuration** pane, under the corresponding **Repeater**, select **Advanced settings**.

Configuration		Advanced Settings				
🛷 Service 🕥 Network	^	Voice Call Hang Time (ms):			
🛱 Redundancy		Group Call:	3000	÷]	
Reports		Private Call:	4000	÷]	
Service Management		Emergency Call:	4000	÷]	
Advanced Settings		TX Preamble:	120	÷]	
Radio Systems		TX Timeout:	60	÷	seconds	
Repeater #1		Phone System:	Motorol	a Phone System		-
Advanced Settings		TX Interrupt Mode:	MSI Pro	prietary		Ŧ
DDMS service		Allow CSBK Data				
MNIS data service						
PTT over Cellular						
Remote Agents						
Friendly Servers						
📷 Telephony						
Data Sources						
Email	~					
Set Defaults			[Apply	ОК	Cancel

• In the **Advanced Settings** pane, specify the following repeater-related advanced settings:

Voice Call Hang Time (ms):



Group Call

This value sets the duration the repeater reserves the channel after the end of a group call transmission. During this time, only members of the group that the channel is reserved for can transmit.

Private Call

This value sets the duration a radio keeps the private call setup after a user releases the PTT button. This is to avoid setting up the call again each time a user presses the PTT button to transmit. During this time, other radios can still transmit since the channel is essentially idle. After the hang timer expires, the radio transmits using the *TX Contact Name* parameter specified for this channel in MOTOTRBO CPS.

Emergency Call

This value sets the duration the repeater reserves the channel after the end of an emergency call transmission. During this time, only members of the Group that the channel is reserved for can transmit.

Note: The values of the above three parameters must be taken from the corresponding parameter values programmed for the repeater via MOTOTRBO CPS in *General Settings*.

TX Preamble

Enter the value of the TX Preamble. The TX Preamble is a string of bits added in front of a data or control message (Text Messaging, Location Messaging, Registration, Radio Check, Private Call, and other message types) before transmission. The acceptable range is 0 - 8640 ms. The recommended value is 120 ms.

TX Timeout

Enter the time, in seconds, to be used as a voice session limit. When the dispatcher starts any voice session in the Dispatch Console, transmission will be interrupted after this TX Timeout expires.

Phone system

From the drop-down list, select **Motorola Phone System**.

5.1.1.2 DDMS Service

The DDMS, or Device Discovery and Mobility Service is a service for tracking the presence of radio subscribers in the radio network and transmitting the data to the server.

• In the **Configuration** pane, under the corresponding **Repeater**, select **DDMS service**.



Configuration		DDMS s	ervic	e					
💣 Service	^								
S Network		✓ Use	DDMS	service					
🛱 Redundancy		Loca	port:		0		-		
Database					107.0.0		5	Test	
😪 Reports		Serv	ICE IP	Address:	127.0.0.	.1		Test	
Service Management		Servi	ice por	rt:	3000		-		
💥 Advanced Settings		Auth	entica	tion Port:	5055				
Geocoding Servers							<u> </u>		
掘 Radio Systems		Redu	Indant	services:				1	
Services				Service IP A	ddress	Service port		Local port	
Repeater #1		1	\checkmark	10.10.101.2	207	3000		0	
						1			
🔒 Privacy									
DDMS service									
MNIS data service									
Slot SF									
🛒 PTT over Cellular									
Remote Agents									
Friendly Servers									
Telephony									
To be a	*		Add	De	elete			Test 🔺	V
							_		
Set Defaults						Apply		OK Car	icel

• In the **DDMS service** pane, specify the following DDMS service-related settings:

Use DDMS service

Select this option to enable the DDMS service for the server.

Local Port

Enter the number of the local port to be used on a PC with TRBOnet Dispatch Software for DDMS service.

Service IP Address

Enter the IP Address of the PC with the DDMS service installed and running.

Service port

Enter the service port number.

Note: This value is programmed for a DDMS service via MOTOTRBO DDMS Administrative Client, in Interfaces>Watcher Settings>PortWatcher.

Authentication Port

Enter the authentication server port number.

Note: This value is programmed for a DDMS service via MOTOTRBO DDMS Administrative Client, in Interfaces>Authentication Server Settings> AuthenticationServerPort.

Redundant services

Here you see the list of redundant DDMS services for failover purposes.

- Click **Add** and specify the required parameters for the DDMS service being added.
- Click **Test** to test if the selected DDMS service is available.



Use the Up () and Down () buttons to move a selected DDMS service up and down in the priority list of DDMS services.

5.1.1.3 MNIS Data Service

MNIS, or Motorola Network Interface Service, is a Windows application which acts as a data gateway between the data applications and the radio system. Data messages are routed through MNIS.

• In the **Configuration** pane, under the corresponding **Repeater**, select **MNIS data service**.

Configuration	MNIS data service		
Service Network Redundancy Database Reports Service Management Advanced Settings Geocoding Servers Radio Systems Services	Use Data Gateway Service is on a local host H Address: Control port: MNIS Service: Redundant services: IP Address	10.2 • ¢ \$ Control port	Test v ct ? Local port
Repeater #1 Advanced Settings Privacy DDMS service Advanced Setting MNIS data service Slot SF PTT over Cellular Remote Agents Friendly Servers		1	
< > Set Defaults		Apply	OK Cancel

- In the **MNIS data service** pane, specify the following MNIS data service-related settings:
 - Use Data Gateway

Select this option to enable the MNIS data service for the server.

- Service is on a local host
 Select this option if the MNIS data service will be used on the local PC.
- IP Address

Enter the IP Address used by the MNIS to communicate with the PC.

- Note: This value is programmed for a MNIS data service via MOTOTRBO MNIS Configuration Utility, and can be retrieved from *General>Tunnel Network>Tunnel IP Address*.
- Control port

Enter the number for the MNIS control port.

Note: This value is programmed for a MNIS data service via MOTOTRBO MNIS Configuration Utility, in Advanced>Network>MNIS Control Interface TCP Port.



MNIS Service

Select this option, and from the drop-down list select the available MNIS service.

Redundant services

Here you see the list of redundant MNIS data services for failover purposes.

- Click **Add** and specify the required parameters for the MNIS data service being added.
- Click **Test** to test if the selected MNIS data service is available.
- Use the Up (
) and Down (
) buttons to move a selected MNIS data service up and down in the priority list of MNIS data services.

5.1.1.4 Slot SF

• In the **Configuration** pane, under the corresponding **Repeater**, select **Slot SF**.

Configuration	Slot SF
Service Service Service Service Management Advanced Settings Services Repeater #1 Advanced Settings Service Advanced Settings Service Ser	Slot Sr Slot SF Name: Messaging Delay: Normal Use the slot for RX Data only (GPS Revert or Data Revert) Use Privacy Privacy Key: Allow interruption Allow interruption Always transmit when the PTT is pressed ("Impolite" channel access) Data Call Confirmed Private Call Confirmed Emergency Alarm Ack Emergency Call/Alarm Indication
Set Defaults	Apply OK Cancel

- In the **Slot SF** pane, specify the following slot-related parameters:
 - Name

Enter a name for the slot. This name will be displayed in the Dispatch Console.

Messaging Delay

From the drop-down list, select the inter-repeater messaging delay based on the IP network configuration.

Normal

The inter-repeater messaging delay is 60 ms.

• High

The inter-repeater messaging delay is 90 ms.



Use the slot for RX data only (GPS Revert or Data Revert) Select this option to configure the slot so that it will only receive data, thus having no transmission capability.

Allow interruption

Select this option to allow interrupting dispatcher transmissions by radios that are Transmit Interrupt capable.

Always transmit when the PTT is pressed ("Impolite" channel access)

Select this option so that when the PTT button is pressed, the dispatcher will start transmitting regardless of whether the channel is free or not (that is any transmission in progress will be interrupted).

Data Call confirmed

Select this option to enable individual packets in data calls (ARS, GPS, and Text Message) on the current slot to be confirmed.

Private Call Confirmed

Select this option to set Private calls on the current slot as confirmed. By default, Private calls are unconfirmed.

Emergency Alarm Ack

Select this option so that the Dispatch Console is allowed to acknowledge an emergency alarm received via this slot.

Emergency Call/Alarm Indication

Select this option so that audio and visual indication is given for an emergency call/emergency alarm received via this slot.

5.1.2 Adding a Control Station

This section describes how to configure TRBOnet Server for communication with a control station in an ERDM system.

- In the **Radio Systems** pane, click **Add**. Or, in the **Configuration** pane, right-click **Radio Systems**.
- In the drop-down menu, click **Add Control Station**.



Configuration	Control Station #1		
Service Service Service Service Redundancy Database Reports Service Management Advanced Settings Services Services	Name: Radio ID: IP Address: Mode: System Identifier: Use the radio for RX D Playback device: Recorder device:	Control Station #1 64250 ‡ 192.168.98.2 ¢ Single Control Station Department 1 ata only (GPS Revert or Data F Microsoft Sound Mapper Logitech USB Headset	Test * kevert) * \$3 * \$3
Set Defaults		Apply	OK Cancel

• In the **Control Station** pane, specify the following control station-related parameters:

Name

Enter a name for the control station. This name will be displayed in the Dispatch Console.

Radio ID

This is the Radio ID of the radio unit connected as a control station.

Note: This box is populated automatically once you have successfully tested the control station by clicking the **Test** button.

IP Address

Enter, or select from the list, the IP Address of the control station network interface.

Note: This value can be taken from the radio's configuration in MOTOTRBO CPS, in *Network>Accessory IP*.

Test

Click this button to check the connection to the control station. If the test is successful, you'll see the information on the control station you are connected to, such as radio ID, serial number, firmware version, and other relevant information.

Mode

From the drop-down list, select Single Control Station.

System Identifier

Enter the system identifier. Note that the system identifier should be the same for all control stations and repeaters used in the same radio system.



Use the radio for RX data only (GPS Revert or Data Revert)
 Select this option to configure the radio channel so that it will only receive data, thus having no transmission capability.

Playback device

From the drop-down list, select the playback device on the PC that will be used to transfer audio to the control station.

Recorder device

From the drop-down list, select the recording device on the PC that will be used to audio from the control station via a line-in jack connection.

• Click **Apply** after entering all the required values. A confirmation dialog will appear, prompting you to save the configuration and restart the TRBOnet Server service. You can also restart the service manually.

5.1.2.1 Advanced Settings

• In the **Configuration** pane, under the corresponding **Control Station**, select **Advanced Settings**.

Configuration	Advanced Settings		
Configuration Confi	Advanced Settings Automatically reset ala Automatically handle c Emergency Call/Alarm Use front microphone Always transmit when Use serial port for PTT Serial port: TX Timeout: Signaling System: Allow CSBK Data	arm mode all alert indication the PTT is pressed ("Impol key up 60 ÷ None •	te" channel access) seconds Configure
Set Defaults		Apply	OK Cancel

- In the **Advanced Settings** pane, specify the following control station-related advanced settings:
 - Automatically reset alarm mode

Select this option to reset alarm mode on the control station radio automatically. It is recommended to enable this option.

 Automatically handle call alert Select this option to automatically redirect call alerts from the control station radio to the Dispatch Console.

Emergency Call/Alarm indication

Select this option so that audio and visual indication is given by the control station radio when an Emergency Call/Emergency Alarm is received.



Use front microphone (for PTT key up)

Select this option to use the speaker microphone on the front of the radio.

Always transmit when the PTT is pressed ("Impolite" channel access)

Select this option so that when the PTT button is pressed, the radio will start transmitting regardless of whether the channel is free or not (that is any transmission in progress will be interrupted).

Use serial port for PTT key up

Select this option to use a remote control of the PTT button via the serial port of the PC, and select the serial port from the drop-down list.

TX Timeout

Enter the time, in seconds, to be used as a voice session limit. When a dispatcher starts any voice session in the Dispatch Console, the ongoing transmission will be interrupted after this TX Timeout expires.

Allow CSBK Data

Select this option so that GPS data is sent in a single CSBK.

5.2 Configuring TRBOnet Dispatch Console

To start TRBOnet Server, click the corresponding shortcut on the desktop, or click **Start > All Programs > Neocom Software > TRBOnet Dispatch x.x**

The dialog box will appear prompting you to enter the TRBOnet Server IP address, User Name, and Password. The default Administrator credentials are *admin* for the login and *admin* for the password.

For a more detailed information on how to use TRBOnet Dispatch Console, refer to *TRBOnet Enterprise User Manual*.

5.2.1 Registering Radio Groups

Go to **Administration** (1), **Radio Group** (2) to add/edit/delete Radio Groups in the system.

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- Click Add (3) to add a radio group to the system:
- In the dialog box that appears, specify the **Name** and **Group ID** (Radio ID) of the group you are adding.
- Note: Make sure that the radio group(s) created in the Dispatch Console are present in the radio's RX Group List (see section <u>4.3.4, RX Group Lists</u>).

5.2.2 Registering Radios

Go to **Administration** (1), **Radios** (2) to add/edit/delete Radios in the system.



File View Map Tools Help					
Administration	Radios	👲 🐠 🕒			
	(>) 1: Line free (Intercom •)) ()) ((((()) ((((()) (()) (()) ()) () ()) () ()) (
Radio Groups 2	Registered Unregistered Add Group Add Digital Radio Image: Add WAVE Radio Image: Add WAVE Radio Radio Name Type Padio ID MDC ID SID ID Radio	RBOnet Mobile 📑 Add Range 🍟			
< >	125 Digital Radio 125 0 125 11: Fir	remen Cleaning,			
Voice Dispatch	(f) 13 Digital Radio 13 0 All				
	😥 235 Digital Radio 235 0 235 Fireme	n; P Cleaning			
Location Tracking	🚯 3333 TRBOnet Mobile 3333 0 3333 11; 22	1			
	🚯 555 Digital Radio 555 0 All				
🙀 Job Ticketing	🔞 Radio 300 Digital Radio 300 0 All				
Route Management	3				
RFID Tracker					
C Text Messages					
👳 Voice Recording					
Event Viewer					
Radio Allocation	1				
Administration	H4 44 4 Record 1 of 6 ▶ ₩ ₩ 4	Þ			
🚺 127.0.0.1 🛞 🕵 🙎 Administrator 🔳	Licensed to: demo	🗸 Active 🗸			

- Click Add MOTOTRBO Radio (3) to add a new radio.
- In the dialog box that appears, specify the **Callsign**, **Radio ID**, **Radio Groups**, and **Home Group** to which the radio belongs.