





TRBOnet Enterprise/PLUS DIMETRA Express **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 DIMETRA Express Dispatch over IP solutions. The document describes the steps required to configure communication with a DIMETRA Express 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 DIMETRA 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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EMEA	+44 203 608 0598	info@trbonet.com — general and commercial inguiries
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APAC	+61 28 607 8325	<u>https://trbonet.com/kb/</u> — online knowledge base



2 System Components and Terms

2.1 TRBOnet Software

The TRBOnet software consists of several modules, a combination of which enables 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.



3 System Description

DIMETRA Express is a new flexible TETRA system. By integrating the switch and base radios in a one-box or modular system it's now quick and easy to set up, deploy, and manage your communications. You simplify everyday operations while reducing costs and complexity over the long term.

You can quickly integrate DIMETRA Express into your network, provision multiple subscribers, and complete installation easily using browser-based apps and tools. Once it's up and running, DIMETRA Express is easier to manage and operate through web-based network management and TRBOnet Enterprise/PLUS applications.



3.1 Notes

The notes below describe the limitations imposed on text and status messages by DIMETRA Express. Refer to Motorola Solutions, Inc. for further information.

3.1.1 Text Messages

DIMETRA Express doesn't send group text messages to TRBOnet Server. TRBOnet Server can only send group text messages, not receive them.

3.1.2 Status Messages

Status messages can only be received from radios by using ECADI. TRBOnet Server cannot send status messages to radios.



4 Configuring DIMETRA Express

This section describes how to configure DIMETRA Express equipment, such as a DIMETRA Express controller, radios etc., using browser-based tools.

- Launch the Web browser.
- In the Address field, type the IP address of the DIMETRA Express controller.
- In the **DIMETRA Express** page, click **Network Manager**.
- Enter the credentials and click **Login**.

4.1 DIMETRA Express Controller

This section describes how to configure the DIMETRA Express controller by using the Web browser.

4.1.1 DIMETRA Express Licenses

• Go to System Settings > General > Licenses.

System Health	+ Users & Talkgroups	System Settings	
General			
System 🔥 Network 🔮 VPN	① Time Certificat	e 🔍 Antivirus 🚽 TRA	ACES Licenses
Import Licenses			Device ID: 2046A102D78
License Name		Purchased	Expiry Date
DIMETRA Express Core		1	Permanent
Clear Authentication		1	Permanent
Dispatch Console Position		5	Permanent
ATIA API		1	Permanent
Fault Forwarding NBI API		\checkmark	Permanent
Short Data MS To Group		\checkmark	Permanent
Radio User		20	Permanent
Dynamic Regrouping with RCM		1	Permanent
RF Site		1	Permanent
Short Data Store And Forward		1	Permanent
Telephone Interconnect Call Capacity		2	Permanent
Voice Logging Capacity		5	Permanent
ECADI API		1	Permanent
Collucio Maintenance		1	26.02.2026.22:50:50

Make sure the required licenses have been enabled:

Dispatch Console Position

This is the number of simultaneous connections between TRBOnet Server and DIMETRA Express controller. Make sure you have at least one license enabled.



Note: If you want to use different dispatch console IDs, you need as many Dispatch Console Position licenses as the number of such accounts plus one license used by TRBOnet Server. Note that the number of Dispatch Console Position licenses is limited to 10.

Short Data MS To Group

If this item is enabled, you can send data messages to radio groups.

Voice Logging Capacity

This is the maximum number of voice channels being simultaneously logged.

ECADI API

Make sure this item is enabled to support Group Affiliation, Radio Check, Radio Inhibit/Uninhibit, and some other features.

4.1.2 Dispatch Console Configuration

• Go to System Settings > Dispatch Console > Configuration.

Con	iguration	🔮 Console	Users				< 0
Dispato	h Console Typ	De	Express	Console (API)	*		
Select /	All Add	Delete D	ownload IOR				
	Conso IP Ade	le Client dresses					
1	10.10	.101.55					
2	10.10	.177.56					
3	10.10.	177.210					
4	10.10	.101.59	1				
5	10.10.	177.125					
6	10.10.	188.185					
7	10.10.17	77.30					

• Enter the IP address of the computer hosting TRBOnet Server.

Console Users

• Go to System Settings > Dispatch Console > Console Users.



	.A SOL	LUTIONS		
ispatch	Consol	le		
Configu	ration	嶜 Co	onsole Users	
Select All	Add	Delete		
	User ID	Login Name	Password	Ambience Listening
1	1 (trbonet	*****) 🗹
2	4	trbonet2	****	
3	3	trbonet3	******	
4	25	nick	*****	
5	35	nick2	******	✓

 Add an account to the list of the console users. Specify Login Name and Password for the console user account. These Login Name and Password will then be used when configuring the Console User in TRBOnet Server (see section <u>5.1.2.5, Console User</u>).

4.1.3 Voice Logging Configuration

• Go to System Settings > Voice Logging

MOTOROLA SOLUTIONS			Welcome admin	🛓 Logoff
Voice Logging				-
Logging Interface				
Download IOR				
Login Name	logger	Logging Client IP Address	10.10.177.40	
Password		Corba TCP Port Number	7101	
		Same IP Address for Audio Recording	Device	
Cancel Apply				

 Enter Login Name and Password. These Login Name and Password will then be used when configuring the Logging Interface in TRBOnet Server (see section <u>5.1.2.4</u>, Logging Interface).

Logging Client IP Address

Enter the IP address of the Logging Client Application. Note that this must be a different IP address from the main IP address of the computer hosting TRBOnet Server. For this, you might need to configure an additional network interface.



Corba TCP Port Number

This is the TCP port number used for communication with the Logging Client application. This port number is not editable. This value must be used as **Controller Port** in TRBOnet Server (see section <u>5.1.2</u>, <u>Connecting DIMETRA Express</u>).



4.1.4 ECADI Configuration

Setting password

• Go to System Settings > Maintenance > Passwords

Backup and Restore	n Software Up	date 😃 S	hutdown	🖪 Logs	Passwords	About	0
User Name	ecadi	~					
New Password							
Confirm New Password							

User Name

From the drop-down list, select ecadi.

New Password

Enter a password that will be used to connect ECADI to TRBOnet.

• **Confirm New Password** Confirm the password you have entered.

Downloading root certificate

- Go to System Settings > General > Certificate
- Click the **Download Root Certificate** link.

Installing root certificate

Note: Install the certificate on the PC where TRBOnet Server or Agent that is connected to a DIMETRA Express controller is running.

- Double-click the certificate file.
- In the **Certificate** dialog box, click **Install Certificate**.

The Certificate Import Wizard dialog box opens.

Store Location

Choose **Local Machine** if TRBOnet service is installed in the local system rather than under a user account.

- Certificate Store
 Choose Place all certificates in the following store.
 Click Browse and then select Trusted Root Certification Authorities.
- After installation is complete restart the PC.



4.1.5 Short Data Configuration

• Go to System Settings > Short Data > Configuration.

MOTOROLA SOLUTIC	DNS		Welcome a	dmin 🔒 Logoff
♀ Short Data				-
♀ Configuration	ort Data Hosts		Advanced	OFF 🎤 🕐
S&F Service Enabled		MS-To-Group Service Enabled		
		SDTS Port Number	6006	
Cancel Apply				

MS-To-Group Service Enabled

Make sure this option is enabled.

SDTS Port Number

This is the port number used by the Short Data Hosts to access the Short Data Transport Service. This port number is not editable. This value must be used as **Controller Port** in TRBOnet Server's Data Services (see section <u>5.1.2.2, Data Services</u>).

Short Data Hosts

• Go to System Settings > Short Data > Short Data Hosts.

ᄊ мото	DROLA SOLUTIONS	Welcome admin
	♀ Short Data	-
	Configuration Short Data Hosts	nced OFF 🖍 💿
	Select All Add Delete	
	HostHostHostIDNamePassnumber1100test***	
	Cancel Apply	

 Add a Short Data Host by specifying its Host ID, Host Name, and Host Passnumber.



4.1.6 Users and Talkgroups

Radio Users

• Go to Users and Talkgroups > Radio Users.

Radio U	Isers	Delete	Event	Import			A	dvanced	OFF 2 0	
Select All	Add	Deiele	Export	import					•	
	User Enabled	Radio ID	Radio Alias	Telephony	Direct Dial Number	Short Data	Store & Forward	Key Status		
1		117	Radio 117					not loaded		
2		128	Radio 128					not loaded		
3		139	Radio 139					not loaded		
4		145	Radio 145					not loaded		

• Add required radios by specifying their **Radio ID** and **Radio Alias**.

Talkgroups

• Go to Users and Talkgroups > Talkgroups.

System Health	S Lycers & Talkgroups	System Settings +
a Radio Users		•
Talkgroups		-
elect All Add Delete Export Impo	t	Advanced OFF 🖍 🕐
ID Allas 1 10 Group 10 2 20 Group 20 3 30 Group 30 4 40 Group 40 5 50 Group 50		

 Add required talkgroups by specifying their Talkgroup ID and Talkgroup Alias. These talkgroups will then be added as Audio Paths in TRBOnet Server (see section <u>5.1.2.6, Audio Paths</u>).



5 Configuring TRBOnet Software

This section describes how to configure TRBOnet software to work with your DIMETRA Express system.

5.1 Configuring TRBOnet Server

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

For how to configure TRBOnet Server's Database, Service, Network parameters, etc., refer to *TRBOnet Enterprise User Manual*.

5.1.1 LIP Location Service

This section describes how to configure LIP Location service in TRBOnet Server.

- Note: It is strongly recommended to use LIP triggers. LIP allows Indoor and Outdoor location information to be retrieved from Dimetra Express subscribers. Configuring Online/Offline trigger in Dimetra Express subscriber codeplug will allow dispatches to monitor radio status (Radio Online/Radio offline).
 - In the **Configuration** pane, under **Radio Systems**, select **Services**:
 - In the **Services** pane, make sure the **Location service (LIP / Indoor)** option is selected:





5.1.2 Connecting DIMETRA Express

This section describes how to configure TRBOnet Server for communication with the DIMETRA Express controller.

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

comguration		Radio Systems					
🖗 Service 河 Network	^	✓ Enable Radio Sys	tems				
ኞ Redundancy 🔁 Remote Access R	Restriction	CAI Network:		12	<u></u>	1	
Database		CAI Group Network	225			1	
Storage Location	s					1	
File Formats		Registered Radio	Systems				
Service Managen	nent	Name		Address	F	tadio ID	
Advanced Setting	gs						
Geocoding Se	ervers						
Radio Syst	Add MOTOTRBO) System					
PTT over C	Add Capacity M	ax					
🗱 Teltonika 🛛 🔒	Add DIMETRA E	xpress					
Remote Ag	Add TRBOnet Sv	vift Agent					
Phone Con	Add Control Sta	tion					
🔀 Advanc 🛖	Add ECOS-D Re	peater					
interna	Add KAIROS Rep	peater					
😵 Email 🛛 🖶	Add WAVE PTX	Universal Gateway	elete			Test	
	Add ED137 Stati	on				1	
Set I	Add Zenitel Stat	ion		Apply	OK	Cancel	
4	Add Analog Stat	tion					
	Add Friendly FS	1000 Station					
	Add XRC-9000 C	Controller					
	Add XRT-9000 C	ontroller					
	Add WAVE 5000	Controller					
×	Remove All		-				

In the right pane, specify the connection parameters. To ensure your connection parameters match the actual configuration of your DIMETRA Express controller, you may need to use the Web browser to determine the values (see section <u>4</u>, <u>Configuring DIMETRA Express</u>). Contact your radio network administrator, if you do not have this information.



Configuration		DIMETRA Express #1				
Service	^					
S Network		System Name:	DIMETRA Express #1			
🛱 Redundancy		Controller IP Address:	10.10.177.200	*		
Remote Access Restriction		Controllor Ports	7101			
Database		Controller Port;	/101	*		
Storage Locations		Controller Instance ID:	0	÷	Test	
File Formats						
🔂 Reports						
🔅 Service Management						
🗶 Advanced Settings						
🔜 Radio Systems						
- 🔅 Services						
DIMETRA Express #1						
🛛 🔀 Advanced Settings						
🖓 Data Services						
ECADI						
Console User						
Audio Paths						
🚛 PTT over Cellular						
Teltonika	~					
Set Defaults			Apply		ОК	Cancel

• System Name

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

• Controller IP Address

Enter the IP address of the DIMETRA Express controller.

• Controller port

Enter the DIMETRA Express controller port number. Make sure this port number is the same as that specified for DIMETRA Express controller's Voice Logging (for example, **7101**; see section <u>4.1.3</u>, <u>Voice Logging</u>).

• Test

Click this button to check the connection to your DIMETRA Express controller. If the test is successful, you'll see all required information about the controller, such as firmware and protocol version.

Note: Do not click **Test** if the TRBOnet Server service is already running (**Configuration > Service**).

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 DIMETRA Express controller, select **Advanced settings**.

Configuration		Advanced Settings			
♂ Service ○ Network	^	Call Hangtime (ms):			
 Network Redundancy Remote Access Restriction Database Storage Locations File Formats Reports Service Management Advanced Settings Geocoding Servers Radio Systems Services DIMETRA Express #1 Advanced Settings Geocoding Interface Console User Advanced Settings Trover Cellular Advanced Settings 	>	Group Call: Private Call: Emergency Call: TX Timeout:	3000 4000 4000 60	 seconds 	
Set Defaults			Apply	ОК	Cancel

- In the **Advanced Settings** pane, specify the following advanced settings: **Call Hangtime** (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.

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.

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.



5.1.2.2 Data Services

• In the **Configuration** pane, under the corresponding DIMETRA Express controller, select **Data Services**.

Configuration		Data Services				
ở Service 🌍 Network	^	✓ Data Services				
🕏 Redundancy		Local IP Address:	10.10.177.30	- ¢		
Remote Access Restriction		Controller Port:	6006	÷		
Database				*		
Storage Locations		Local Port:	0	*		
File Formats		Host ID:	100	÷		
Reports		Host Passnumber:	100	Ĵ	Test	
Service Management				-		
X Advanced Settings		Data Call Confirmed				
Geocoding Servers						
Radio Systems						
Services						
DIMETRA Express #1						
Advanced Settings						
Data Services						
ECADI						
Audio Paths						
TT over Cellular						
Carl Teltonika	*					
Set Defaults			Apply		OK Ca	ancel

• In the **Data Services** pane, select the **Data Services** check box.

Local IP Address

From the drop-down list, select the local network interface to be used for Data Services.

Controller port

Enter the controller's port number to be used for Data Services. Make sure this port number is the same as that specified for DIMETRA Express controller's Short Data (for example, **6006**; see section <u>4.1.4</u>, <u>Short Data</u>).

Local Port

Enter the port number that will be used for connections to Data Services. The value 0 (default) means that a random port will be used.

Host ID

Enter the Data Services Host ID.

Host Passnumber

Enter the Data Services Passnumber.

Note: The Host ID and Passnumber are defined in DIMETRA Express controller's Short Data Hosts page (see section <u>4.1.4, Short Data</u>).

Data Call Confirmed

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



5.1.2.3 ECADI

• In the **Configuration** pane, under the corresponding DIMETRA Express controller, select **ECADI**.

Configuration		ECADI
Service Service Service Service Network Redundancy Database Storage Locations File Formats Service Management Advanced Settings Services Radio Systems Services DIMETRA Express #1 Advanced Settings Dimetra Express #1 Services Data Services Dimetra Express #1 Services Data Services Services Data Services Services Services Dimetra Express #1 Services Servic	~	EcADI Enhanced Computer-Aided Dispatch Interface Port: 49999 Username: ecadi Password: Test
Set Defaults		Apply OK Cancel

- In the ECADI pane, select the Extended Computer-Aided Dispatch Interface check box.
 - Port

Leave the selected port number (49999).

- Login Enter the ECADI's login.
- **Password** Enter the ECADI's password.
 - Note: The ECADI's Password is defined in DIMETRA Express controller's Passwords page (see section <u>4.1.4,ECADI</u> <u>Configuration</u>).



5.1.2.4 Logging Interface

• In the **Configuration** pane, under the corresponding DIMETRA Express controller, select **Logging Interface**.

Configuration		Logging Interface			
Configuration Configuration Service Network Redundancy Remote Access Restriction Database Storage Locations File Formats Reports Service Management Advanced Settings Cocoding Servers Radio Systems Cocoding Servers Cocoding Servers	^	Logging Interface Local IP Address: Local Port: Login Name: Password:	10.10.177.40 0 logger	* ¢	Test
DIMETRA Express #1 Advanced Settings Data Services ECADI Console User Audio Paths PTT over Cellular Teltonika	~				
Set Defaults]		Apply	0	K Cancel

• In the **Logging Interface** pane, select the **Logging Interface** check box.

Local IP Address

From the drop-down list, select the local network interface to be used for the Logging Interface. Note that this must be a different IP address from the main IP address of the computer hosting TRBOnet Server. For this, you might need to configure an additional network interface.

Local Port

Enter the port number that will be used for connections to Logging Interface. The value 0 (default) means that a random port will be used.

Login Name

Enter the Login Name for Logging Interface.

Password

Enter the password for Logging Interface.

Note: The Login Name and Password are defined in DIMETRA Express controller's Voice Logging page (see section <u>4.1.3, Voice Logging</u>).



5.1.2.5 Console User

• In the **Configuration** pane, under the corresponding DIMETRA Express controller, select **Console User**.

• In the **Console User** pane, select the **Console User** check box.

Local IP Address

From the drop-down list, select the local network interface to be used for Console User.

Local Port

Enter the port number that will be used for Console User. The value 0 (default) means that a random port will be used.

Login Name

Enter the login name for Console User.

Password

Enter the password for Console User.

Note: The Login Name and Password are defined in DIMETRA Express controller's Dispatch Console/Console Users page (see section <u>4.1.2, Dispatch Console</u>).



5.1.2.6 Audio Paths

The Audio Paths are talk paths of the system to make and receive Voice Calls; in general, they are talk groups. TRBOnet Server requires that all audio paths of a DIMETRA Express system be registered in its configuration. If an audio path is not registered, the TRBOnet operator will not be able to receive and transmit to the corresponding talk group.

• In the **Configuration** pane, under the DIMETRA Express controller, select **Audio Paths**.

Configuration	A	udio Paths			
💣 Service	^	Load Groups N	lan		
S Network				1	
🛱 Redundancy		Call Type		Group ID	Resource Name 🔺
Remote Access Restriction		Group Call		10	Group 10
Database		Call Group Call		20	Group 20
Storage Locations				20	Group 20
🚔 File Formats		Group Call		30	Group 30
😪 Reports		Group Call		40	Group 40
Service Management		Group Call		50	Group 50
X Advanced Settings		Private Ca			Private Call
Geocoding Servers					
Radio Systems		Group Call		13999998	RU-PRIM-TG
😳 Services					
DIMETRA Express #1	- 11				
🗘 Data Services					
CADI					
Logging Interface				1	
Console User (trbonet		Add	Delete		Configure
Audio Paths		Monitor Driv	ata Calla (Radio	to Radia)	
🖵 PTT over Cellular	. L		ate Calls (Raulo		
★₩ = n = n ★	*	Radio Range:		1	0 - 16777215 0
Set Defaults				Apply	OK Cancel

- In the **Audio Paths** pane, specify the following Audio Path-related settings:
 - Click the **Load Groups Map** link.

As a result, the corresponding talkgroups will be loaded from the connected DIMETRA Express controller.

Note: The talkgroups must be previously defined in DIMETRA Express controller's Talkgroups (see section <u>4.1.5</u>, <u>Users</u> and <u>Talkgroups</u>, **Users and Talkgroups > Talkgroups**).

Monitor Private Calls

Select this check box and specify the range of radios which radio-toradio calls will be monitored.

- To add an audio path to the system, click **Add**. Specify the Group ID and Resource Name.
- To configure the selected audio path, click **Configure**.



• 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).

• 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.

5.2 Configuring TRBOnet Dispatch Console

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

A 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 detailed instructions on using 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.



- Click Add (3) to add a radio group to the system:
- In the dialog box that appears, specify **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 DIMETRA Express controller's talkgroups (see section <u>4.1.5</u>, <u>Users and Talkgroups</u>). In addition, make sure these radio groups have been added to TRBOnet Server as Audio Paths (see section <u>5.1.1.5</u>, <u>Audio</u> <u>Paths</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						🔮 🐠 🕓
Dispatcher Groups	^	Registered Unregiste	ered 1 Digital Radio 🔜 Ad	ld Range 🔜 Add TRI	Ronet Mobile 🔜 Add	TRBO.SOS 🔜 Add W	loC Radio 🔜 Add WAV	/E 5000 📑 Edit »
Email Groups		Radio Name		Radio ID		User Extension / onin	Radio Groups	Logical Groups
SMS Groups		Radio 235	Digital Radio	235	0	ober Extendion/Edgin	Cleaners	Logical of oups
- 💦 Users		Radio 125	Digital Radio	125	0		Cleaners	
Logical Groups		Radio 100	Digital Radio	100	0		Cleaners	
Radio Groups Device Lists 2			TRBO.SOS	2222	0	2222		
Radios		Radio 4444	TRBOnet Mobile	4444	0	4444		
	¥		TRBOnet Mobile	3333	0	3333		
< >	•	\$ 5555	TRBOnet Mobile	5555	0	5555		
Voice Dispatch				3				
Route Management				-				
Voice Recording								
Reports		_1						
Administration		144 44 4 Record 2 of 7)	₩ H 4					•
顶 Connected 🚷 🔂 🔂		🔮 Administrator 📑 Lice	nsed to: demo (Walt)	(Demo License)				🛛 🚰 1 🛛 🕑 Active 🕶

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



6 Redundant Configuration Schemes

This section describes multiple redundancy schemes that can be applied when deploying a DIMETRA Express system.

Note: A DIMETRA Express controller supports only a single app connection at a time. Thus, it is strictly forbidden to connect more than one Agent/Server running in the Active mode to the same DIMETRA Express controller simultaneously.

For detailed instructions on configuring redundant TRBOnet Server/Agent, see *TRBOnet Enterprise/PLUS Redundant Server User Guide*.

6.1 Redundant TRBOnet Server in Passive Mode

The diagram below illustrates the redundant TRBOnet Server operating in Passive mode.



6.1.1 Pre-requisites

1. Both TRBOnet Servers must be hosted on a single computer due to the limitations of the Voice Logger. The Voice Logger service on a DIMETRA



Express controller supports only a single IP address input, meaning it can only connect to one computer for voice logging.

2. To run two separate instances of the TRBOnet Server on the same computer, they must be licensed as Instances through the License Server. For instructions on creating instances in the License Server, refer to the *TRBOnet License Server User Guide*. Please note that a specific license is required for the License Server.

6.1.2 Deployment of TRBOnet Servers

6.1.2.1 Primary Server

- Add the Controller's address and specify all required nodes: Data Services, ECADI, Logging Interface, Console User, as described in section <u>5.1.2, Connecting DIMETRA Express</u>.
- 2. Download the Audio Paths from the controller and select the required ones.
- 3. Save the configuration and start the Server service.

6.1.2.2 Redundant Server

- 1. In the **Network** section, specify a unique command port to avoid conflicts with the Primary Server.
- 2. In the **Redundancy** section, select **Passive** mode and enter the exact LAN address of the Primary Server (avoid using 127.0.0.1).
- 3. Click **Test** and verify the Primary Server is successfully connected to the Controller. Note that this may take some time, depending on the number of Console accounts and Audio Paths, as they are connected individually rather than in batches.
- 4. Click **Copy configuration**.
- 5. Back up the SQL Database of the Primary Server and restore it on the Redundant Server's SQL Server.
- 6. Select the restored Database.
- 7. Apply changes and connect TRBOnet Console.
- 8. Open TRBOnet Console and connect it to the Redundant Server, make sure that all settings and database records match those on the Primary Server (radios groups etc.)



6.2 Redundant TRBOnet Server in Active Mode

The diagram below illustrates the redundant TRBOnet Server operating in Active mode and connected to the DIMETRA Express controller via the TRBOnet Agent.



6.2.1 Deployment of TRBOnet Agent

- Add the Controller's address and specify all required nodes: Data Services, ECADI, Logging Interface, Console User, as described in section <u>5.1.2, Connecting DIMETRA Express</u>.
- 2. Download Audio Paths from the controller and select the required ones.
- 3. Save the configuration and start the service of the software Agent.



6.2.2 Deployment of TRBOnet Servers

TRBOnet Servers can be deployed on separate computers, with the connection to the system established via the TRBOnet Agent. The TRBOnet Server uses the TRBOnet Agent as a gateway and does not connect directly to the system.

To run two separate instances of the TRBOnet Server on the same computer, they must be licensed as Instances through the License Server. For instructions on creating instances in the License Server, refer to the *TRBOnet License Server User Guide*. Please note that a specific license is required for the License Server.

6.2.2.1 Primary Server

- 1. In the **Remote Agents** section:
 - Enter the address of the TRBOnet Agent.
 - Click **Test** to ensure the services are active.
- 2. Apply the changes and connect to the TRBOnet Console.
- 3. In the TRBOnet Console, ensure that all required settings are configured in the Administration tab, e.g., Dispatcher accounts, registered radios and their settings, Location profiles, radio groups, etc.. These settings will be saved to the TRBOnet database, which must then be copied to the Redundant Server.

6.2.2.2 Redundant Server

- 2. In the **Redundancy** section:
 - From the **Redundancy Mode** drop-down list, select **Active**.
 - Enter the address of the Primary TRBOnet Server.
 - Click **Test** to ensure it is available.
 - Click Copy configuration.
- 3. Verify that all settings have been copied correctly, and that the TRBOnet Agent is added to the configuration and responding to Test.
- 4. Back up the SQL Database of the Primary TRBOnet Server and restore it on the Redundant Server computer's SQL Server.
- 5. Select the restored Database.
- 6. Open TRBOnet Console and connect it to the Redundant Server, make sure that all settings and database records match those on the Primary Server (radios groups etc.)



6.3 Redundant TRBOnet Server in Active Mode and Redundant TRBOnet Agent in Passive Mode

The diagram below illustrates the Redundant Server operating in Active mode and connected to the DIMETRA Express controller via the Primary and Redundant Agents.



6.3.1 Pre-requisites

- Both TRBOnet Agents must be hosted on a single computer due to the limitations of the Voice Logger. The Voice Logger service on a DIMETRA Express controller supports only a single IP address input, meaning it can only connect to one computer for voice logging.
- 2. To run two separate instances of TRBOnet Agent on the same computer, they must be started as instances licensed through the License Server. For



instructions on creating instances in the License Server, refer to the *TRBOnet License Server User Guide*. Please note that a specific license is required for the License Server.

6.3.2 Deployment of TRBOnet Agents

6.3.2.1 Primary Agent

- 1. Add the Controller's address and specify all required nodes: Data Services, ECADI, Logging Interface, Console User, as described in section <u>5.1.2, Connecting DIMETRA Express</u>.
- 2. Download Audio Paths from the controller and select the required ones.
- 3. Save the configuration and start the service of the software Agent.

6.3.2.2 Redundant Agent

- 1. In the **Network** section, specify a unique command port to not conflict with the Primary Agent.
- 2. In the **Redundancy** section, select **Passive** mode and enter the exact LAN address of the Primary Agent (avoid using 127.0.0.1).
- 3. Click **Test** and make sure the Primary Agent is successfully connected to the Controller (this might take certain time depending on the amount of Console accounts and Audio Paths because they are connected one-by-one rather than in a batch).
- 4. Click **Copy configuration**.
- 5. Save changes and start the service.

6.3.3 Deployment of TRBOnet Servers

Unlike TRBOnet Software Agents, TRBOnet Server can be deployed on Separate computers as the connection to the system is performed via the Software Agent. TRBOnet Server uses Agents as gateways and does not connect to the system directly.

However, if you want to use the TRBOnet License Server for TRBOnet Servers too, all instances added to it must be located on Single computer. Otherwise, the License Server will not be able to license the remote instances.

6.3.3.1 Primary Server

- 1. In the **Remote Agents** section, add the address of the Primary TRBOnet Software Agent, test and make sure the services are shown as active.
- In the Remote Agents > Redundancy section, add the address of the Redundant TRBOnet Software Agent, test, it must show that services are stopped.
- 3. Apply changes and connect TRBOnet Console.



4. In TRBOnet Console, make sure that you have made all required settings in Administration tab, like Dispatcher accounts, Registered radios and their settings, Location profiles, Radio groups etc.

All these settings will be saved to TRBOnet Database that in turn must be copied over to the Redundant Server.

6.3.3.2 Redundant Server

- 1. In the **Redundancy** section, set **Redundancy Mode: Active**, and add the address of the Primary TRBOnet Server, click **Test** and make sure it is available, click **Copy configuration**.
- 2. Make sure that all settings of TRBOnet Server are copied over and you see both TRBOnet Software Agents added to the configuration. Primary - in the Main node and Redundant - in the Redundancy node. Both must respond to Test.
- 3. Back up the SQL Database of the Primary TRBOnet Server and restore it on the Redundant Server computer's SQL Server.
- 4. Select the restored Database.
- 5. Open TRBOnet Console and connect it to the Redundant Server, make sure that all settings and database records match those on the Primary Server (radios groups etc.)



6.4 Redundant TRBOnet Agent and Redundant DIMETRA Express

The diagram below illustrates operating the redundant DIMETRA Express controller connected to TRBOnet.



6.4.1 Pre-requisites

- Both TRBOnet Agents must be hosted on a single computer due to the limitations of the Voice Logger. The Voice Logger service on a DIMETRA Express controller supports only a single IP address input, meaning it can only connect to one computer for voice logging.
- 2. To run two separate instances of TRBOnet Agent on the same computer, they must be started as instances licensed through the License Server. For instructions on creating instances in the License Server, refer to the



TRBOnet License Server User Guide. Please note that a specific license is required for the License Server.

6.4.2 Deployment of DIMETRA Express Controllers

- Configure the Primary DIMETRA Express Controller.
- After you have completed configuring the Primary Controller, copy the configuration to the Redundant Controller.

6.4.3 Deployment of TRBOnet Agents

6.4.3.1 Primary Agent

- Add the Primary Controller's address and specify all required nodes: Data Services, ECADI, Logging Interface, Console User, as described in section <u>5.1.2, Connecting DIMETRA Express</u>.
- 2. Download the Audio Paths from the controller and select the required ones.
- 3. Save the configuration and start the Agent's service.

6.4.3.2 Redundant Agent

- 1. In the **Network** section, specify a unique command port to avoid conflicts with the Primary Agent.
- 2. In the **Redundancy** section, select **Passive** mode and enter the exact LAN address of the Primary Server (avoid using 127.0.0.1).
- 3. Click **Test** and verify the Primary Agent is successfully connected to the Controller. Note that this may take some time, depending on the number of Console accounts and Audio Paths, as they are connected individually rather than in batches.
- 4. Click Copy configuration.
- 5. In the main node where the address of the controller is specified, input the Redundant DIMETRA Express Controller's address rather than Primary DIMETRA Express Controller's address.
- 6. Save changes and start the service.



6.4.4 Deployment of TRBOnet Server

Unlike TRBOnet Software Agents, TRBOnet Server can be deployed on Separate computers as the connection to the system is performed via the Software Agent. TRBOnet Server uses Agents as gateways and does not connect to the system directly.

However, if you want to use the TRBOnet License Server for TRBOnet Server too, all instances added to it must be located on Single computer. Otherwise, the License Server will not be able to license the remote instances.

- 1. In the **Remote Agents** section, add the address of the Primary TRBOnet Software Agent, test and make sure the services are shown as active.
- In the Remote Agents > Redundancy section, add the address of the Redundant TRBOnet Software Agent, test, it must show that services are stopped.
- 3. Apply changes and connect TRBOnet Console.



6.5 Redundant TRBOnet Server in Active Mode, Redundant TRBOnet Agent in Passive Mode, and Redundant DIMETRA Express

The diagram below illustrates the Redundant Server operating in Active mode and connected to the Primary and Redundant DIMETRA Express controllers via the Primary and Redundant Agents.



6.5.1 Pre-requisites

 Both TRBOnet Agents must be hosted on a single computer due to the limitations of the Voice Logger. The Voice Logger service on a DIMETRA Express controller supports only a single IP address input, meaning it can only connect to one computer for voice logging.

6.5 Redundant TRBOnet Server in Active Mode, Redundant TRBOnet Agent in Passive Mode, and Redundant DIMETRA Express



2. To run two separate instances of TRBOnet Agent on the same computer, they must be started as instances licensed through the License Server. For instructions on creating instances in the License Server, refer to the *TRBOnet License Server User Guide*. Please note that a specific license is required for the License Server.

6.5.2 Deployment of DIMETRA Express Controllers

- Configure the Primary DIMETRA Express Controller.
- After you have completed configuring the Primary Controller, copy the configuration to the Redundant Controller.

6.5.3 Deployment of TRBOnet Agents

6.5.3.1 Primary Agent

- 1. Add the Primary Controller's address and specify all required nodes: Data Services, ECADI, Logging Interface, Console User, as described in section <u>5.1.2, Connecting DIMETRA Express</u>.
- 2. Download Audio Paths from the controller and select the required ones.
- 3. Save the configuration and start the service of the software Agent.

6.5.3.2 Redundant Agent

- 1. In the **Network** section, specify a unique command port to not conflict with the Primary Agent.
- 2. In the **Redundancy** section, select **Passive** mode and enter the exact LAN address of the Primary Agent (avoid using 127.0.0.1).
- 3. Click **Test** and verify the Primary Agent is successfully connected to the Controller. Note that this may take some time, depending on the number of Console accounts and Audio Paths, as they are connected individually rather than in batches.
- 4. Click **Copy configuration**.
- 5. In the main node where the address of the controller is specified, input the Redundant DIMETRA Express Controller's address rather than Primary DIMETRA Express Controller's address.
- 6. Save changes and start the service.

6.5.4 Deployment of TRBOnet Servers

Unlike TRBOnet Software Agents, TRBOnet Server can be deployed on Separate computers as the connection to the system is performed via the Software Agent. TRBOnet Server uses Agents as gateways and does not connect to the system directly.

However, if you want to use the TRBOnet License Server for TRBOnet Servers too, all instances added to it must be located on Single computer. Otherwise, the License Server will not be able to license the remote instances.



6.5.4.1 Primary Server

- 1. In the **Remote Agents** section, add the address of the Primary TRBOnet Software Agent, test and make sure the services are shown as active.
- 2. In the **Remote Agents > Redundancy** section, add the address of the Redundant TRBOnet Software Agent, test, it must show that services are stopped.
- 3. Apply changes and connect TRBOnet Console.
- 4. In TRBOnet Console, make sure that you have made all required settings in Administration tab, like Dispatcher accounts, Registered radios and their settings, Location profiles, Radio groups etc.

All these settings will be saved to TRBOnet Database that in turn must be copied over to the Redundant Server.

6.5.4.2 Redundant Server

- 1. In the **Redundancy** section:
 - Set Redundancy Mode: Active.
 - Enter the address of the Primary Server.
 - Click **Test** and make sure it is available.
 - Click Copy configuration.
- 2. Make sure that all settings of TRBOnet Server are copied over and you see both TRBOnet Software Agents added to the configuration. Primary - in the Main node and Redundant - in the Redundancy node. Both must respond to Test.
- 3. Back up the SQL Database of the Primary TRBOnet Server and restore it on the Redundant Server computer's SQL Server.
- 4. Select the restored Database.
- 5. Open TRBOnet Console and connect it to the Redundant Server, make sure that all settings and database records match those on the Primary Server (radios groups etc.)

6.6 Important Notes

The SQL Databases are not synchronized between the servers automatically.

If you make any changes (in TRBOnet Console -> Administration) on the Primary Server, the Database must be copied over to the Redundant Server.

If you make any changes in Server Configurator of the Primary Server, the configuration must be copied to the Redundant Server (Test and Copy configuration).

For instructions on configuring TRBOnet Console for Redundancy see *TRBOnet Enterprise User Manual, Appendix G, Dispatch Console Configuration*.