

TRBOnet Enterprise 2.6

Installation and Configuration Guide

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1. Architecture Overview

1.1. Architecture Overview

TRBOnet Professional includes two following logical components:

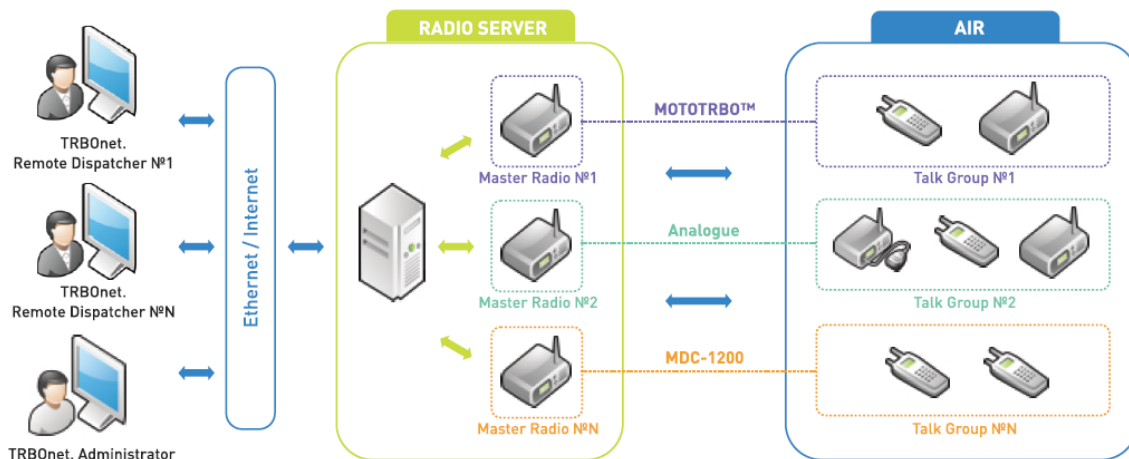
- Server software (TRBOnet RadioServer), which implements the MOTOTRBO™ protocols, manages dispatchers, subscriber radios and stores data.
- Client tool (TRBOnet Remote Dispatcher), which presents data from TRBOnet RadioServer.
- Remote agent (TRBOnet Agent), which directs data from a remote master station to the server and back. The remote TRBOnet Agent is a gateway between the radio network and the IP network. It transfers all data from the radio network to the server via IP and all the commands from the server to the radio network. Remote agents provide uniting geographically dispersed spots in one radio network.

The client and server software can be installed on any desktop computer running Windows® XP or Windows® Vista operating system. This version of the product, however, does not allow installing the client and server software on the same computer.

For information on installation procedures, refer to the relevant topics in TRBOnet Dispatcher Console and TRBOnet RadioServer Online Helps.

1.2. System Diagram

TRBOnet Enterprise operates as presented on the picture below:



TRBOnet schema

The TRBOnet RadioServer connects to subscriber radio stations through Master Radio (Master Device). Master Radio is connected to a computer via USB. The communication between the TRBOnet Remote Dispatcher and TRBOnet RadioServer is carried out via TCP/IP protocol. The communication between the Radio server and user's radio stations is carried out via UDP/IP protocol.

TRBOnet Remote Dispatchers can simultaneously connect to one TRBOnet RadioServer only. To connect to a TRBOnet RadioServer from TRBOnet Remote Dispatcher, you need to specify the IP Address (or network name) of the computer running the server and access credentials (login and password). For more information on connection, see [Configuring Connection to TRBOnet RadioServer](#).

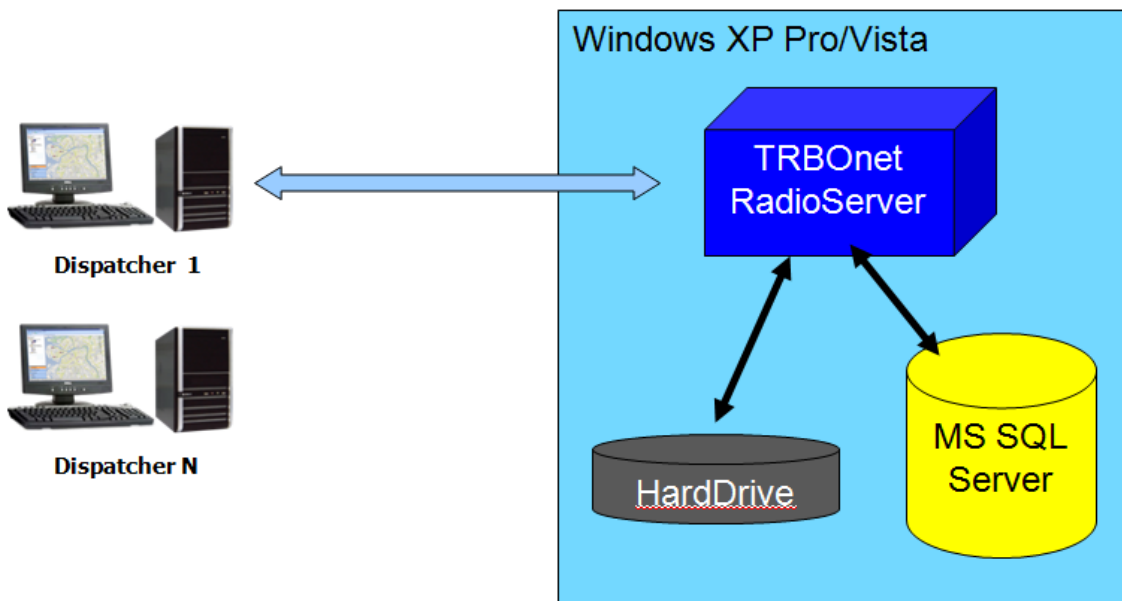
TRBOnet RadioServer manages communication with a defined set of subscriber radios. Each radio station must be registered with the TRBOnet RadioServer via a TRBOnet Remote Disptcher. At registration, you will need to specify a radio station ID (its unique identifier). In order to transfer ARS, GPS and Telemetry, you must also specify the Master Radio ID in the subscriber radio configuration. For more information on configuration, see [TRBOnet RadioServer Configuration](#) and section *TRBOnet Dispatcher Console Administration* in the *TRBOnet Dispatcher Console Online Help*.

Note: Administrative privileges are required to register radio stations with the TRBOnet RadioServer. The default administrative login and password are **admin/admin**.

1.3. Data Storage

All system information including events of all types, information on about radio stations and dispatchers, is stored in a Microsoft SQL Server 2000/2005 database. Microsoft SQL Server can be installed on the same computer where RadioServer resides, or you can install the serve rand create repository database on another computer.

The data storage high level structure is presented on the picture below:



TRBOnet RadioServer High Level Schema

When **configuring** TRBOnet RadioServer, the user must specify SQL Server connection parameters including IP Address or Computer Name of the SQL Server, name of the repository database, and access credentials (login and password). For more information on Microsoft SQL Server installation and repository database configuration, see **Installing Microsoft SQL Server 2005 Express** and **Creating TRBOnet RadioServer Database**. When configuring TRBOnet RadioServer, the user must specify SQL Server connection parameters including IP Address or Computer Name of the SQL Server, name of the repository database, and access credentials (login and password). For more information on Microsoft SQL Server installation and repository database configuration, see **Installing Microsoft SQL Server 2005 Express** and **Creating TRBOnet RadioServer Database**.

NOTE: Audio files are stored in the SoundArchive subfolder, that is, on the hard drive outside of the repository database.

2. TRBOnet Remote Dispatcher

2.1. Functional capabilities

General

- Support of digital and analog channels
- System of tracking of subscribers' radio stations condition (on-line / off-line) based on ARS
- Telemetry
- Reports and Statistics
- Logging of all system events
- Encrypted Data between RadioServer and Dispatchers
- Customizable system sounds (for alarms and other events)
- Displaying of dispatchers' state (on-line / off-line)

Voice Facilities

- Support of all call types (broadcast, group, personal calls, remote monitor)
- Intercom
- Voice recording

GPS Positioning

- Google Earth, MapPoint 2009, Raster maps
- Extended GPS information: speed, direction, positional accuracy
- rack Movement
- GPS Revert channel (Transmission of GPS data through the second timeslot)
- GeoFencing

Text Messaging

- Predefined Text Messages
- Chat Window
- Scheduler for Text Messages
- Email Agent

Automation

- Lone Worker
- Stun Kill "passive"
- User Activity Monitor

2.2. System Requirements

Before installing the TRBOnet Remote Dispatcher, ensure that your computer meets the following hardware and system requirements:

Component	Requirement
Platform	Pentium III 1 GHz (Pentium 4 1.5 GHz recommended) or later
Memory	Minimum 512 MB of RAM (1024 MB recommended)
Hard disk space	Minimum 82 MB of disk space for full installation, which includes up to 32 MB of temporary setup files that are removed automatically at completion of install.
Sound card	Any
Network card	Any
Operating system	One of following: <ul style="list-style-type: none">• Microsoft® Windows® 2000 with Service Pack 4• Windows® XP with Service Pack 2 or later• Windows® Vista
Additional software	The following packages must be installed prior to installation of the TRBOnet Dispatcher Console: <ul style="list-style-type: none">• Microsoft Windows Installer 3.1 Redistributable (v2)• Microsoft .NET Framework 2.0 Service Pack 1 See Installing Prerequisite software for information on installation procedures.

2.3. Installation

To install TRBOnet Remote Dispatcher:

1. [Install prerequisite software](#)
2. [Install TRBOnet Dispatcher Console](#)

Installing Prerequisite software

To run TRBOnet Remote Dispatcher you need the following packages installed:

- Microsoft Windows Installer 3.1 Redistributable (v2)
- Microsoft .NET Framework 2.0 Service Pack 1

To install Microsoft Windows Installer 3.1

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=889482fc-5f56-4a38-b838-de776fd4138c&DisplayLang=en>
2. From the list of available language, choose the language of the necessary download.
3. Download the **WindowsInstaller-KB893803-v2-x86.exe** package.
4. After download completes, run the package and follow the prompts to complete the installation.

To install Microsoft .NET Framework 2.0

1. Go to the Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=79bc3b77-e02c-4ad3-aacf-a7633f706ba5&DisplayLang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Microsoft Visual C++ 2005 Redistributable Package

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=32BC1BEE-A3F9-4C13-9C99-220B62A191EE&displaylang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Microsoft Core XML Services (MSXML) 6.0 Service Pack 1

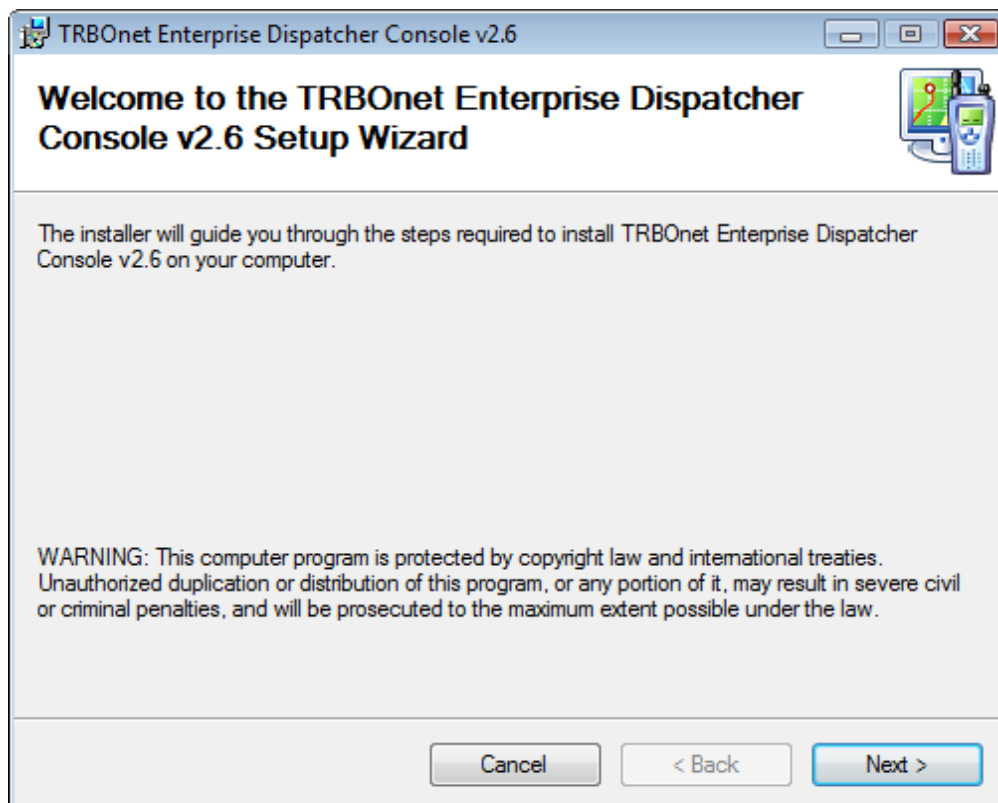
1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=d21c292c-368b-4ce1-9dab-3e9827b70604&displaylang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Microsoft Data Access Components (MDAC) 2.8 SP1

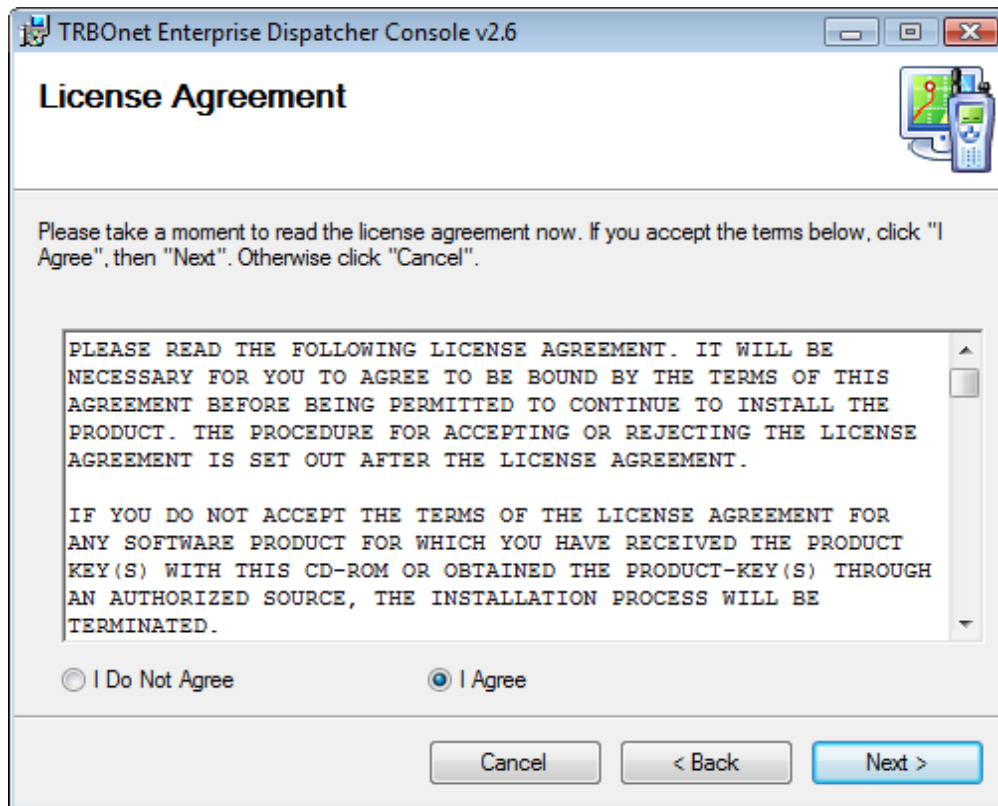
1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?familyid=78CAC895-EFC2-4F8E-A9E0-3A1AFBD5922E&displaylang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Installing TRBOnet Remote Dispatcher

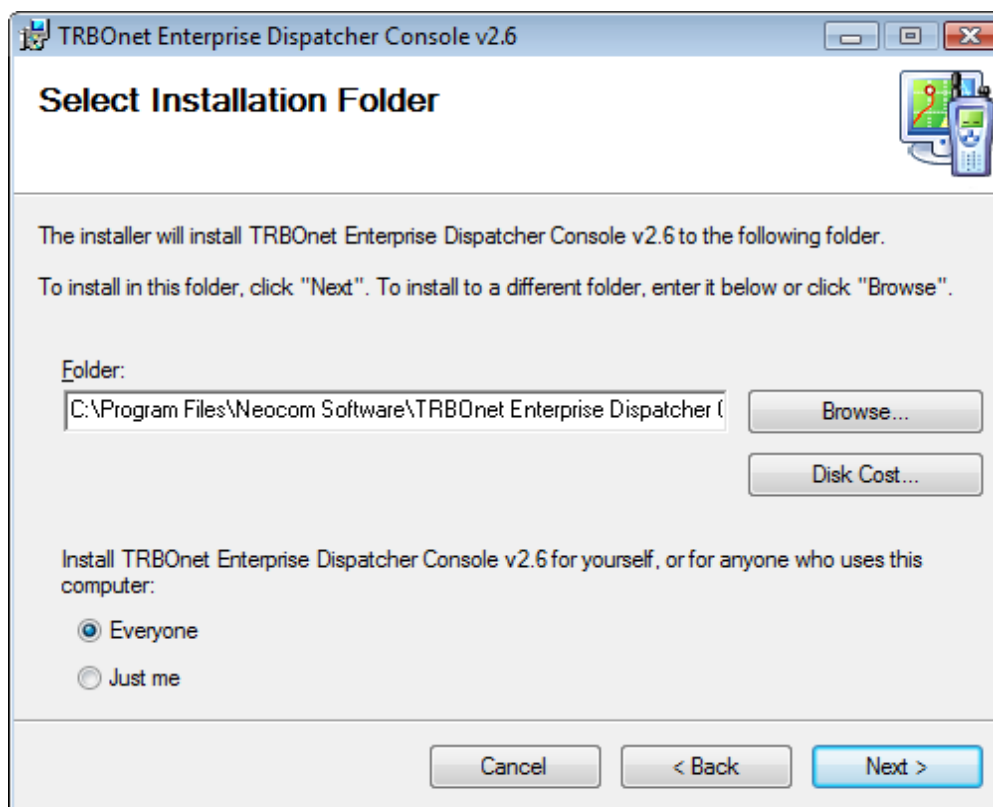
1. To run the **TRBOnet Remote Dispatcher Console Setup Wizard**, double-click the **TRBOnet.RemoteDispatcher.Enterprise_v2.6.msi** file.
2. On the Welcome page, click **Next**.



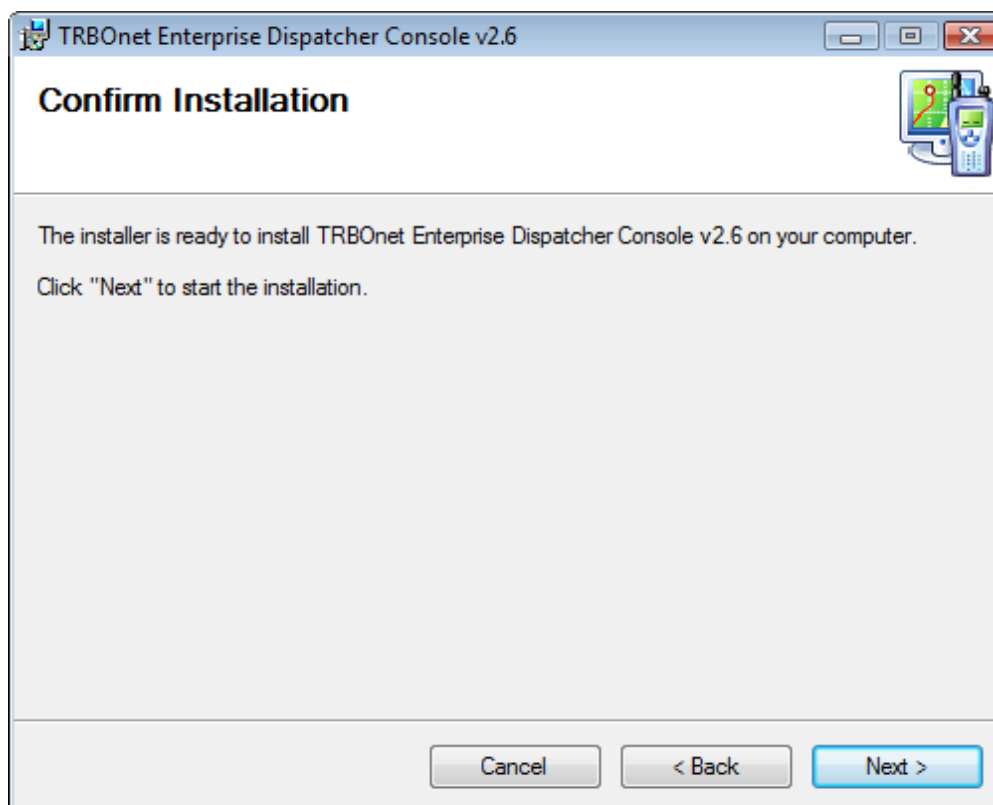
3. Read the end user license agreement. To proceed with the installation, you need to accept the agreement and click **Next**



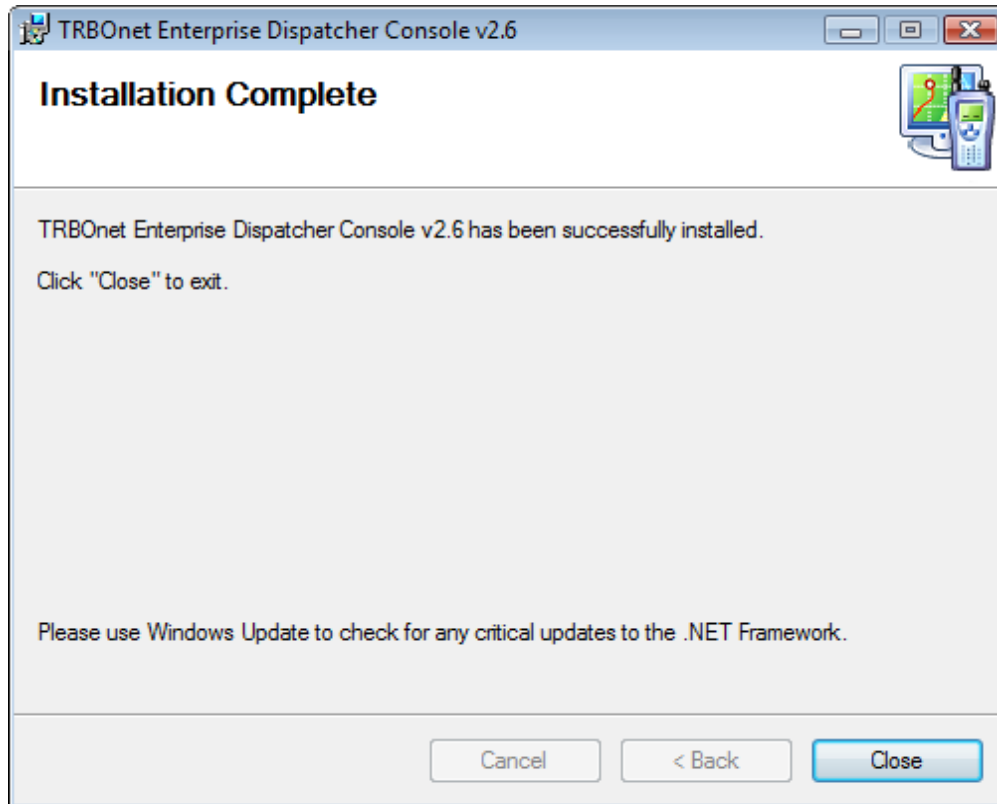
4. If necessary, change the installation directory (default is C:\Program Files\Neocom Software\TRBOnet Enterprise Dispatcher Console v2.6) and TRBOnet Dispatcher Console usage parameters, then click **Next**.



5. Click Next to start the installation.



6. After installation completes, click Close to exit the installation wizard.



2.4. Launching TRBOnet Remote Dispatcher

To Launch TRBOnet Remote Dispatcher:

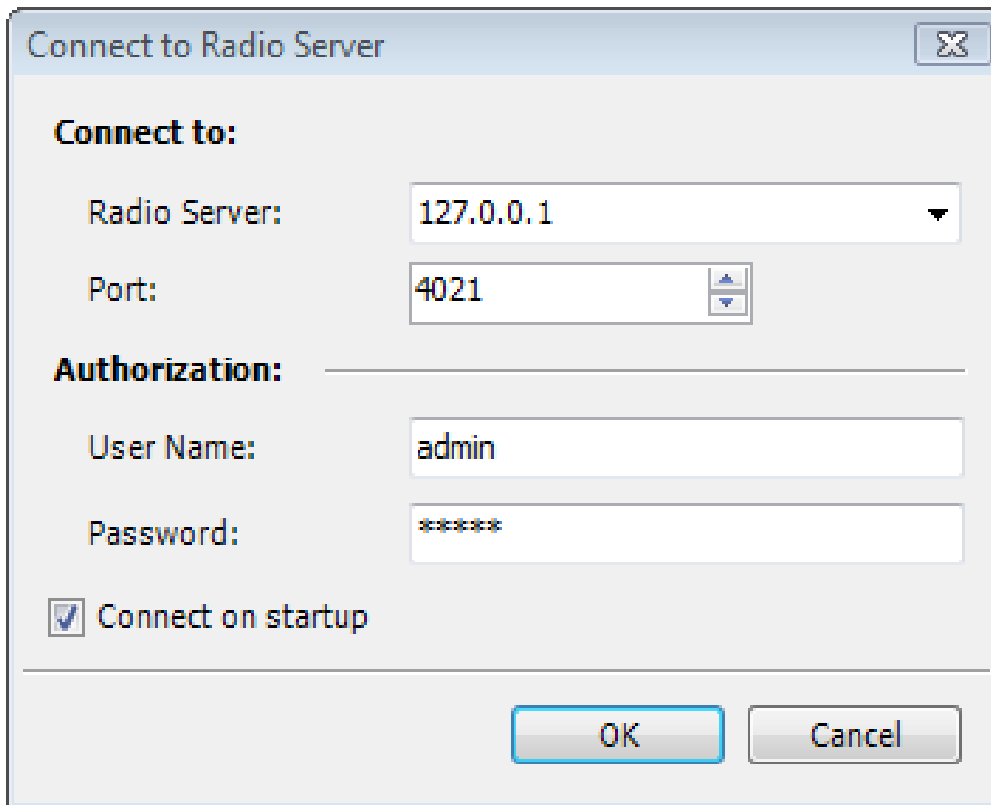
1. Do one of the following:
 - Double-click the **TRBOnet Enterprise Remote Dispatcher v2.6** shortcut on the desktop.
 - From the Start menu, select **Programs | Neocom Software | TRBOnet Enterprise v2.6 | TRBOnet Enterprise Remote Dispatcher v2.6**.
2. Select the interface language.
3. [Configure](#) connection parameters to the radio server, then click **OK**.

Configuring Connection to the TRBOnet RadioServer

To configure connection to the TRBOnet RadioServer

1. [Run](#) the TRBOnet Remote Dispatcher. The connection form displays.
2. Enter bonding parameters to the TRBOnet RadioServer you want to connect using the Remote Dispatcher:
 - **Radio Server** – an IP address or DNS name of the computer where the RadioServer resides.
 - **Port** – a connection port used by the RadioServer for interaction with remote TRBOnet Dispatcher Consoles (for details, refer to TRBOnet RadioServer documentation).
 - **User name** – the user account provided to you by the system administrator.
 - **Password** – the password provided to you by the system administrator.

NOTE: The default user name and password is **admin**. Use the default account to configure the system. You can change the password when setting up the system.



Connect to Radio Server

Connect to:

Radio Server: 127.0.0.1

Port: 4021

Authorization:

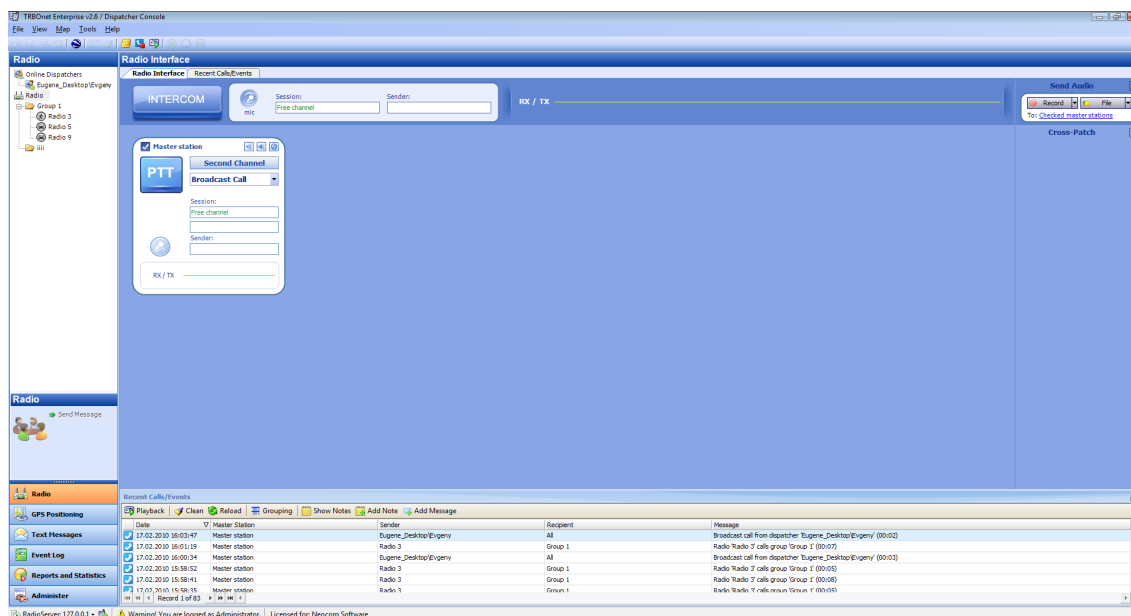
User Name: admin

Password: *****

☒ Connect on startup

OK Cancel

3. The connection dialog displays every time you launch TRBOnet Remote Dispatcher. To save the connection settings and display the TRBOnet Remote Dispatcher main window immediately after you launch the application, select **Connect on startup**. Later, you can view the connection dialog and modify bonding settings from the menu.
4. After entering the parameters, click **OK**. If the bonding parameters are correct, the main TRBOnet Remote Dispatcher window displays.



TRBOnet RadioServer

3.1. System Requirements

Before installing the TRBOnet RadioServer, ensure that your computer meets the following hardware and system requirements:

Component	Requirement
Platform	Pentium III 1 GHz (Pentium 4 1.5 GHz recommended) or later
Memory	Minimum 512 MB of RAM (1024 MB recommended)
Hard disk space	Minimum 20 GB (40 GB recommended) of disk space for full installation.
Sound card	Any
Network card	Any
Operating system	One of following: <ul style="list-style-type: none">• Microsoft® Windows® 2000 with Service Pack 4• Windows® XP with Service Pack 2 or later• Windows® Vista
Additional software	<p>Packages must be installed prior to installation of the TRBOnet RadioServer:</p> <ul style="list-style-type: none">• Microsoft Windows Installer 3.1 Redistributable (v2)• Microsoft .NET Framework 2.0 Service Pack 1• Microsoft Visual C++ 2005 Redistributable Package• Microsoft Core XML Services (MSXML) 6.0 Service Pack 1 <p>See Installing Prerequisite software for information on installation procedures.</p>

3.2. Master Radio Requirements

It is recommended to use DM3601 / XiR M8268 / DGM6100 / XPR4550 / XPR4500 / XiR M8260 as a master radio to be able to receive EMERGENCY CALL.

Any other MOTOTRBO™ radio can be used as an additional radio for the Revert GPS capabilities.

The required firmware version is 1.4.3 or higher.

3.3. Installation

To install TRBOnet RadioServer:

1. [Install prerequisite software.](#)
2. Install and configure Microsoft SQL Server 2005 Express (See the **Installing and configuring Microsoft SQL Server 2005 Express** document).
3. [Install MotoTRBO USB Driver and MotoTRBO CPS.](#)
4. [Install TRBOnet RadioServer.](#)
5. [Create TRBOnet RadioServer database.](#)

Installing Prerequisite software

To run TRBOnet RadioServer you need the following packages installed:

- Microsoft Windows Installer 3.1 Redistributable (v2)
- Microsoft .NET Framework 2.0 Service Pack 1
- Microsoft Visual C++ 2005 Redistributable Package
- Microsoft Core XML Services (MSXML) 6.0 Service Pack 1

To install Microsoft Windows Installer 3.1

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=889482fc-5f56-4a38-b838-de776fd4138c&DisplayLang=en>
2. From the list of available language, choose the language of the necessary download.
3. Download the **WindowsInstaller-KB893803-v2-x86.exe** package.
4. After download completes, run the package and follow the prompts to complete the installation.

To install Microsoft .NET Framework 2.0

1. Go to the Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=79bc3b77-e02c-4ad3-aacf-a7633f706ba5&DisplayLang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Microsoft Visual C++ 2005 Redistributable Package

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=32BC1BEE-A3F9-4C13-9C99-220B62A191EE&displaylang=en>
2. From the list of available language, choose the language of the necessary download.

3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Microsoft Core XML Services (MSXML) 6.0 Service Pack 1

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=d21c292c-368b-4ce1-9dab-3e9827b70604&displaylang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Microsoft Data Access Components (MDAC) 2.8 SP1

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?familyid=78CAC895-EFC2-4F8E-A9E0-3A1AFBD5922E&displaylang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Installing MOTOTRBO™ USB Drivers and MOTOTRBO™ CPS

To use TRBOnet RadioServer, you need to:

- Install MOTOTRBO™ USB Driver (It is required to install MOTOTRBO™ USB RNDIS driver for master radio stations to operate.)
- Install MOTOTRBO™ USB Multi-Channel Device Driver
- Install MOTOTRBO™ CPS
- Test MOTOTRBO™ installation

To install MOTOTRBO™ USB RNDIS Driver:

Note: Before beginning the MOTOTRBO™ USB driver installation, disconnect all master stations from the computer where you install the TRBOnet RadioServer.

Note: To install the MOTOTRBO™ USB driver, you must have the administrative privileges on the computer where you install the TRBOnet RadioServer.

1. Download the driver recommended by Neocom, Ltd. from the official company website:
<http://trbonet.com/download/>
2. After the download completes, unpack the archive and run **Setup.exe**.
3. Follow the prompts to install the driver.
4. Turn on a master radio station and connect it to a USB port of your computer. This initiates search and installation of files necessary for operation of the master radio station.
5. Disconnect the master radio station from the USB-port and restart the computer.
6. After the restart, connect the master station to the same USB port.

To install MOTOTRBO™ USB Multi-Channel Device Driver:

1. Download the driver recommended by Neocom, Ltd. from the official company website:
<http://trbonet.com/download/>
2. After the download completes, unpack the archive and run **Setup.exe**.
3. Follow the prompts to install the driver.

To install MOTOTRBO™ CPS:

Note: To set up MOTOTRBO™ radio stations use MOTOTRBO™ CPS .
You can get your copy of this software from your Motorola dealer.

1. Launch the installation of MOTOTRBO™ CPS.
2. Follow the prompts to complete the installation.

To test MOTOTRBO™ installation:

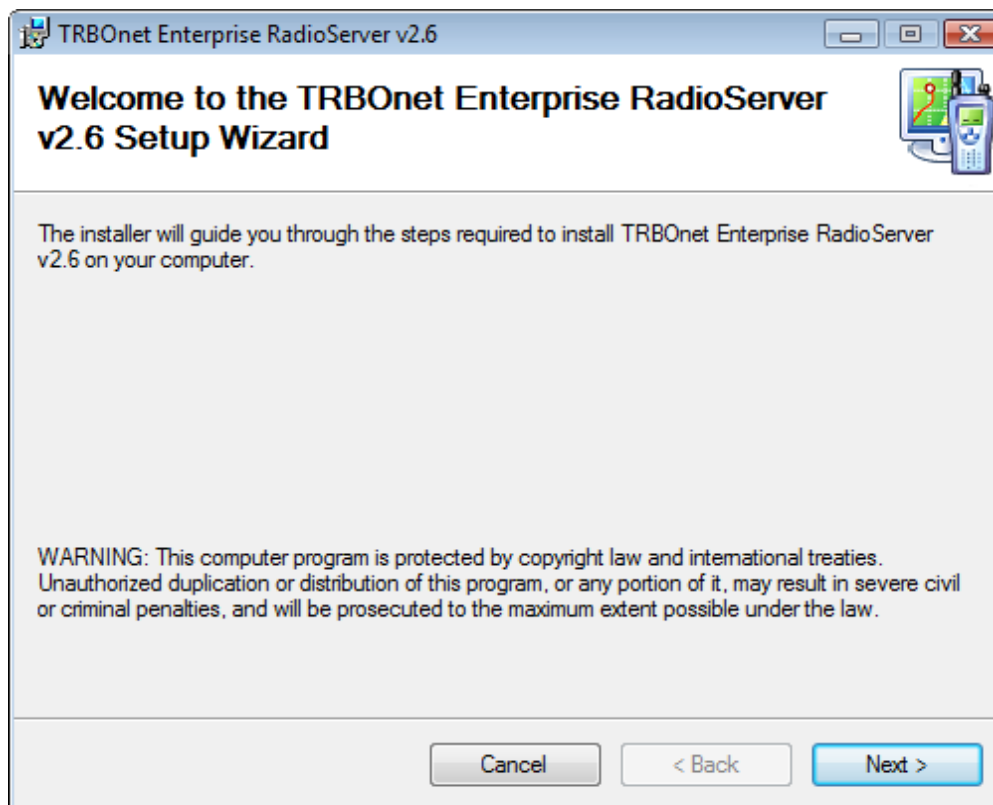
1. Launch MOTOTRBO™ CPS.
2. Click **Read**. If the installation is correct, this will launch reading of your master radio station configuration.

Installing TRBOnet RadioServer

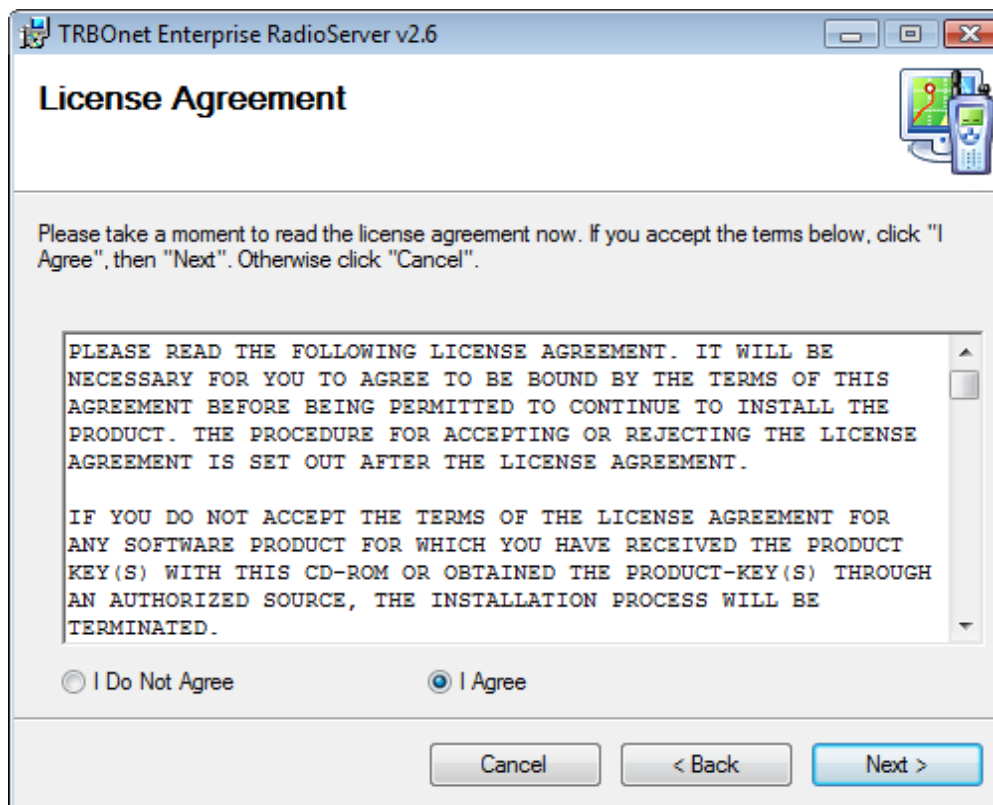
Note: To install the TRBOnet RadioServer, you must have the administrative privileges. The TRBOnet RadioServer must also be run under an account with the administrative privileges. If necessary, [create](#) a new administrative user account to run TRBOnet RadioServer.

To Install TRBOnet RadioServer

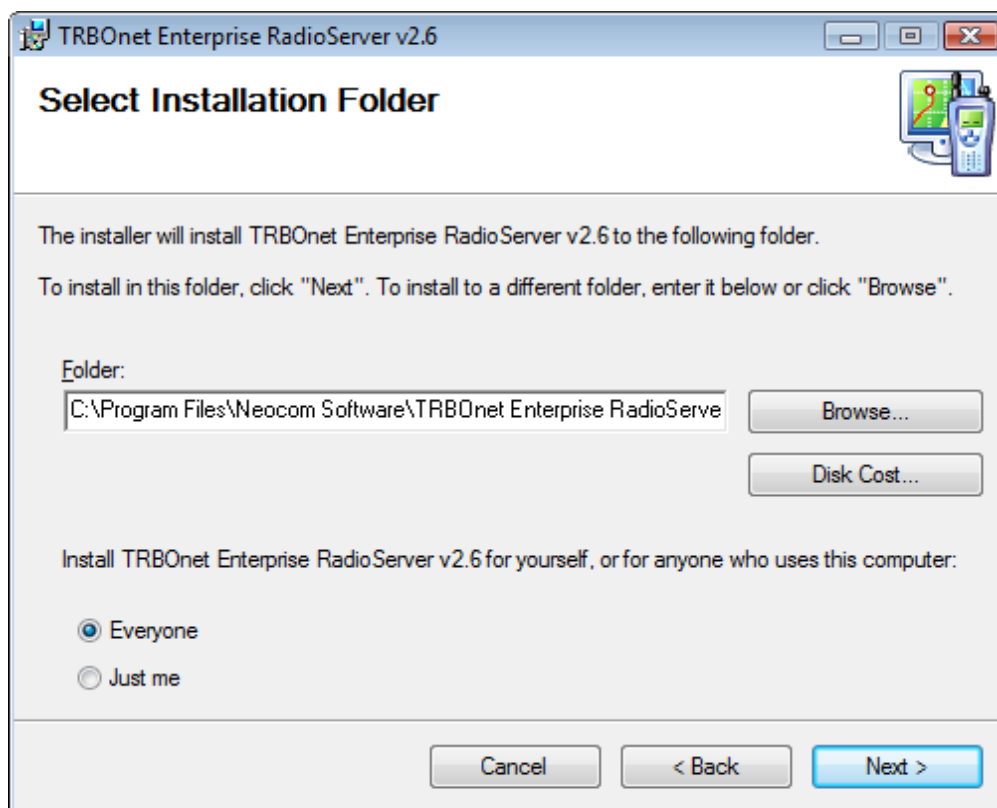
1. To run the **TRBOnet RadioServer Setup Wizard**, double-click the **TRBOnet.RadioServer.Enterprise_v2.6.msi** file.
2. On the Welcome page, click **Next**.



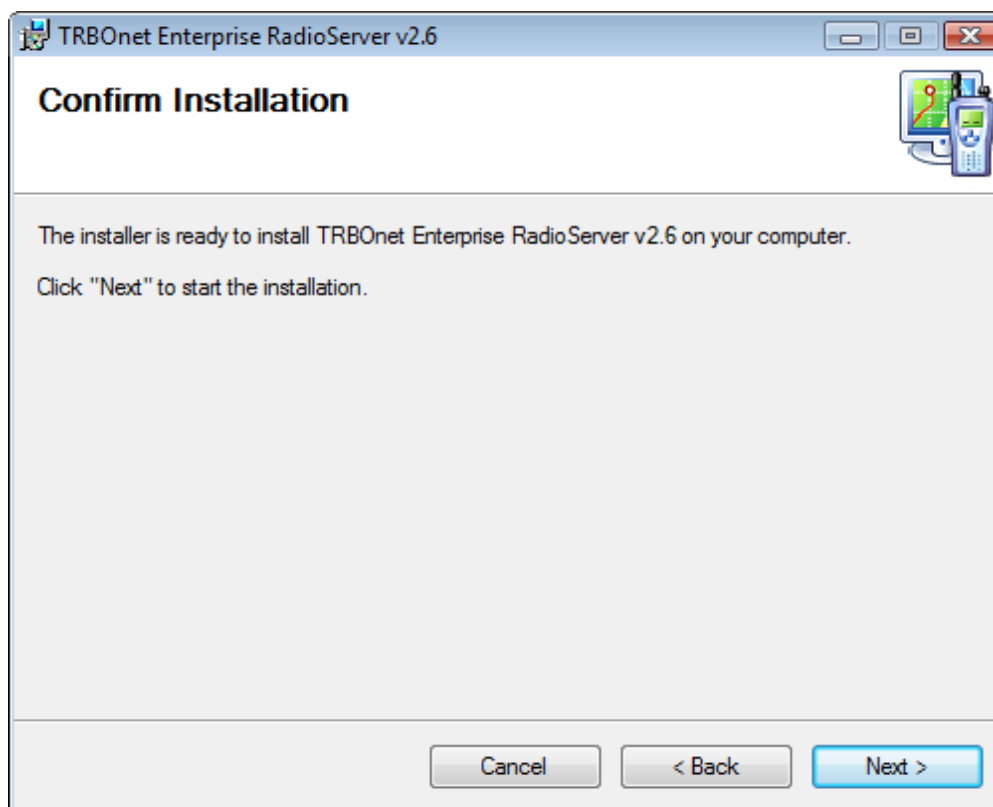
3. Read the end user license agreement. To proceed with the installation, you need to accept the agreement and click **Next**.



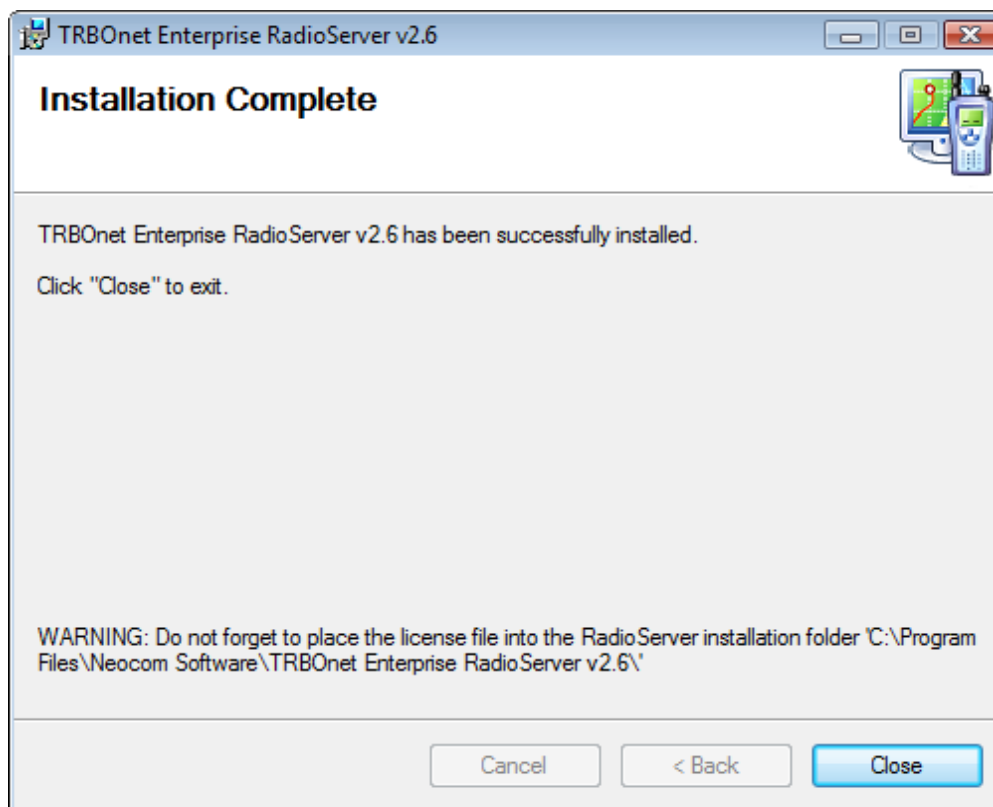
4. If necessary, change the installation directory (default is C:\Program Files\Neocom Software\TRBOnet Enterprise RadioServer v2.6) and TRBOnet RadioServer usage parameters, then click **Next**.



5. Click **Next** to start the installation.



6. After installation completes, click **Close** to exit the installation wizard.



Note: Do not forget to copy the license file to the installation directory

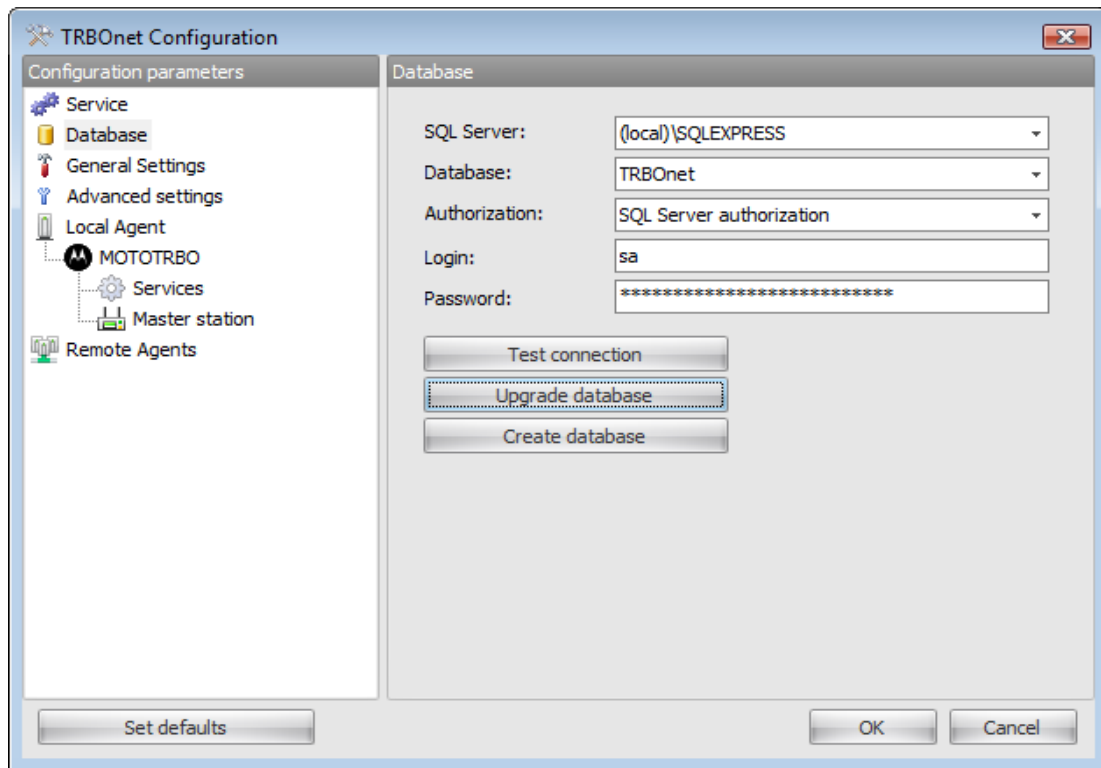
The TRBOnet RadioServer is installed to your computer. Use the icon on the desktop to launch the application.

Creating TRBOnet RadioServer Database

TRBOnet RadioServer stores data in a Microsoft SQL Server database.

To create TRBOnet RadioServer database:

1. To open the **TRBOnet RadioServer Configuration Manager**, do one of the following:
 - In the Start menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise RadioServer v2.6**
 - Use the **Configure TRBOnet Enterprise RadioServer v2.6** shortcut on your desktop
2. Select **Database** in the navigation tree.



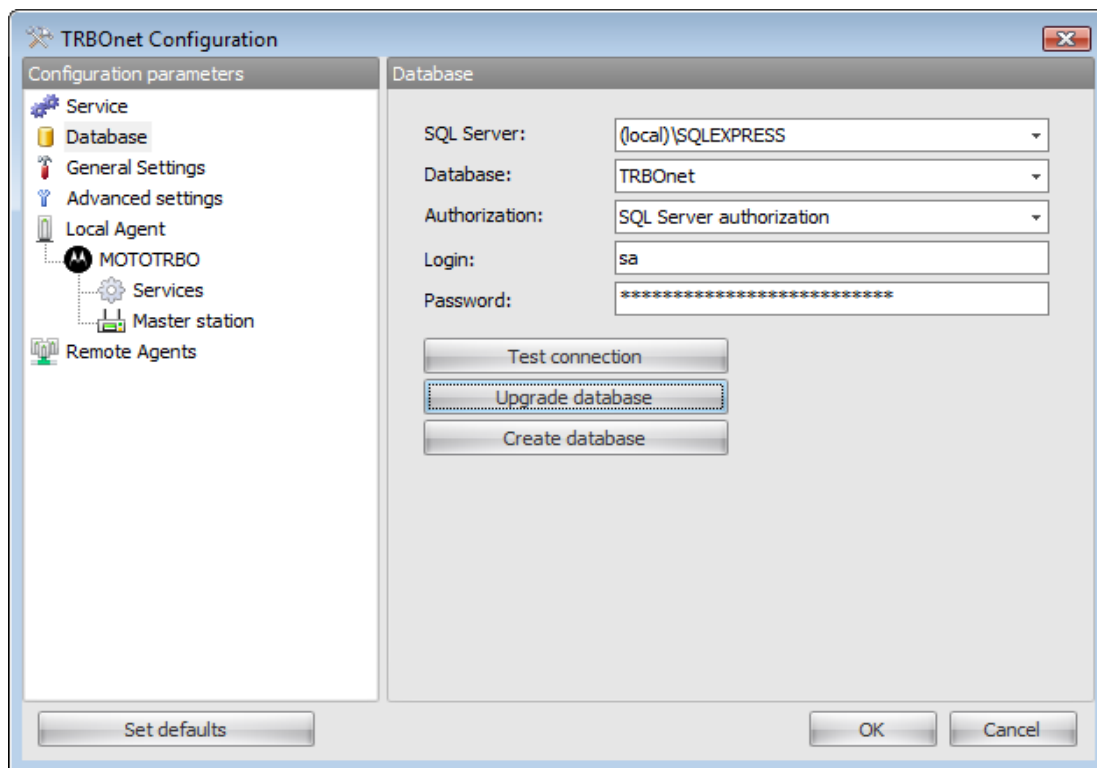
3. To create a new database, specify the database connection parameters including SQL Server name, authentication type, login and password, and a name for the database to create:
 - **SQL Server** – name of the server (default is (local)\SQLEXPRESS)
 - **Database** – name of the TRBOnet RadioServer database (default is TRBOnet)
 - **Connection authentication type** (default is SQL Server identification, which includes the login **sa** and the password for a SQL Server administrative account you created while [Installing SQL Server 2005 Express](#))
3. Click **Create Database**.
4. Click **OK**.

Upgrading TRBOnet RadioServer Database

After installing the TRBOnet Enterprise RadioServer v2.6 you can upgrade the database of the previous version and keep using it without losing the data.

To upgrade TRBOnet RadioServer database

1. To open the **TRBOnet RadioServer Configuration Manager**, do one of the following:
 - In the Start menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise RadioServer v2.6**
 - Use the **Configure TRBOnet Enterprise RadioServer v2.6** shortcut on your desktop
2. Select **Database** in the navigation tree.



3. To upgrade an existing database, specify the SQL Server name where the previous version repository database resides.
4. Enter access credentials (login and password) and the name of the existing TRBOnet database, then click **Upgrade database**.

Note: You can also create a new database by clicking **Create database**, but if you use the same database name, you will lose all data stored in the old database including events, messages, and information on registered radio stations and dispatchers.

3. Click **OK**.

3.4. Configuring TRBOnet RadioServer

Neocom, Ltd. provides you with a **TRBOnet RadioServer Configuration Manager**, which helps you set TRBOnet RadioServer options more easily.

To open TRBOnet RadioServer Configuration Manager:

Do one of the following:

- In the **Start** menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise RadioServer v2.6**
- Use the **Configure TRBOnet Enterprise RadioServer v2.6** shortcut on your desktop

To configure TRBOnet RadioServer:

1. Set up the main master station.
2. Set additional master stations.

Note: Use additional master stations when you want to use Revert GPS mode. This mode helps reduce load to the main voice channel and improves operation of the GPS system.

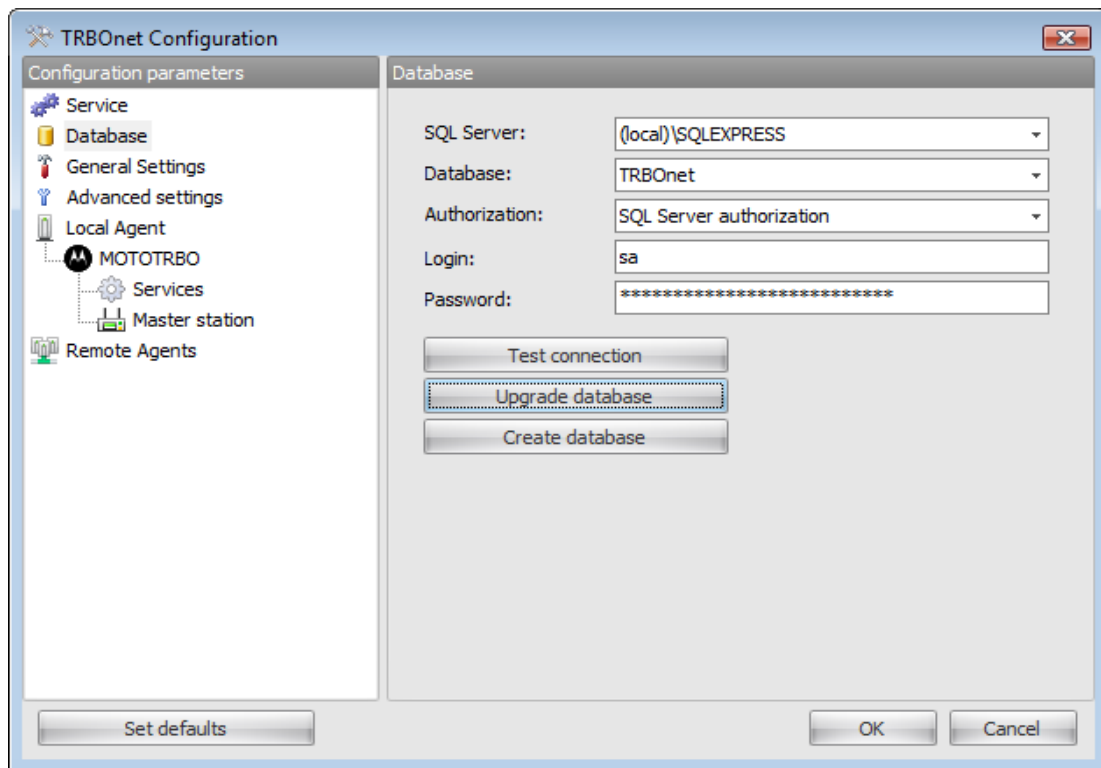
3. [Configure connection to the TRBOnet RadioServer database.](#)
4. [Configure radio network and master station.](#)
5. [Configure ARS \(identification of radio subscribers' condition\), GPS Positioning and Telemetry.](#)
6. [Configure Remote Agents.](#)

Configuring Connection to the TRBOnet RadioServer Database

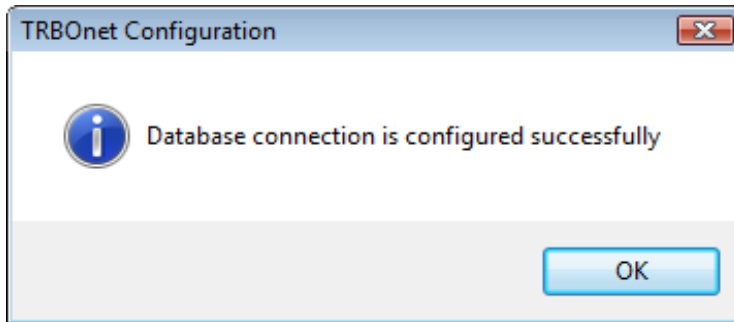
TRBOnet RadioServer stores data in a Microsoft SQL Server database. You need to configure connection to the database. For information on creating the database, see [Creating TRBOnet RadioServer Database](#).

To configure connection to the TRBOnet RadioServer database:

1. Open the TRBOnet RadioServer Configuration Manager using one of the following options:
 - In the Start menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise RadioServer v2.6**
 - Use the **Configure TRBOnet Enterprise RadioServer v2.6** shortcut on your desktop
2. Select **Database** in the navigation tree.



3. Provide the following SQL Server connection parameters:
 - **SQL Server** – name of the server (default is **(local)\SQLEXPRESS**)
 - **Database** – name of the TRBOnet RadioServer database (default is **TRBOnet**)
 - **Connection authentication type** (default is **SQL Server identification**, which includes the login sa and the password for a SQL Server administrative account you created while [Installing SQL Server 2005 Express](#))
4. Click **Test Connection** to check that connection parameters are correct. If parameters are correct, the following message displays:



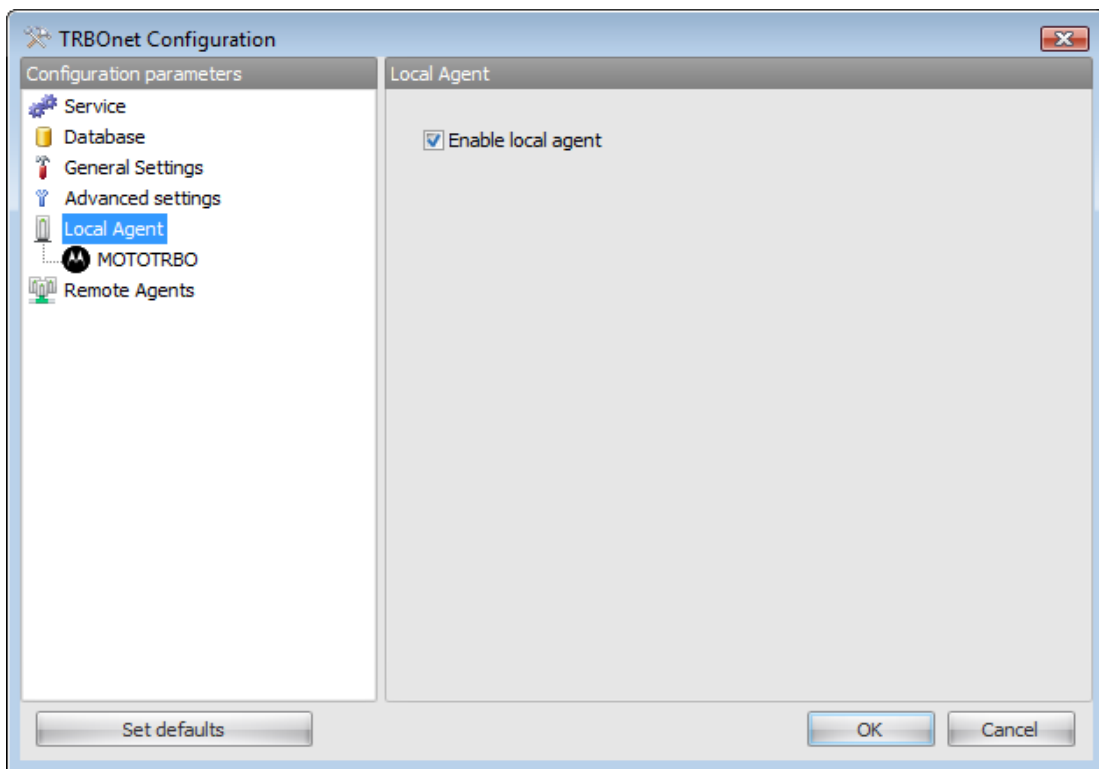
5. If no error occurred, click **OK**. Connection to the TRBOnet RadioServer is configured successfully.
6. If an error occurred, check and re-enter the connection parameters.

Configuring Radio Network and Master Station

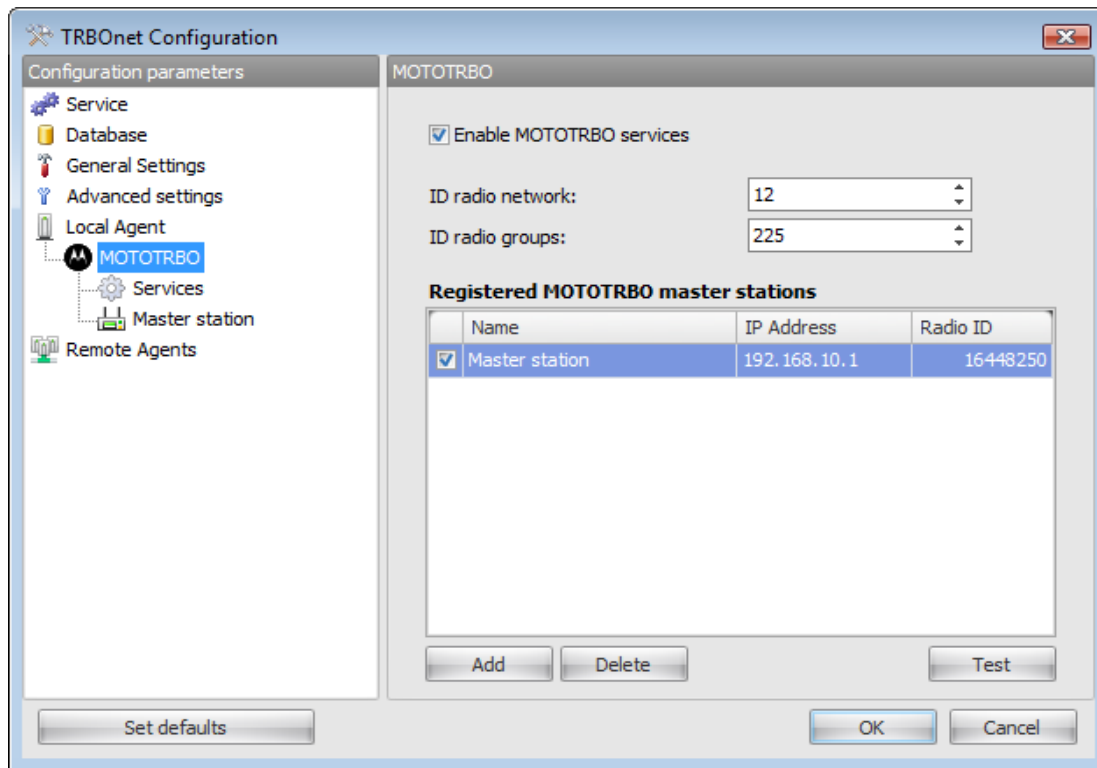
The Master Radio must have the same network configuration parameters as each subscriber's radio station.

To configure radio network parameters:

1. Open the TRBOnet RadioServer Configuration Manager using one of the following options:
 - In the Start menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise RadioServer v2.6**
 - Use the **Configure TRBOnet Enterprise RadioServer v2.6** shortcut on your desktop
2. Select **Local Agent** in the navigation tree. Then select **Enable local agent** in the work area.



3. Select **MOTOTRBO** in the navigation tree. Then select **Enable MOTOTRBO services** in the work area.



Note: While configuring the radio network and the master station parameters mind the difference between TRBOnet RadioServer and MOTOTRBO™ radio terms.

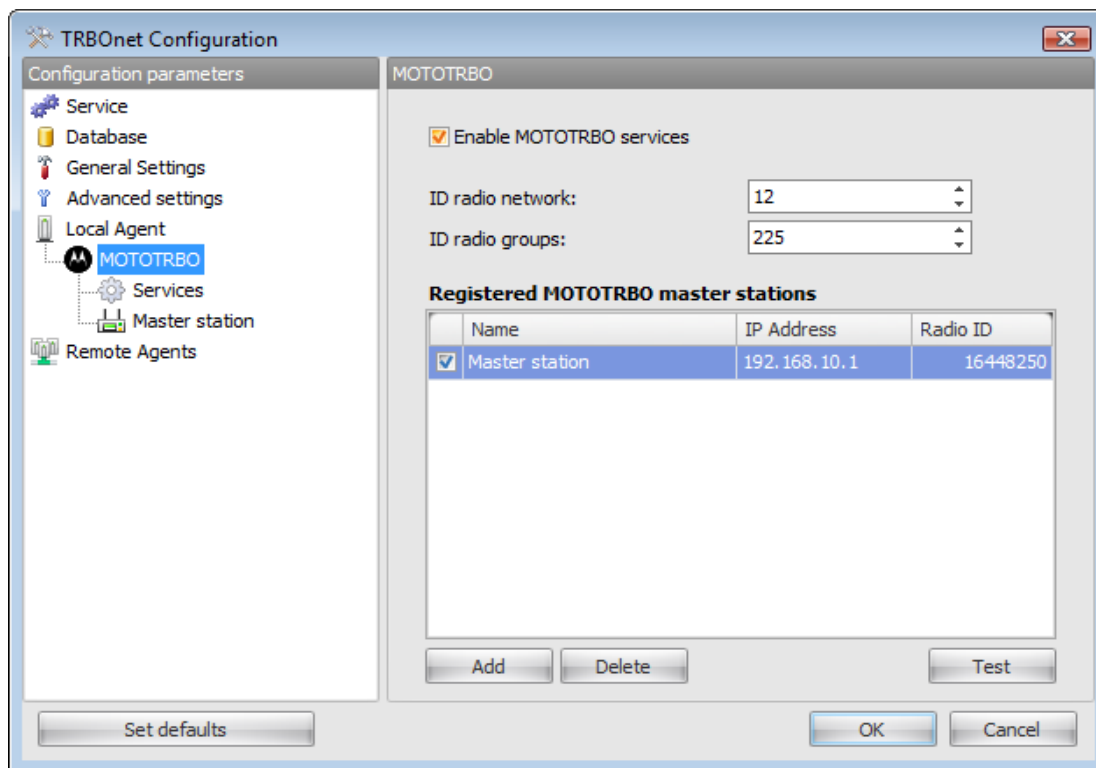
Set the TRBOnet RadioServer radio network settings to match those of the master radio station according to the following correspondence table:

TRBOnet RadioServer	Motorola MOTOTRBO Radio
Radio Network ID	CAI Network
Master Station IP Address	Radio IP
ARS Port	UDP Ports ARS
Text messages Port	UDP Ports TMS
Telemetry Port	Telemetry Port

Radio network ID and radio groups ID

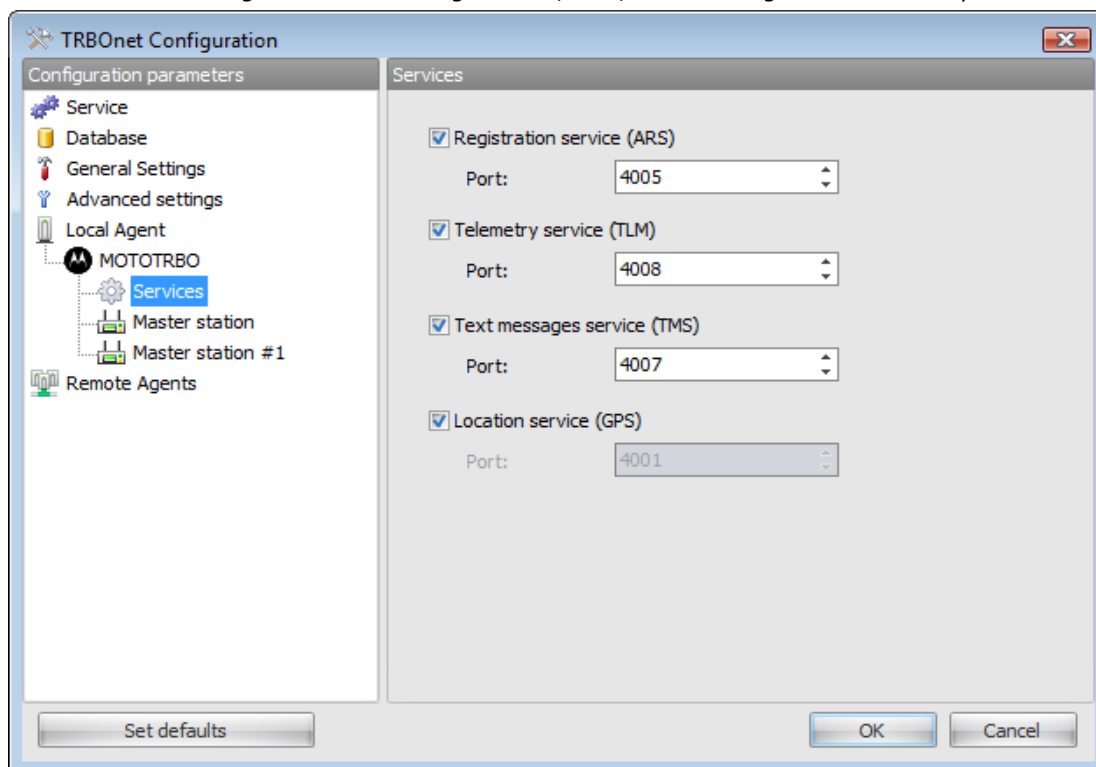
Select **MOTOTRBO** in the navigation tree to set **ID radio network**, **ID radio groups** and manage the list of master stations.

Note: Don't forget that **ID radio network** and **ID radio groups** parameters should be the same in the RadioServer, Agents and the MOTOTRBO™ Multichannel Device Driver (if it is used).



Ports for ARS, GPS, Text messages and Telemetry

Select **Services** in the navigation tree to configure ARS, GPS, Text messages and Telemetry Ports.

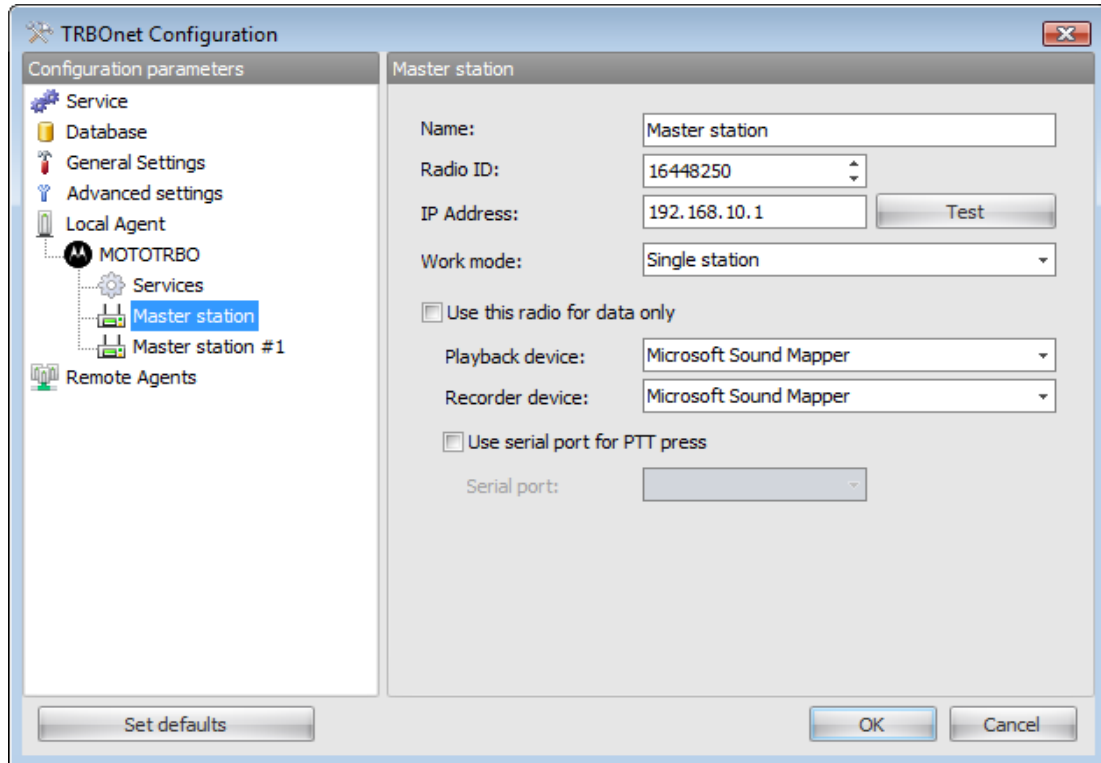


Master Stations

To manage master stations select **MOTOTRBO** in the navigation tree. You can see the list of master stations. Here you can add, delete or test a master station.

To configure a master station you can do one of the following:

- Select the master station in the navigation tree
- Double-click the master station in the list of master stations



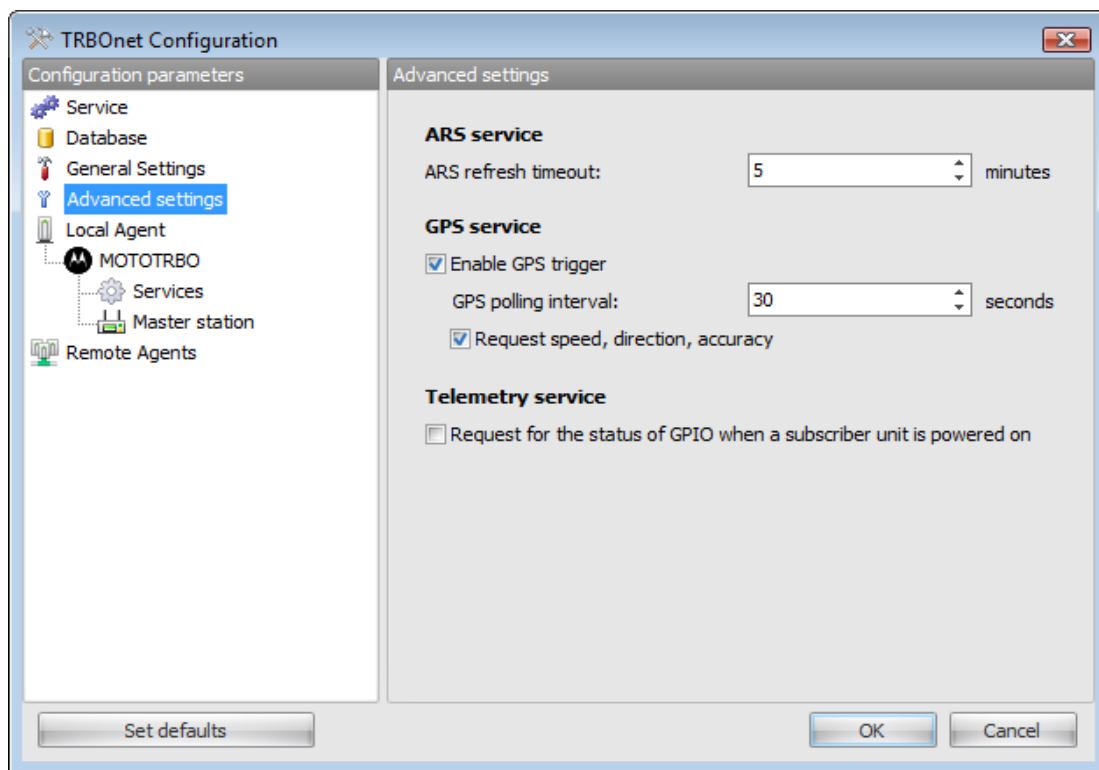
You can configure the following parameters of a master station:

- **Name**- the name of a master station
- **Radio ID** - all master stations connected to one PC should have the same ID
- **IP Address**- the IP-address of a master station
- **Work mode**- Select **Capacity Plus** or **Ip Site Connect**. If the station doesn't have Capacity plus or ip site connection, select the Single station mode.
- **Playback device** and **Recorder device**- choose the device for playback and for recording audio.
- **Serial port for PTT press**

Configuring GPS, ARS and Telemetry tools

To configure TRBOnet RadioServer GPS, ARS and Telemetry parameters:

1. Open the **TRBOnet RadioServer Configuration Manager** using one of the following options:
 - In the **Start** menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise RadioServer v2.6**
 - Use the **Configure TRBOnet Enterprise RadioServer v2.6** shortcut on your desktop
2. If required, specify the connection parameters to the TRBOnet RadioServer database (select **Database** in the navigation tree).
3. Select **Advanced Settings** in the navigation tree.



4. Check the TRBOnet RadioServer Service configuration and make changes if necessary:

Parameter	Description				
ARS refresh timeout	<p>This parameter is for a software feature, not native MOTOTRBO™ ARS.</p> <p>Select the time interval to check Subscriber radio stations for inactivity. Radio station is considered inactive (or off-line) if it does not send GPS, Text, ARS, or Voice messages.</p> <p>If you don't have a separate channel for data use the following table:</p> <table> <tr> <th>Number of subscribers</th><th>ARS refresh timeout (minutes)</th></tr> <tr> <td>up to 10</td><td>5</td></tr> </table>	Number of subscribers	ARS refresh timeout (minutes)	up to 10	5
Number of subscribers	ARS refresh timeout (minutes)				
up to 10	5				

Parameter	Description																						
	<table> <tr> <th>Number of subscribers</th><th>ARS refresh timeout (minutes)</th></tr> <tr> <td>10 to 20</td><td>9</td></tr> <tr> <td>20 to 30</td><td>13</td></tr> <tr> <td>30 to 40</td><td>17</td></tr> <tr> <td>40 to 50</td><td>21</td></tr> </table> <p>For radio networks of over 50 subscriber radio stations set the ARS refresh timeout as 120 minutes.</p> <p>This is the setting for a simple system with only one channel. For information on more complex systems contact our support team: info@trbonet.com</p>	Number of subscribers	ARS refresh timeout (minutes)	10 to 20	9	20 to 30	13	30 to 40	17	40 to 50	21												
Number of subscribers	ARS refresh timeout (minutes)																						
10 to 20	9																						
20 to 30	13																						
30 to 40	17																						
40 to 50	21																						
Enable GPS trigger	<p>Select this option to use the GPS Positioning tool.</p> <p>Clear the option to disable the GPS Positioning tool.</p>																						
GPS polling interval	<p>Select the time interval in Subscribers radio stations should send GPS coordinates.</p> <p>If you have only one channel and don't use revert GPS use the following table:</p> <table> <tr> <th>Number of subscribers</th><th>GPS polling interval (seconds)</th></tr> <tr> <td>up to 10</td><td>21</td></tr> <tr> <td>10 to 20</td><td>42</td></tr> <tr> <td>20 to 30</td><td>63</td></tr> <tr> <td>30 to 40</td><td>84</td></tr> <tr> <td>40 to 50</td><td>105</td></tr> <tr> <td>50 to 60</td><td>126</td></tr> <tr> <td>60 to 70</td><td>147</td></tr> <tr> <td>70 to 80</td><td>168</td></tr> <tr> <td>80 to 90</td><td>189</td></tr> <tr> <td>90 to 100</td><td>210</td></tr> </table> <p>For radio networks of over 100 subscriber radio stations, use the expression: GPS polling interval = Number of subscribers * 2,1</p> <p>This is the setting for a simple system with only one channel. For information on more complex systems contact our support team: info@trbonet.com</p>	Number of subscribers	GPS polling interval (seconds)	up to 10	21	10 to 20	42	20 to 30	63	30 to 40	84	40 to 50	105	50 to 60	126	60 to 70	147	70 to 80	168	80 to 90	189	90 to 100	210
Number of subscribers	GPS polling interval (seconds)																						
up to 10	21																						
10 to 20	42																						
20 to 30	63																						
30 to 40	84																						
40 to 50	105																						
50 to 60	126																						
60 to 70	147																						
70 to 80	168																						
80 to 90	189																						
90 to 100	210																						

Parameter	Description
Request speed, direction, accuracy	Select this option to request Subscribers radio stations to provide additional GPS information such as Subscriber's speed and movement direction, etc. Clear this option to collect basic information only.
Request for the status of GPIO when a subscriber unit is powered on	The server can request for the status of a subscriber's radio telemetry when a radio is powered on.

5. Click **OK**.

Revert GPS Settings

TRBOnet RadioServer can control state of additional master radio stations and display notification in case of errors.

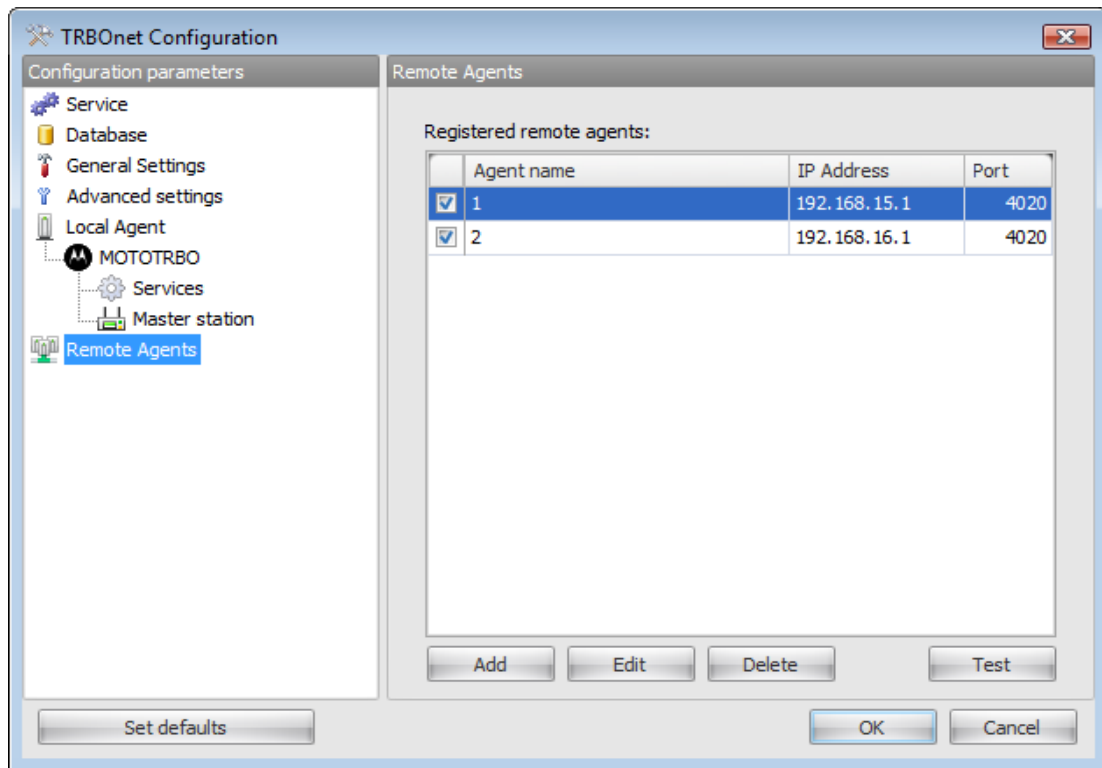
To enable revert GPS:

Specify up to 3 Revert GPS stations connected and provide their IP addresses.

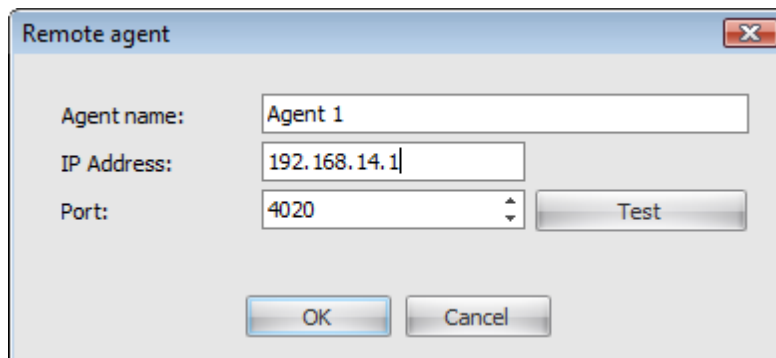
Configuring Remote Agents

To configure remote agents:

1. Open the **TRBOnet RadioServer Configuration Manager** using one of the following options:
 - In the **Start** menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise RadioServer v2.6**
 - Use the **Configure TRBOnet Enterprise RadioServer v2.6** shortcut on your desktop
2. If required, specify the connection parameters to the TRBOnet RadioServer database (select **Database** in the navigation tree).
3. Select **Remote Agents** in the navigation tree.



4. You can add, edit, delete or test a remote agent from the list. To enable/disable a remote agent from the list select/clear the checkbox in front of this agent in the list.
5. When editing or adding a remote agent you can set the following parameters: Agent name, IP address, Port. It's recommended to use the default port. You can also test a remote agent.



4. Click **OK**.

3.5. Launching TRBOnet RadioServer

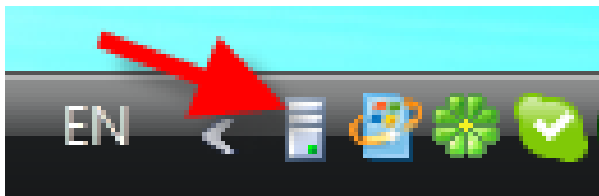
The launching procedure depends on the TRBOnet RadioServer running mode:

- For test purposes, run TRBOnet RadioServer as an application
- For normal operation, run TRBOnet RadioServer as a Windows service.

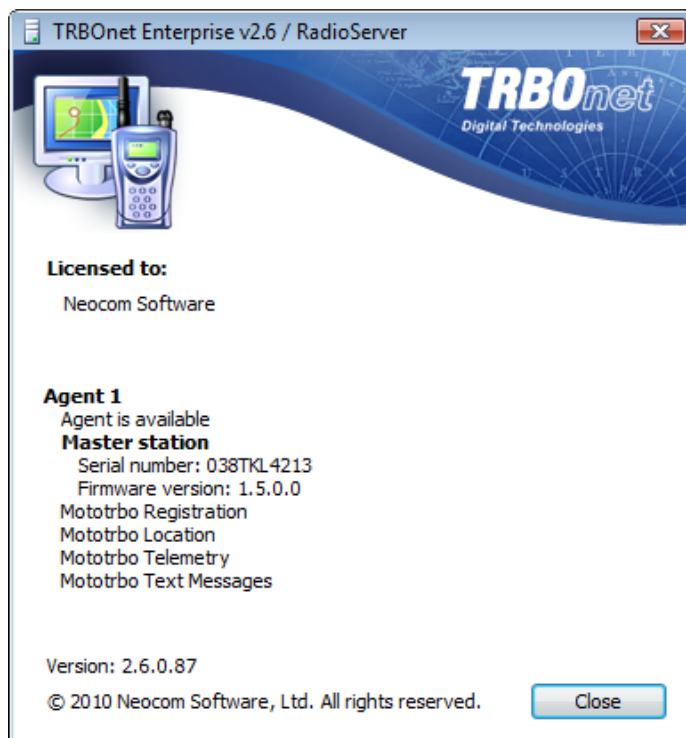
Note: Before running TRBOnet RadioServer as a Windows service, configure the TRBOnet RadioServer.

To launch TRBOnet RadioServer in application mode:

1. Use one of the following options:
 - In the **Start** menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Start TRBOnet Enterprise RadioServer v2.6**
 - Use the **Start TRBOnet Enterprise RadioServer v2.6** shortcut on your desktop
 - Open the TRBOnet RadioServer installation directory and run **TRBOnet.RadioServer.exe**
2. If RadioServer is configured correctly, an icon of the application appears in the system tray:



3. To check state of the TRBOnet RadioServer state, do one of the following:
 - Double-click the icon
 - Right-click the icon and select **Open TRBOnet Enterprise v2.6 / Radio Server**



4. To check that TRBOnet RadioServer is configured correctly, review master station connection parameters under the Radio Sever section. All parameters must be set.

To launch TRBOnet RadioServer in service mode:

1. [Configure](#) TRBOnet RadioServer.
2. Start the TRBOnet RadioServer Service (See the **Installing and configuring TRBOnet services** document).

TRBOnet Agent

4.1. System Requirements

System Requirements

Before installing the TRBOnet Agent, ensure that your computer meets the following hardware and system requirements:

Component	Requirement
Platform	Pentium III 1 GHz (Pentium 4 1.5 GHz recommended) or later
Memory	Minimum 512 MB of RAM (1024 MB recommended)
Hard disk space	Minimum 20 GB (40 GB recommended) of disk space for full installation.
Sound card	Any
Network card	Any
Operating system	One of following: <ul style="list-style-type: none">• Microsoft® Windows® 2000 with Service Pack 4• Windows® XP with Service Pack 2 or later• Windows® Vista
Additional software	<p>Packages must be installed prior to installation of the TRBOnet RadioServer:</p> <ul style="list-style-type: none">• Microsoft Windows Installer 3.1 Redistributable (v2)• Microsoft .NET Framework 2.0 Service Pack 1• Microsoft Visual C++ 2005 Redistributable Package• Microsoft Core XML Services (MSXML) 6.0 Service Pack 1 <p>See Installing Prerequisite software for information on installation procedures.</p>

4.2. Installation

To install TRBOnet Agent:

1. [Install prerequisite software.](#)
2. [Install MotoTRBO USB Driver and MotoTRBO CPS.](#)
3. [Install TRBOnet Gateway Create TRBOnet RadioServer database.](#)

Installing Prerequisite software

Installing Prerequisite software

To run TRBOnet Agent you need the following packages installed:

- Microsoft Windows Installer 3.1 Redistributable (v2)
- Microsoft .NET Framework 2.0 Service Pack 1
- Microsoft Visual C++ 2005 Redistributable Package
- Microsoft Core XML Services (MSXML) 6.0 Service Pack 1

To install Microsoft Windows Installer 3.1

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=889482fc-5f56-4a38-b838-de776fd4138c&DisplayLang=en>
2. From the list of available language, choose the language of the necessary download.
3. Download the **WindowsInstaller-KB893803-v2-x86.exe** package.
4. After download completes, run the package and follow the prompts to complete the installation.

To install Microsoft .NET Framework 2.0

1. Go to the Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=79bc3b77-e02c-4ad3-aacf-a7633f706ba5&DisplayLang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Microsoft Visual C++ 2005 Redistributable Package

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=32BC1BEE-A3F9-4C13-9C99-220B62A191EE&displaylang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Microsoft Core XML Services (MSXML) 6.0 Service Pack 1

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?FamilyID=d21c292c-368b-4ce1-9dab-3e9827b70604&displaylang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Microsoft Data Access Components (MDAC) 2.8 SP1

1. Go to the official Microsoft website:
<http://www.microsoft.com/downloads/details.aspx?familyid=78CAC895-EFC2-4F8E-A9E0-3A1AFBD5922E&displaylang=en>
2. From the list of available language, choose the language of the necessary download.
3. Click **Download**.
4. After download completes, run the package and follow the prompts to complete the installation.

Installing MOTOTRBO™ USB Driver and MOTOTRBO™ CPS

To use TRBOnet Agent, you need to:

- Install MOTOTRBO™ USB Driver (It is required to install MOTOTRBO™ USB RNDIS driver for master radio stations to operate.)
- Install MOTOTRBO™ CPS
- Test MOTOTRBO™ installation

To install MOTOTRBO™ USB Driver:

Note: Before beginning the MOTOTRBO™ USB driver installation, disconnect all master stations from the computer where you install the TRBOnet Agent.

Note: To install the MOTOTRBO™ USB driver, you must have the administrative privileges on the computer where you install the TRBOnet Agent.

1. Download the driver recommended by Neocom, Ltd. from the official company website:
http://trbonet.com/redistrib/MOTOTRBO™_usb_rndis_0205.zip
2. After download completes, unpack the archive and run **Setup.exe**.
3. Follow the prompts to install the driver.
4. Turn on a master radio station and connect it to a USB port of your computer. This initiates search and installation of files necessary for operation of the master radio station.
5. Disconnect the master radio station from the USB-port and restart the computer.
6. After the restart, connect the master station to the same USB port.

To install MOTOTRBO™ CPS

Note: We recommend using MOTOTRBO™ CPS for setting up MOTOTRBO™ radio stations. You can get your copy of this software from your Motorola dealer.

1. Launch installation of MOTOTRBO™ CPS.
2. Follow the prompts to complete the installation.

To test MOTOTRBO™ installation

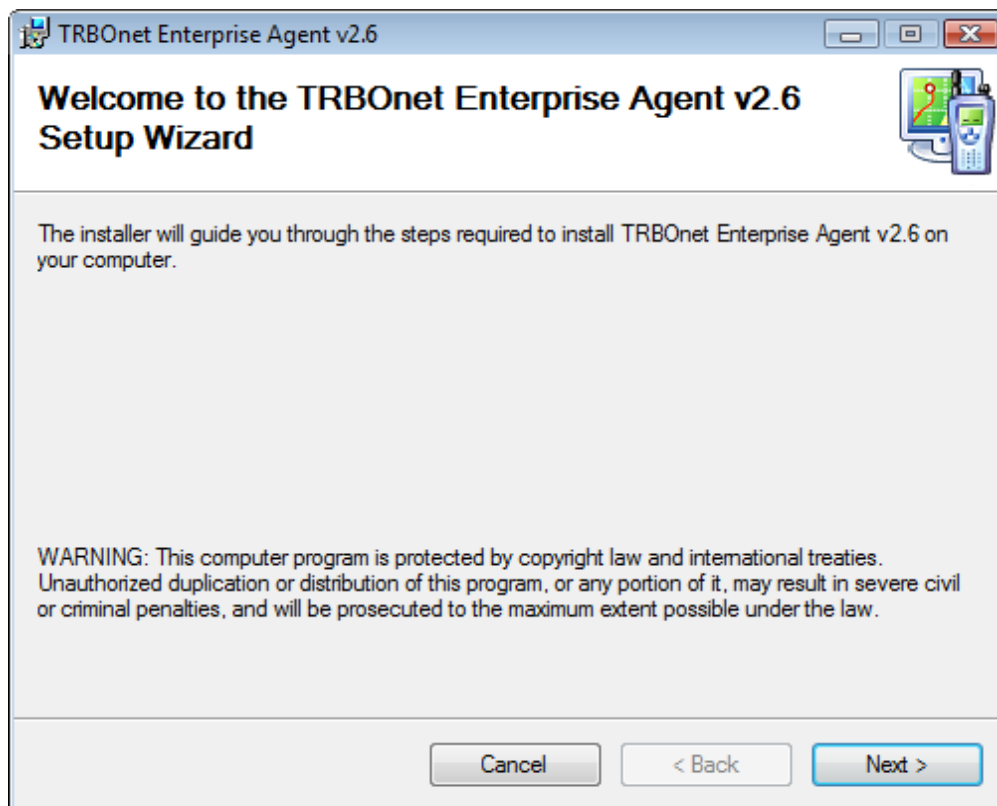
1. Launch MOTOTRBO™ CPS.
2. Click **Read**. If the installation is correct, this will launch reading of your master radio station configuration.

Installing TRBOnet Agent

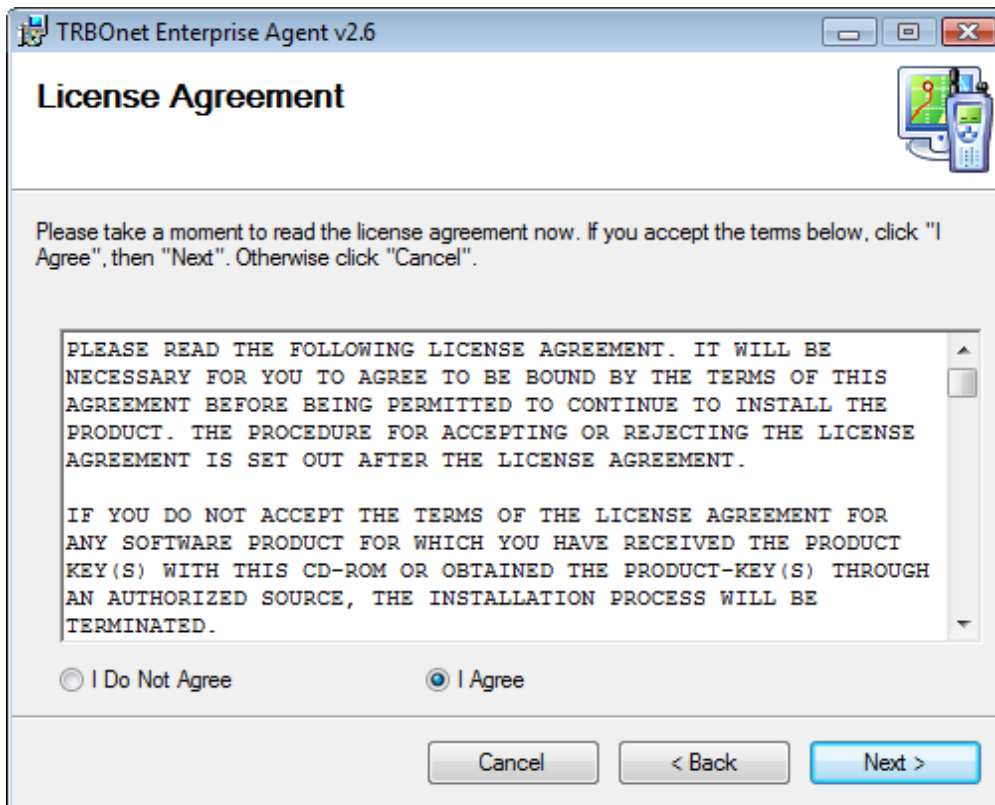
Note: To install the TRBOnet Agent, you must have the administrative privileges. The TRBOnet Agent must also be run under an account with the administrative privileges. If necessary, [create](#) a new administrative user account to run TRBOnet Agent.

To Install TRBOnet Agent

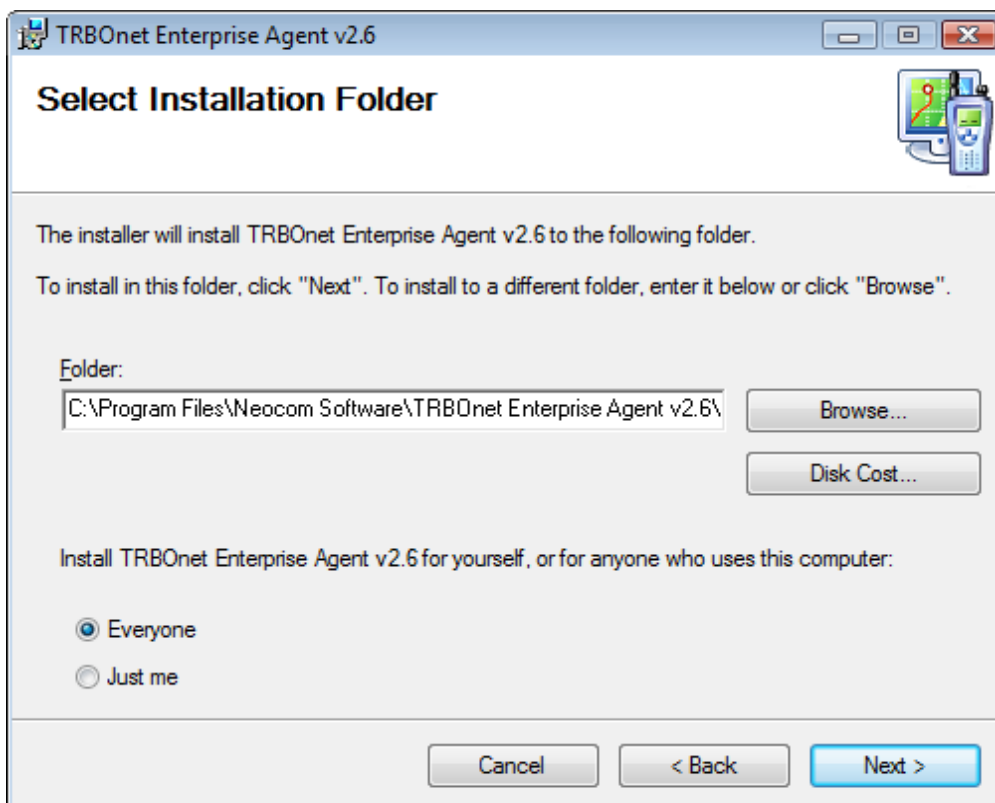
1. To run the **TRBOnet Agent Setup Wizard**, double-click the **TRBOnet.Agent.Enterprise_v2.6.msi** file.
2. On the Welcome page, click **Next**.



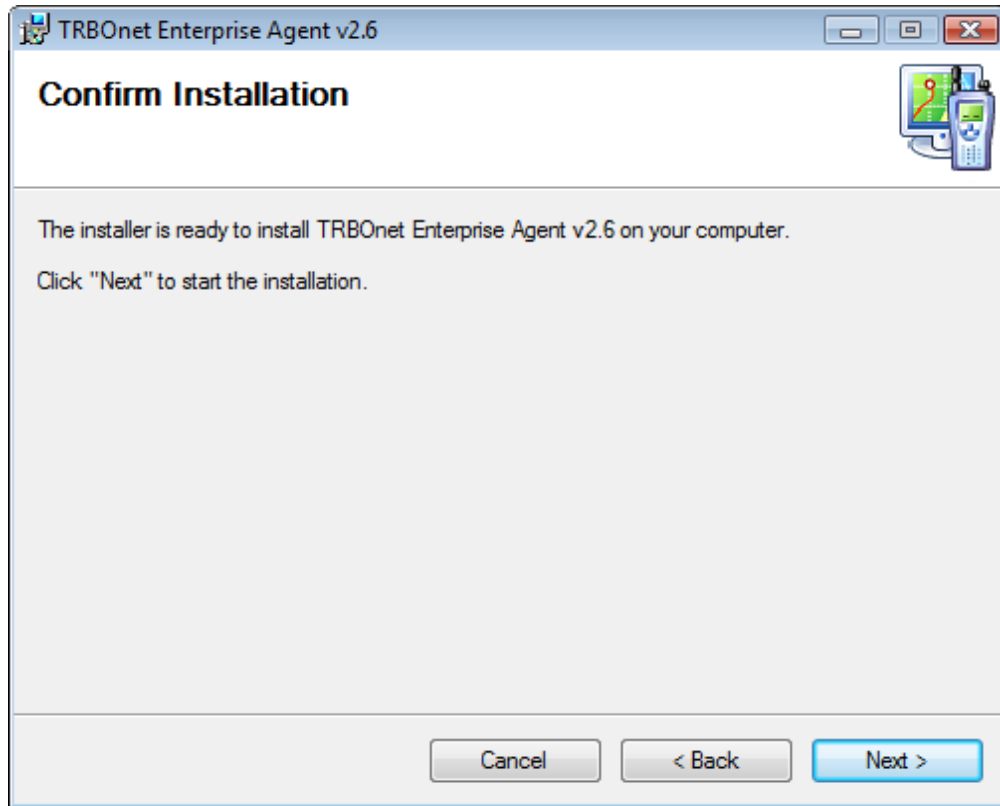
3. Read the end user license agreement. To proceed with the installation, you need to accept the agreement and click **Next**.



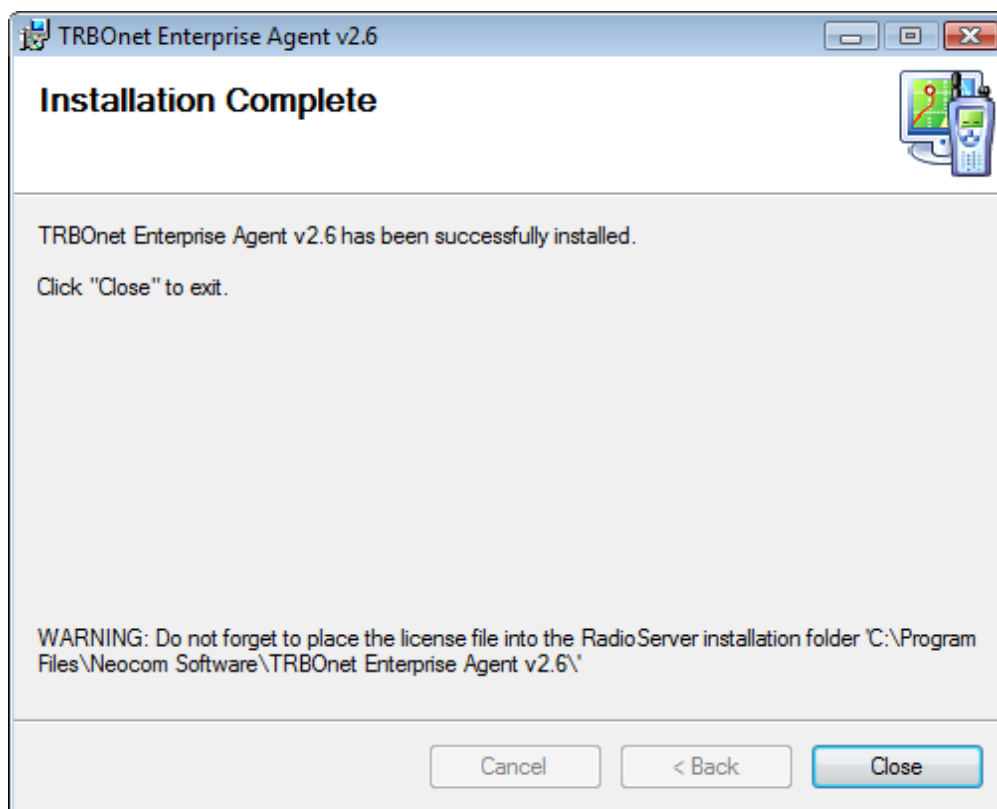
4. If necessary, change the installation directory (default is C:\Program Files\Neocom Software\TRBOnet Enterprise Agent v2.6) and TRBOnet RadioServer usage parameters, then click **Next**.



5. Click **Next** to start the installation.



6. After installation completes, click **Close** to exit the installation wizard.



Note: Do not forget to copy the license file to the installation directory

The TRBOnet Agent is installed to your computer. Use the icon on the desktop to launch the application.

4.3. Configuring TRBOnet Agent

Neocom, Ltd. provides you with a **TRBOnet Agent Configuration Manager**, which helps you set TRBOnet Agent options more easily.

To open TRBOnet Agent Configuration Manager:

Do one of the following:

- In the **Start** menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise Agent v2.6**
- Use the **Configure TRBOnet Enterprise Agent v2.6** shortcut on your desktop

To configure TRBOnet Agent:

1. Set up the main master station.
2. Set additional master stations.

Note: Use additional master stations when you want to use Revert GPS mode. This mode helps reduce load to the main voice channel and improves operation of the GPS system.

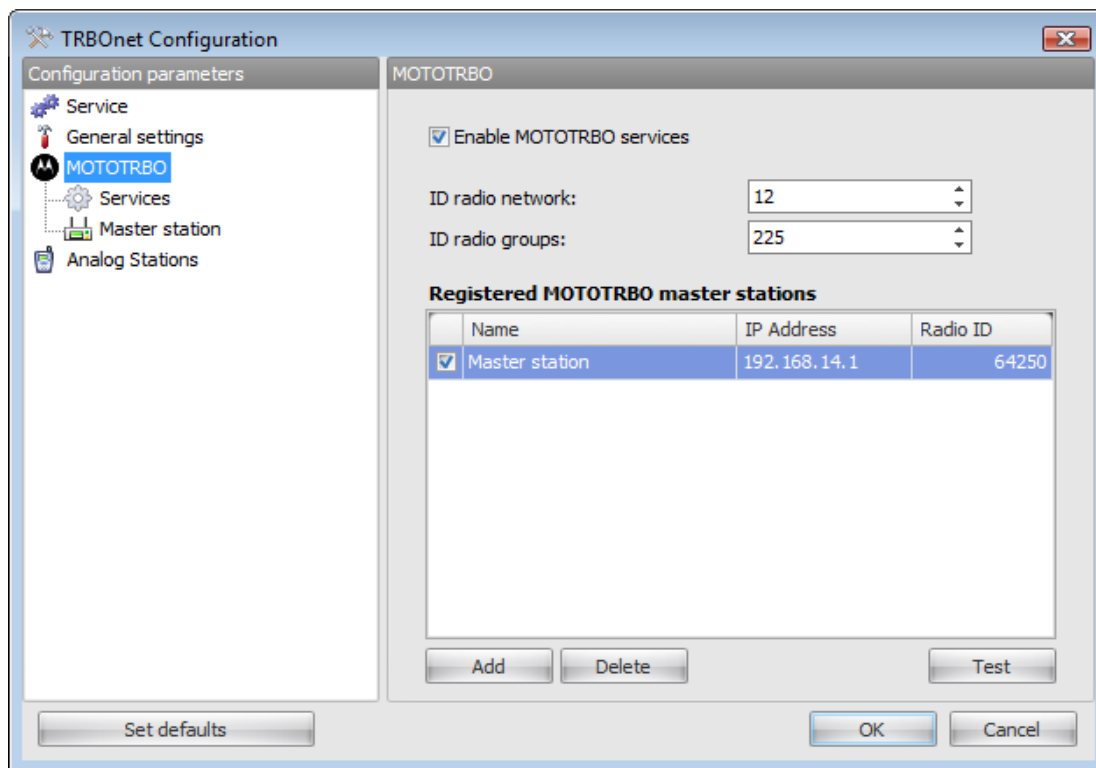
3. [Configure radio network and master station.](#)
4. [Configure analogue stations](#)

Configuring Radio Network and Master Station

Note: The Master Radio must have the same network configuration parameters as each subscriber's radio station and TRBOnet Agents.

To configure radio network parameters:

1. Open the TRBOnet Agent Configuration Manager using one of the following options:
 - In the Start menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise Agent v2.6**
 - Use the **Configure TRBOnet Enterprise Agent v2.6** shortcut on your desktop
2. Select **MOTOTRBO** in the navigation tree. Then select **Enable MOTOTRBO services** in the work area.



Note: While configuring the radio network and the master station parameters mind the difference between TRBOnet RadioServer and MOTOTRBO™ radio terms.

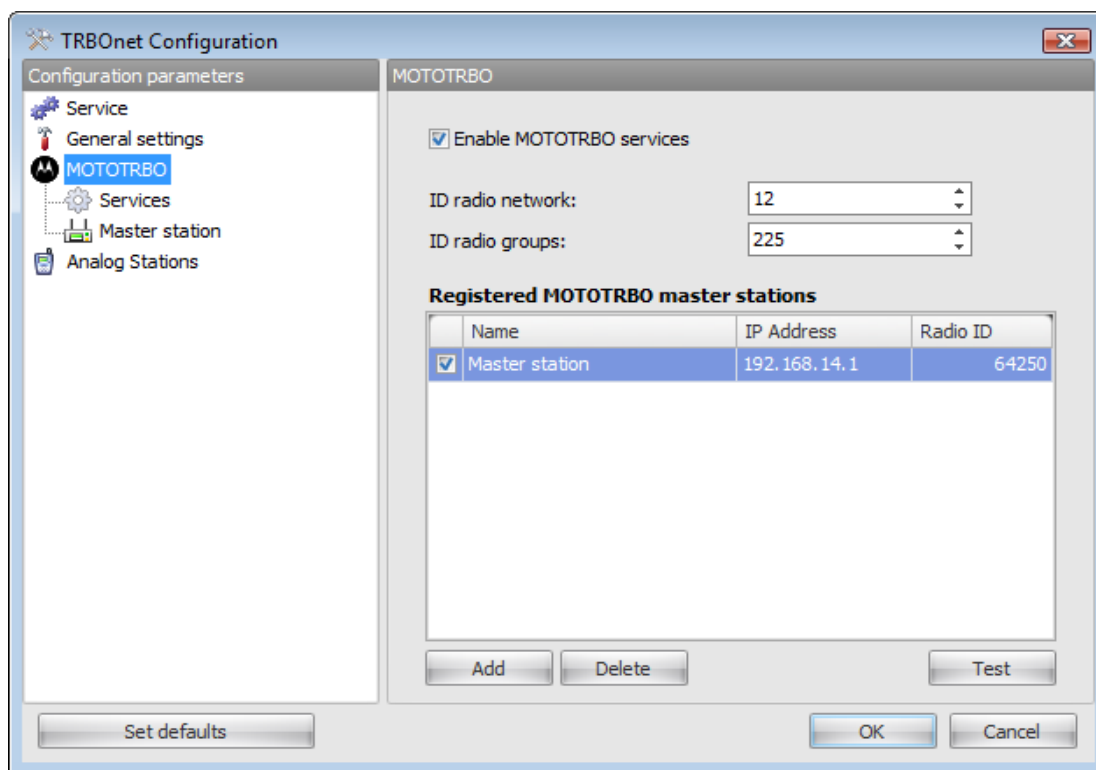
Set the TRBOnet Agent radio network settings to match those of the master radio station according to the following correspondence table:

TRBOnet RadioServer	Motorola MOTOTRBO Radio
Radio Network ID	CAI Network
Master Station IP Address	Radio IP
ARS Port	UDP Ports ARS
Text messages Port	UDP Ports TMS
Telemetry Port	Telemetry Port

Radio network ID and radio groups ID

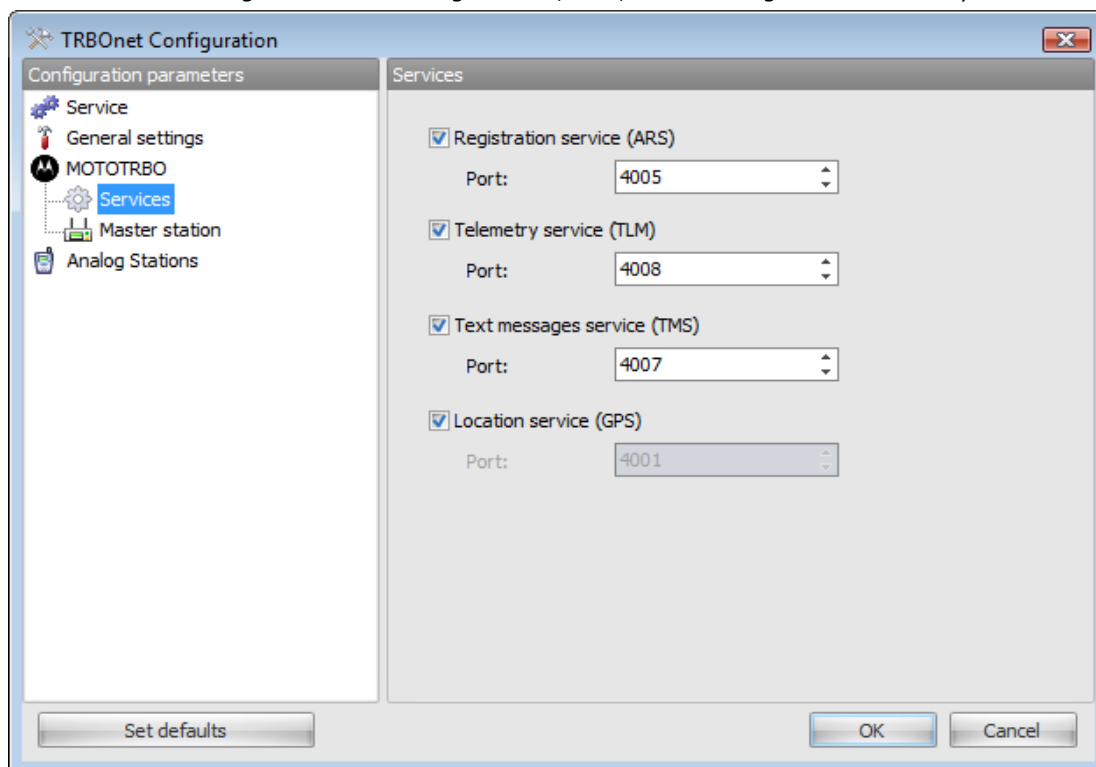
Select **MOTOTRBO** in the navigation tree to set **ID radio network**, **ID radio groups** and manage the list of master stations.

Note: Don't forget that **ID radio network** and **ID radio groups** parameters should be the same in the RadioServer, Agents and the MOTOTRBO™ Multichannel Device Driver (if it is used).



Ports for ARS, GPS, Text messages and Telemetry

Select **Services** in the navigation tree to configure ARS, GPS, Text messages and Telemetry Ports.

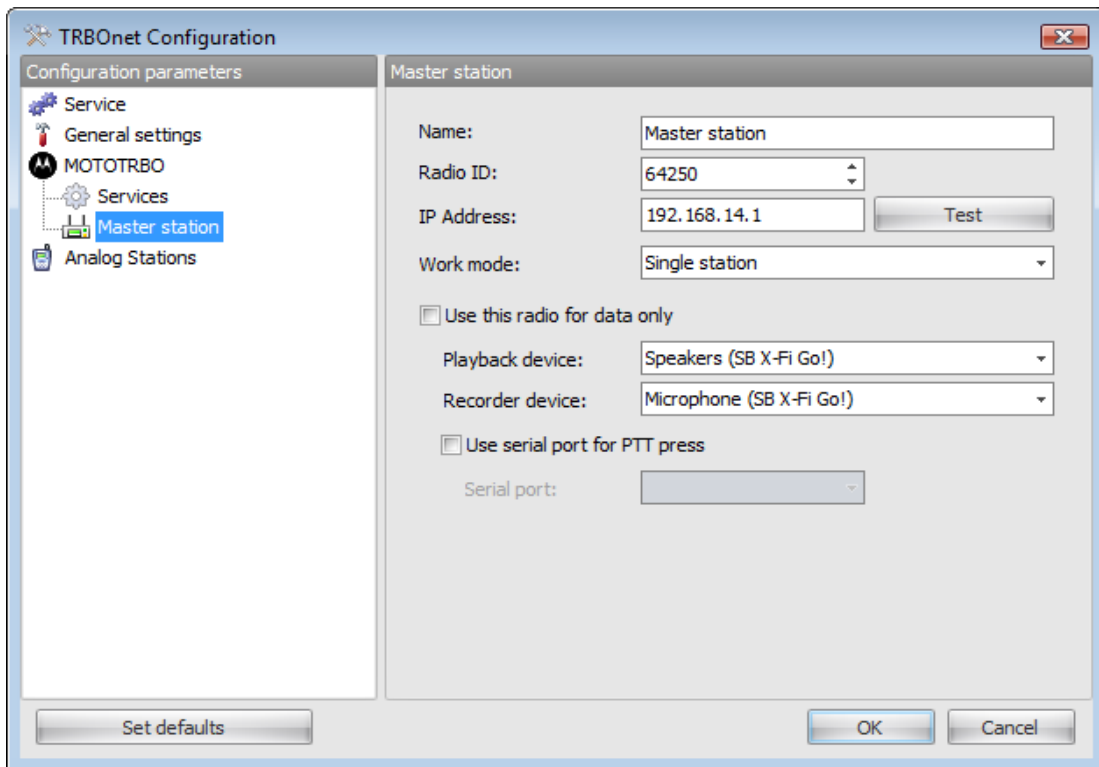


Master Stations

To manage master stations select **MOTOTRBO** in the navigation tree. You can see the list of master stations. Here you can add, delete or test a master station.

To configure a master station you can do one of the following:

- Select the master station in the navigation tree
- Double-click the master station in the list of master stations



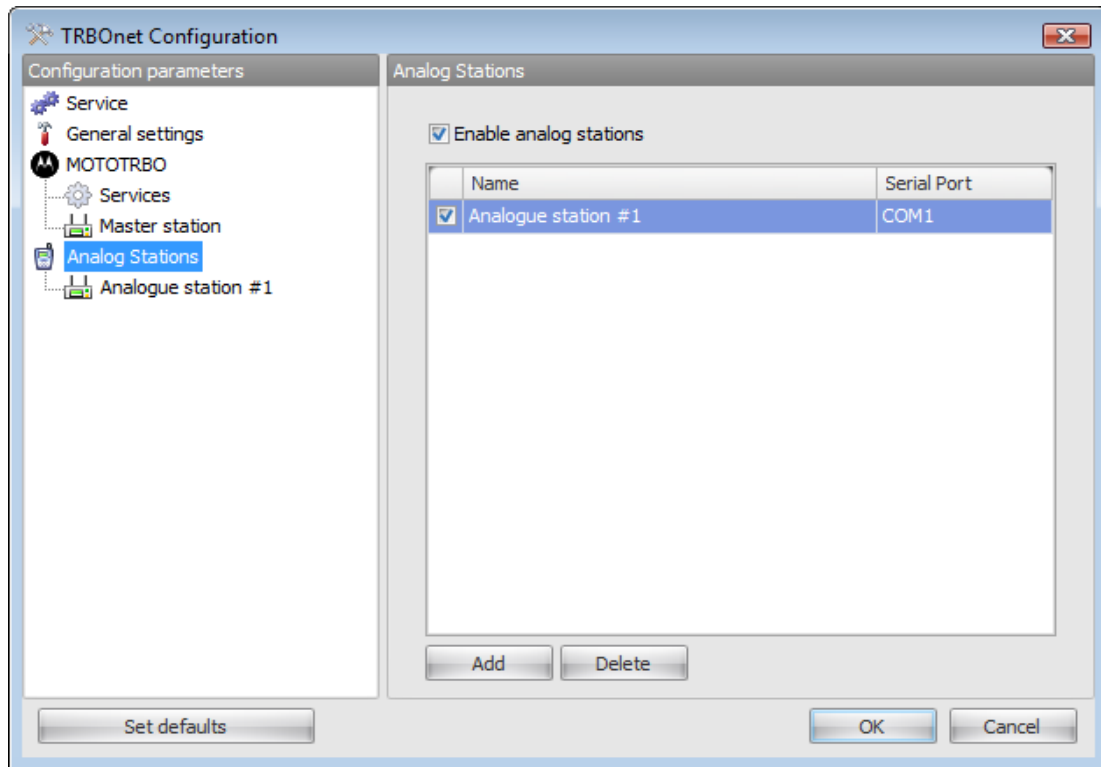
You can configure the following parameters of a master station:

- **Name**- the name of a master station
- **Radio ID** - all master stations connected to one PC should have the same ID
- **IP Address**- the IP-address of a master station
- **Work mode**- Select **Capacity Plus** or **Ip Site Connect**. If the station doesn't have Capacity Plus or IP Site connection, select the Single station mode.
- **Playback device** and **Recorder device**- choose the device for playback and for recording audio.
- **Serial port for PTT press**

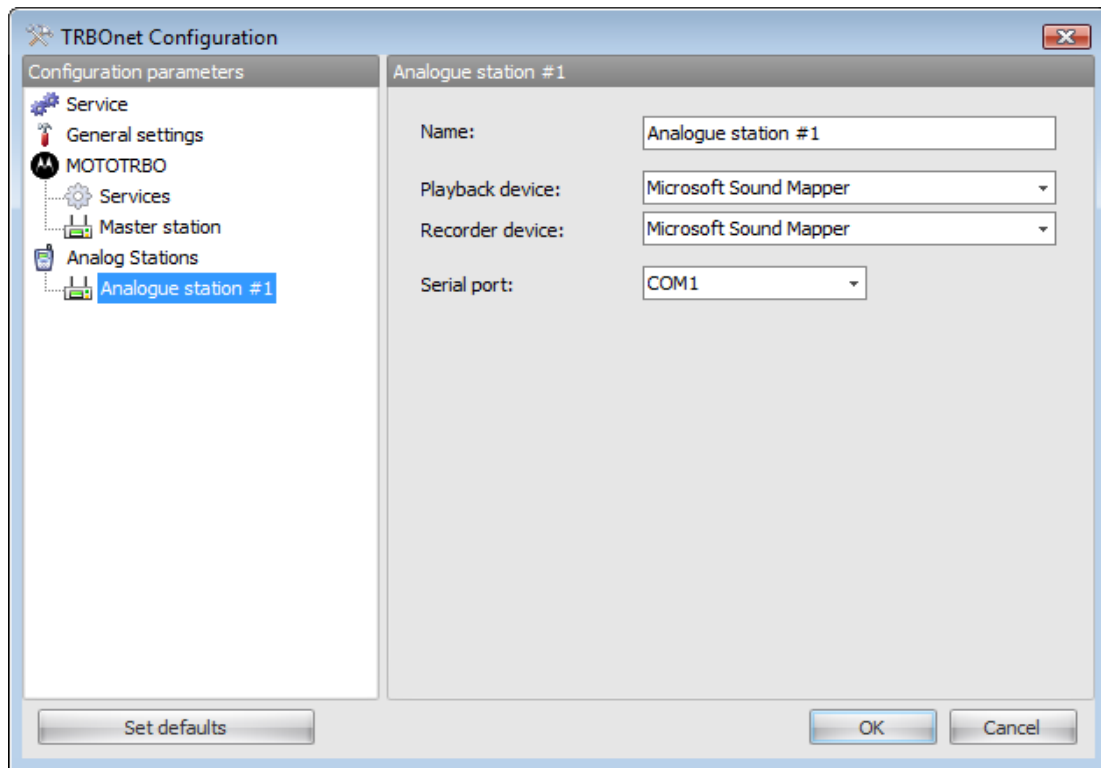
To configure analogue master stations:

1. Open the TRBOnet Agent Configuration Manager using one of the following options:

- In the Start menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Configure TRBOnet Enterprise Agent v2.6**
 - Use the **Configure TRBOnet Enterprise Agent v2.6** shortcut on your desktop
2. Select **Analog Stations** in the navigation tree. If necessary select **Enable analog stations**.



3. You can see the list of analogue stations. Here you can add or delete an analogue station. To configure a station you can do one of the following:
- Select the analogue station in the navigation tree
 - Double-click the analogue station in the list of analogue stations



You can configure the following parameters of an analogue station:

- **Name**- the name of an analogue station
- **Playback device** and **Recorder device**- choose the device for playback and for recording audio.
- **Port** - The default port for analogue stations is COM1.

4.4. Launching TRBOnet Agent

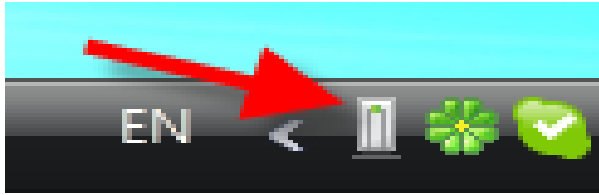
The launching procedure depends on the TRBOnet Agent running mode:

- For test purposes, run TRBOnet Agent as an application
- For normal operation, run TRBOnet Agent as a Windows service.

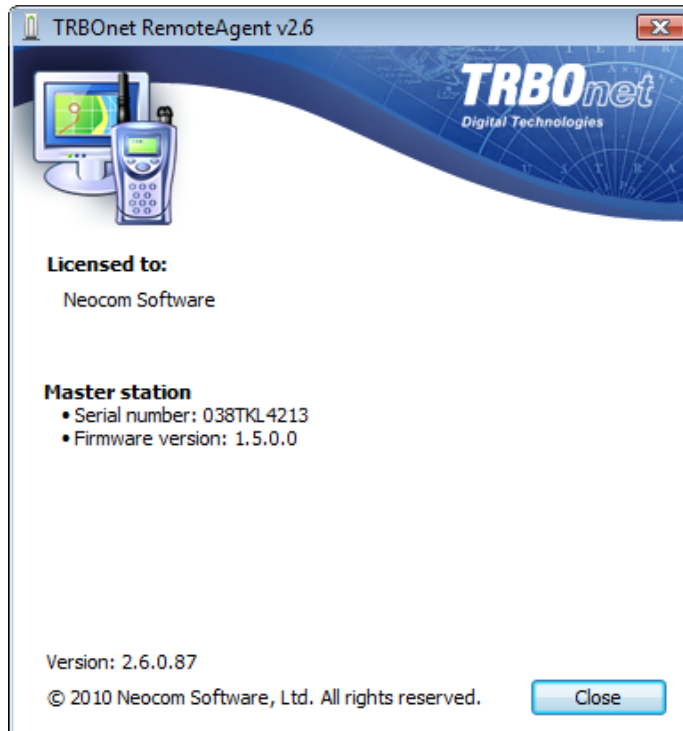
Note: Before running TRBOnet Agent as a Windows service, configure the TRBOnet Agent.

To launch TRBOnet Agent in application mode:

1. Use one of the following options:
 - In the **Start** menu, select **All Programs | Neocom Software | TRBOnet Enterprise v2.6 | Start TRBOnet Enterprise Agent v2.6**
 - Use the **Start TRBOnet Enterprise Agent v2.6** shortcut on your desktop
 - Open the TRBOnet RadioServer installation directory and run **TRBOnet.Agent.exe**
2. If RadioServer is configured correctly, an icon of the application appears in the system tray:



3. To check the state of the TRBOnet Agent, do one of the following:
 - Double-click the icon
 - Right-click the icon and select **Open TRBOnet RemoteAgent v2.6**



4. To check that TRBOnet Agent is configured correctly, review master station connection parameters under the RemoteAgent section. All parameters must be set.

To launch TRBOnet Agent in service mode:

1. [Configure](#) TRBOnet Agent.
2. Start the TRBOnet Agent Service (See the **Installing and configuring TRBOnet services** document).

TRBOnet Quick Support

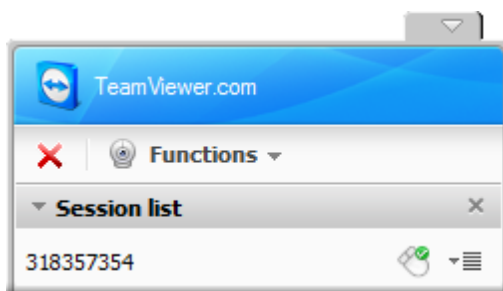
TRBOnet has a special tool for quick and efficient remote support. To get quick support you just need to run the TRBOnet_QuickSupport.exe file and tell your TRBOnet supporter your unique ID. After that the supporter will have access to your PC.

How to use TRBOnet Quick support:

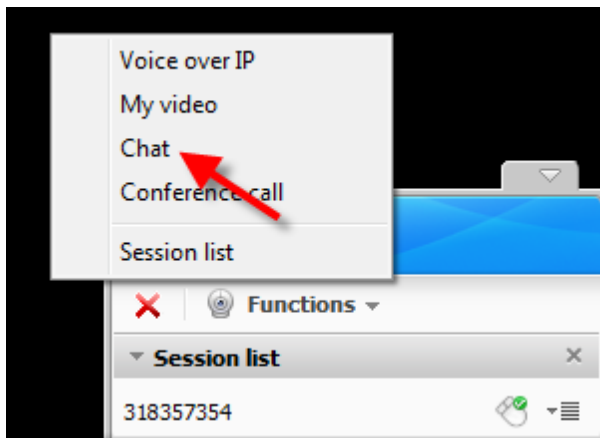
1. Download the **TRBOnet_QuickSupport.exe** file here:
http://www.trbonet.com/download/tools/TRBOnet_QuickSupport.exe
2. Launch the file. You have your unique ID, the default password is trbonet.com.



3. Contact your TRBOnet supporter and tell your unique ID. Now the supporter can get remote access to your PC.
4. When the supporter starts the connection session, you will see the session window in the bottom-left corner of your desktop.

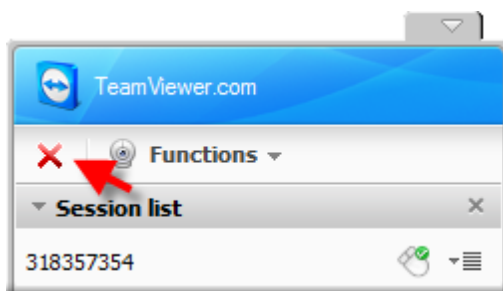


5. Now the supporter has access to your PC. You can use the Chat function in the Session window to communicate with the supporter. For this click Functions and then select Chat in the context menu.



Note: Our support engineers prefer opening a notepad document instead of using the chat in the Session window in order to have opportunity to save the dialog after closing the session.

6. Tell the supporter what help you need and let him make the required changes in your configuration.
7. To close the connection session click the red cross in the Session window.



About the Company

Neocom Software, Ltd was created in 2007 on the basis of Neocom, Ltd., which was founded in 1997 and is the largest supplier of radio communication systems for professional or license-free use on the ground, seas or rivers.

Today, Neocom Software has status of a Motorola Application Partner in EMEA, Latin America and the Asia Pacific region, and the status of a Motorola Application Provider in the North America.

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Feedback

We are always glad to get response from our customers. If you have any suggestions on functional capabilities of the product, please, contact us:

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Official Website: <http://trbonet.com>