



neo**Connex**

**A text messaging and GPS
application for *MOTOTRBO*[™]**

neoNytro Node Version 4.0



neo**Connex**

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TABLE OF CONTENTS

INTRODUCTION:..... 3
BEFORE INSTALLING THE SOFTWARE:..... 3
 CAUTION!..... 3
 NeoTerra[®] Systems Contact information:..... 4
INSTALLING NEONYTRO NODE:..... 4
 Minimum requirements:..... 4
 The MOTOTRBO™ Professional Digital Two-Way Radio System:..... 6
 Some value added inclusions within neoConneX[®]:..... 7
SECTION 2 – NEONYTRO NODE CONFIGURATION..... 8
 Setting up neoNytro Node – Admin Tab:..... 9
 Setting up neoNytro Node – TRBO Networks Tab:..... 10
SECTION 3 – USING NEONYTRO NODE.....11
 The neoNytro Node Main Window:..... 12
 Components of the Main neoNytro Node Window:..... 13



Before you Start:

Introduction:

Thank you for purchasing neo**ConneX**[®], an application designed by NeoTerra[®] Systems for the Motorola *MOTOTRBO*[™] Professional Digital Two-Way Radio System, to permit the user enhanced control capabilities. The application has been designed to accommodate the safe tracking of fleet and similar fixed locations that use the *MOTOTRBO* product. The application has an archiving reporting feature that reports on activity captured by various parts of the application.

NeoTerra[®] Systems has worked with the end users to streamline the application and make it simple to install, easy to use and understand.

Before Installing the Software:

It is IMPORTANT to ensure that prior to configuring neo**ConneX**[®]; that your Computer route table has been appropriately updated; so that the *MOTOTRBO*[™] radio network can be accessed.

The demonstration version of neo**ConneX**[®] can be run as a stand alone, however, once purchased will require a USB “Key” to work with and validate the licensing agreement. This “Secure Key” will be supplied once the purchase has been approved.

CAUTION!

The purchased neo**ConneX**[®] application is governed by a licence agreement that INCLUDES a USB license dongle, that compounds the security of the application for your exclusive use. This USB device is a Serialized Key that handshakes with your neo**ConneX**[®] application to validate its licensing parameters and contains information that verifies these parameters which relates to the features purchased.

This USB “key” MUST be inserted into a usable USB port on the Computer and left in place at all times, while the purchased application is in use.

Failure to do so or removal of the key at any time will result in the termination of the neo**ConneX**[®] application.

It is IMPERATIVE that the USB Secure Key be protected and secured at all times. In the event of loss or damage a replacement key can ONLY be purchased from NeoTerra[®] Systems.

NeoTerra[®] Systems Contact information:

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*(Please use the process within your Country to allow for direct dialling.)
For your convenience you may wish to try: <http://www.countrycallingcodes.com/>*

For more information on NeoTerra[®] Systems please visit: www.neoterra.ca

Installing neoNytro Node:

Minimum requirements:

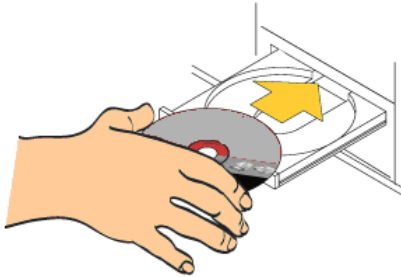
A Microsoft Windows Platform – Windows XP Professional, Windows Vista Professional/Business/Ultimate, Windows 7 Professional/Business/Ultimate. neoConneX[®] will run on both 32-bit and 64-bit operating systems. Please note that the software component for conventional and capacity plus MotoTRBO systems, neoNytro Node, will not operate on any Windows Server operating system.

- **>= 2 GHz Dual-Core CPU**
- **At least 4GB of system memory (RAM)**
- **160 GB hard drive with at least 15 GB of available space (Minimum)**
- **Local Area Network with IP Platform support**
- **Internet access for remote support**

The installation disc contains one files that will be used for the successful installation of neoConneX[®]. This file is neoNytro Node located under the “neoNytro Node” folder.

- 1) **neoNytro Node Setup.msi** – Contains the setup program to update the neoNytro Node application. If running **first time setup** of the neoNytro Node application, you **MUST RUN setup.exe**.

1. Start your computer and wait for the operating system to finish loading.
2. Insert the neoConneX[®] CD/DVD, label-side up, into the appropriate CD/DVD-ROM drive on your computer.



NOTE: If the CD-ROM has a spindle, make sure the CD is pushed all the way down. You should hear a “click”.

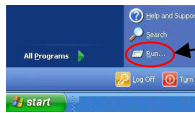
If the disc does not “Auto” launch please follow this path below:

1. Click on “Start” on the “Taskbar”. Look for the icon similar to – see below:

a.  Windows XP

b.  Windows Vista or Windows 7

2. One of the menu choices should be “Run” see below:



Windows XP

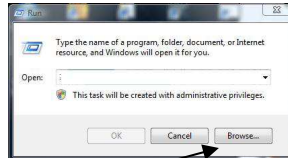


Windows Vista

3. Click on “Run”. A new window appears.



Windows XP



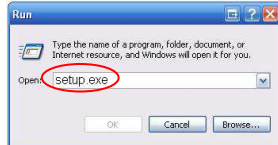
Windows Vista

4. Click on “Browse”

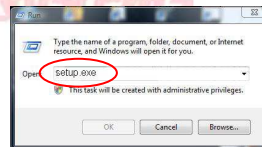
5. When the “File Manager” or “Windows Explorer” window opens, go to the drive where the neoConnex[®] disc has been inserted, click on the neoNytro Node folder, and click on “setup.exe” or “setup”.



6. You will now see the following:



Windows XP



Windows Vista

7. Click “OK”

8. neoNytro Node will now start to install.

9. Follow the instructions to complete the installation

The *MOTOTRBO*[™] Professional Digital Two-Way Radio System:

Some interesting “points” to remember about the *MOTOTRBO*[™] **Professional Digital Two-Way Radio**

The Mobile radio has 5 terminal inputs and the Portable unit has 3 terminal inputs for use in telemetry.



NeoTerra[®] Systems has taken advantage of these terminals to accommodate various tasks that are efficiently controlled by the neo**Connex**[®] application.

Some value added inclusions within neo**Connex**[®]:

neo**Connex**[®] has some embedded assistance within the application:

1. Bundled geoMap maker for calibrating raster images for use in the GIS control.
2. Web-based archive reporting tool.
3. Bundled drivers in Quick start, which includes Motorola drivers using Ethernet over USB.
4. Ability to integrate Conventional, Capacity Plus, and Connect Plus systems together (through the neoNytro Node application).
5. Mail service to negate the need to have a catch-all account or email aliases set up.
6. Mappoint GeoCoding service to make neo**Connex**[®] more robust.

There are 4 Protocols that neo**Connex**[®] uses with *MOTOTRBO*[™] devices:

1. Text Messaging – Can isolate a unit and send a unit-specific message to the device in question.
2. ARS (Automatic Registration Service) – Advises of devices that come on-line and go off-line.
3. Telemetry options – Sending automatic Text Messages that are based on actions taken by various operations at the remote location or vehicle.
4. GPS Tracking – Location based Services.

SECTION 2 – neoNytro Node Configuration

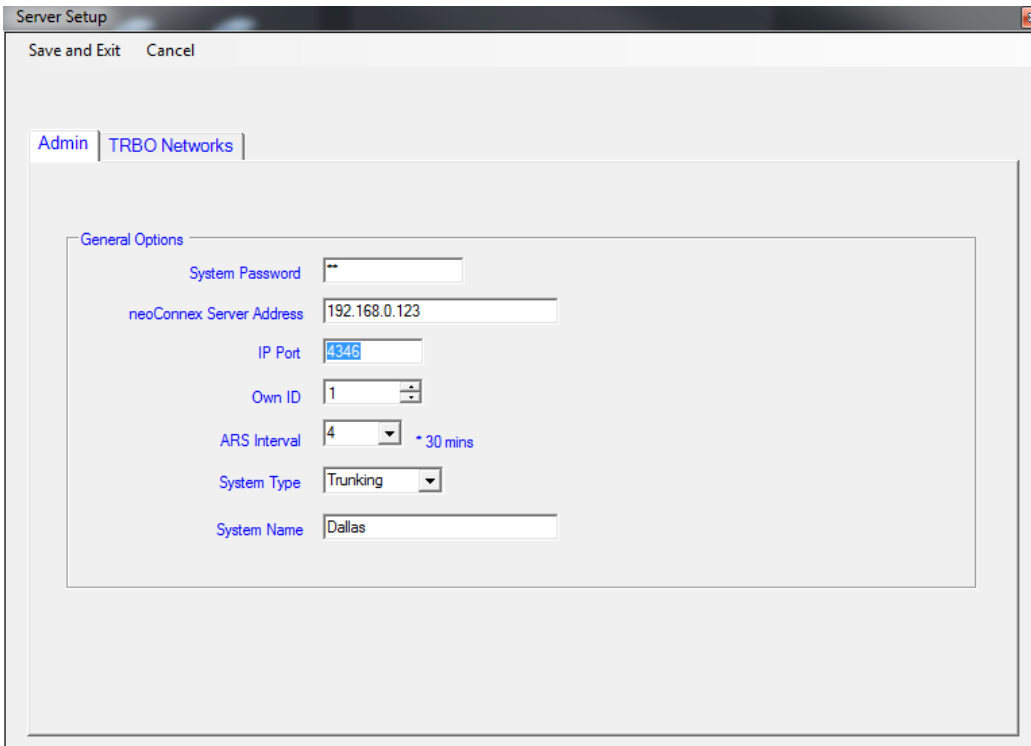
Setting up neoNytro Node – Admin Tab:

Go into Start > Programs > NeoTerra Systems > neoConneX > neoNytro Node.

Left-click the “Setup” menu option

Enter pw for password

The screen below appears.



The screenshot shows a window titled "Server Setup" with a menu bar containing "Save and Exit" and "Cancel". Below the menu bar are two tabs: "Admin" (selected) and "TRBO Networks". The main content area is titled "General Options" and contains the following fields:

- System Password: A text box with two asterisks (**).
- neoConneX Server Address: A text box containing "192.168.0.123".
- IP Port: A text box containing "4346".
- Own ID: A spin box containing "1".
- ARS Interval: A dropdown menu showing "4" and a note "* 30 mins".
- System Type: A dropdown menu showing "Trunking".
- System Name: A text box containing "Dallas".

System Password – The system password to get into the setup screen (pw is default)

neoConneX[®] Server Address – This is the IP address of the PC that is running the neoConneX[®] server.

IP Port – The IP port the server is using to listen to neoNytro Node clients.

Own ID – The ID of the control station radios used in a conventional or capacity plus (trunking / hosted) system.

ARS Interval – The automatic registration reporting interval for radios connected to this node.

System Type – Three digital modes: Conventional , Trunking (Cap+), or Hosted (Cap+)

System Name – A unique name to identify the radio system on this node for display in neoConneX[®] Server.

Setting up neoNytro Node – TRBO Networks Tab:

This is where the IP's, names, and ports of the radios connecting to neoNytro Node are defined. Every base station radio must be on a unique class C network.

Voice Interface 1-4 – These radios are the voice base stations that transmit data to the subscriber units.

Revert Interface 1-16 – These radios handle the data traffic that comes back into the application as a result of normal operating while subscriber units are out in the field or when someone from the PC queries a radio for its location or operating status.

Network CAI – This is the Common Air Interface. This is a component that makes up the IP address of the MotoTRBO radios that are connected to the Node. This is defaulted to 12 and it is recommended to leave this setting alone.

Interface Names – These give a meaningful name to the voice bases connected to the node.

TMS Port – Text Messaging Service port, Default : 4007

TLM Port – TeLeMetry port, Default : 4008

LBS Port – Location Based Services port, Default : 4001

ARS Port – Automatic Registration Service port, Default : 4005

TFW Port – Tallysman FirmWare (GOB) port, Default : 4063

THW Port – Tallysman HardWare external device (TW200/TW201) port, Default : 4065

The screenshot shows the 'Server Setup' window with the 'TRBO Networks' tab selected. The window contains several sections for configuring network settings:

- Network Settings:** Includes Voice Interface 1-4 and Revert Interface 1-16, each with an IP address dropdown menu.
- Interface Names:** Includes V-One, V-Two, and Test V, each with a text input field.
- Network CAI:** A dropdown menu set to 12.
- Ports:** Includes TMS Port (4007), TLM Port (4008), LBS Port (4001), ARS Port (4005), TFW Port (4063), and THW Port (4065), each with a text input field.

SECTION 3 – Using neoNytro Node



The neoNytro Node Main Window:

neoNytro Node is an application that ties conventional and Capacity Plus systems together into neoConneX[®] for a seamless user experience.

The main screen is an MDI (Multiple Document Interface) window that allows multiple child windows to exist within it. This main screen gives an overview of the overall health and status of the radio system connected to the neoNytro Node application.

The screenshot displays the neoNytro Node application interface with the following components:

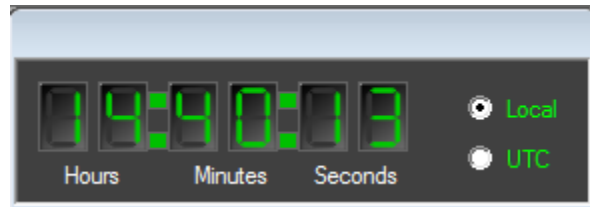
- Digital Clock:** Shows 14:49:03 in Local time and UTC.
- GPS Reports:** A table showing location data for Unit ID 2 on 26 Sep 2010 at 06:40:02 PM.

Function	Data
Date/Time	26 Sep 2010 06:40:02 PM
Unit ID	2
Latitude	43.7671161
Longitude	-80.0521843
Knots	1
Direction	268
- Traffic:** A log of messages from Unit ID 2, including multiple "GPS report on slot 1" entries and one "ARS Registration on slot 1" entry.
- Presence Notifier:** A table showing Unit ID 6 is Online and Trunking on 26 Sep 2010 at 04:42:06 PM, and Unit ID 2 is Online and Trunking on 26 Sep 2010 at 06:34:15 PM.
- Control Stations:** A table showing the status of 16 radio units.

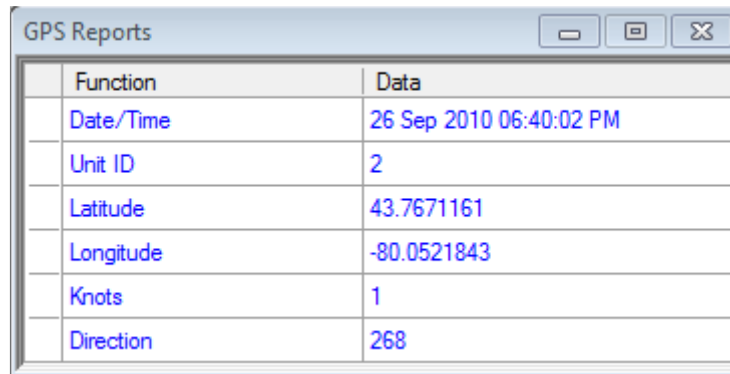
Name	Radio	XCMP
Voice 1	ONLINE	ONLINE
Voice 2	OFFLINE	OFFLINE
Voice 3	OFFLINE	OFFLINE
Voice 4	OFFLINE	OFFLINE
Revert 1	ONLINE	ONLINE
Revert 2	ONLINE	ONLINE
Revert 3	OFFLINE	OFFLINE
Revert 4	OFFLINE	OFFLINE
Revert 5	OFFLINE	OFFLINE
Revert 6	OFFLINE	OFFLINE
Revert 7	OFFLINE	OFFLINE
Revert 8	OFFLINE	OFFLINE
Revert 9	OFFLINE	OFFLINE
Revert 10	OFFLINE	OFFLINE
Revert 11	OFFLINE	OFFLINE
Revert 12	OFFLINE	OFFLINE
Revert 13	OFFLINE	OFFLINE
Revert 14	OFFLINE	OFFLINE
Revert 15	OFFLINE	OFFLINE
Revert 16	OFFLINE	OFFLINE
- Status Bar:** Shows IP: 12, Server: Connected, RX Q: 0, TX Q: 0.

Components of the Main neoNytro Node Window:

The clock – Shows the current time in either local time or Universal Time Coordinated (UTC) time.



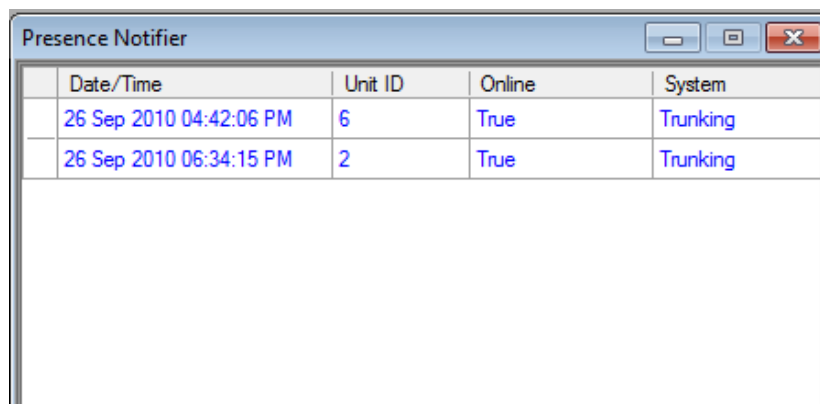
GPS Reports – Shows the latest GPS data received from a radio on the system.



The image shows a screenshot of a window titled 'GPS Reports'. It contains a table with two columns: 'Function' and 'Data'. The data is as follows:

Function	Data
Date/Time	26 Sep 2010 06:40:02 PM
Unit ID	2
Latitude	43.7671161
Longitude	-80.0521843
Knots	1
Direction	268

Presence Notifier – Shows what subscriber units are on/offline, and the type of system the subscriber unit is connected to (Conventional, Trunking, or Hosted).



The image shows a screenshot of a window titled 'Presence Notifier'. It contains a table with four columns: 'Date/Time', 'Unit ID', 'Online', and 'System'. The data is as follows:

Date/Time	Unit ID	Online	System
26 Sep 2010 04:42:06 PM	6	True	Trunking
26 Sep 2010 06:34:15 PM	2	True	Trunking

Traffic – This lists the traffic coming from the subscriber units that are connected to the neoNytro Node.

Date/Time	Unit ID	Message
26 Sep 2010 06:40:02 PM	2	GPS report on slot 1
26 Sep 2010 06:39:32 PM	2	GPS report on slot 1
26 Sep 2010 06:39:02 PM	2	GPS report on slot 1
26 Sep 2010 06:38:32 PM	2	GPS report on slot 1
26 Sep 2010 06:38:02 PM	2	GPS report on slot 1
26 Sep 2010 06:37:32 PM	2	GPS report on slot 1
26 Sep 2010 06:37:02 PM	2	GPS report on slot 1
26 Sep 2010 06:36:32 PM	2	GPS report on slot 1
26 Sep 2010 06:36:02 PM	2	GPS report on slot 1
26 Sep 2010 06:35:32 PM	2	GPS report on slot 1
26 Sep 2010 06:35:02 PM	2	GPS report on slot 1
26 Sep 2010 06:34:32 PM	2	GPS report on slot 1
26 Sep 2010 06:34:15 PM	2	ARS Registration on slot 1
26 Sep 2010 06:34:02 PM	2	GPS report on slot 1
26 Sep 2010 06:33:32 PM	2	GPS report on slot 1
26 Sep 2010 06:33:02 PM	2	GPS report on slot 1
26 Sep 2010 06:32:32 PM	2	GPS report on slot 1
26 Sep 2010 06:32:02 PM	2	GPS report on slot 1
26 Sep 2010 06:31:32 PM	2	GPS report on slot 1
26 Sep 2010 06:31:02 PM	2	GPS report on slot 1
26 Sep 2010 06:30:32 PM	2	GPS report on slot 1
26 Sep 2010 06:30:02 PM	2	GPS report on slot 1
26 Sep 2010 06:29:32 PM	2	GPS report on slot 1
26 Sep 2010 06:29:02 PM	2	GPS report on slot 1
26 Sep 2010 06:28:32 PM	2	GPS report on slot 1
26 Sep 2010 06:28:02 PM	2	GPS report on slot 1

Control Stations – This lists the voice and data revert control stations and whether the Radio and XCMP (Radio Control Protocol) are online or offline.

The screenshot shows a window titled 'Control Stations' with a 'Radio Status' section. It contains a table with three columns: 'Name', 'Radio', and 'XCMP'. The 'Name' column lists 'Voice 1-4' and 'Revert 1-16'. The 'Radio' and 'XCMP' columns show 'ONLINE' in green or 'OFFLINE' in red.

Name	Radio	XCMP
Voice 1	ONLINE	ONLINE
Voice 2	OFFLINE	OFFLINE
Voice 3	OFFLINE	OFFLINE
Voice 4	OFFLINE	OFFLINE
Revert 1	ONLINE	ONLINE
Revert 2	ONLINE	ONLINE
Revert 3	OFFLINE	OFFLINE
Revert 4	OFFLINE	OFFLINE
Revert 5	OFFLINE	OFFLINE
Revert 6	OFFLINE	OFFLINE
Revert 7	OFFLINE	OFFLINE
Revert 8	OFFLINE	OFFLINE
Revert 9	OFFLINE	OFFLINE
Revert 10	OFFLINE	OFFLINE
Revert 11	OFFLINE	OFFLINE
Revert 12	OFFLINE	OFFLINE
Revert 13	OFFLINE	OFFLINE
Revert 14	OFFLINE	OFFLINE
Revert 15	OFFLINE	OFFLINE
Revert 16	OFFLINE	OFFLINE