NM-431MP System Configuration Guide

The configuration of the NM-431MP and Virtual Serial Port creation can be achieved in three ways:

- 1. By using the Tibbo Connection Wizard. This is an automated procedure and must be followed from the computer system where the target application is installed. In this way the NM-431MP is configured either for communicating with a VSP or directly with the application via a UDP socket.
- 2. By using the Tibbo DS Manager utility to configure the NM-431MP and the VSP manager utility to create the Virtual Serial Port in the target computer.
- 3. By using the internet explorer or similar http browser to configure the NM-431MP and the VSP manager utility to create the Virtual Serial Port in the target computer.

The utilities can be installed by running the corresponding setup file in the Setup CD:

🔮 Tibbo Device Serv	rer Toolkit Setup
	License Agreement Please review the license terms before installing Tibbo Device Server Toolkit.
Press Page Down to se	e the rest of the agreement.
In order to use this so	ftware, you must read and agree to the following license
agreement. Please inc	dicate your agreement by clicking I AGREE below.
DEVICE SERVER TOOL	KIT
END USER LICENSE A	GREEMENT
This License Agreeme	nt is a legal agreement between you (either an individual or an
entity) and Tibbo Tech	nology, Inc. ("Tibbo") for Tibbo Device Server Toolkit software
("Software"). You may	i install as many copies of the Software as necessary provided that
these copies are used	I SOLELY in conjunction with Tibbo's Serial-to-Network Devices. You
MAY NOT use this soft	tware to enable communications with or through the Serial-to-
If you accept the term	s of the agreement, click I Agree to continue. You must accept the
agreement to install Til	bbo Device Server Toolkit.
Nullsoft Install System v2	.46 I Agree Cancel

🔋 Tibbo Device Server Toolkit Setup					
	Choose Components Choose which features of Tibbo Device Server Toolkit you want to install.				
Check the components you install. Click Next to continu	want to install and uncheck the components you don't want to 				
Select the type of install:	Full 🗸				
Or, select the optional components you wish to install:	Core files (required) Tibbo Monitor (recommended) Samples Concumentation Create Start Menu Shortcuts Description				
Space required: 10.9MB	Position your mouse over a component to see its description,				
Nullsoft Install System v2,46 -	< Back Next > Cancel				

Click "I Agree" to proceed with the setup.

Select the full installation option and click "Next" to continue.

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🕽 Tibbo Device Server Toolkit Setup		
	Choose Install Location Choose the folder in which to install Tibbo Device Server Toolkit.	
Setup will install Tibb folder, click Browse a	o Device Server Toolkit in the following folder. To install in a different Ind select another folder. Click Install to start the installation.	
Destination Folder	Tibbo\TDST. Browse	
Space required: 10.9 Space available: 81.2	MB 2GB	
Nullsoft Install System v	< Back Install Cancel	



Select the Destination Folder on where the files will be installed. Press "Install" to proceed with the installation.

After completion of the installation a reboot will be required. Click "Finish" to reboot the computer.

The following Software shortcuts will be created under Start>All Programs>Tibbo>Tibbo Device Server Toolkit:



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1. Configuring the NM-431MP with the Tibbo Connection Wizard utility



The Tibbo Connection Wizard utility should be started by clicking on the icon or on the corresponding shortcut via the Start>All Programs>Tibbo>Tibbo Device Server Toolkit> Tibbo Connection Wizard.

1.1. NM-431MP configuration and VSP creation in the target computer

The following procedure should be followed to configure the NM-431MP and create the VSP on the target computer

🔏 Tibbo Connection Wizard - V	/5.9.10	×
	Tibbo Connection Wizard	
	This Wizard will help you configure your Tibbo devices	
	Elick <next> to continue</next>	
	< Back Next > Help Cancel	

 Tibbo Connection Wizard - V5.9.10

 Select the kind of link you wish to create

 © Create a link between a Virtual Serial Port and a Device Server

 © Configure a Device Server for direct communications with an application on this PC

 © Create a link between two Device Servers

 © Finish remote job

Click "Next" to continue

Select "Create a link between a Virtual Serial Port and a Device Server" and click "Next" to continue.

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🐚 Tibbo Connection Wizar	d - V5.9.10
	Specify the Virtual Serial Port
	◯ Select existing VSP
	 Create new VSP Port name: COM2
S	
	K Back Next > Help Cancel
-	



🐼 Tibbo DS Manager - V5.9.10 File Access mode Device Help Auto-Discovery Address Book Status MAC IP Owner/Device Refresh 2.24.77.80.40.119 192.168.0.204 (local) nm/NM-431MP Select Settings Upgrade Initialize Routing Status Buzz! Change IP Add Find > This is a 4-port Device Server his device is operating normally here is at least one data connection in progress

Select "Create new VSP" and the Port name in the drop box of the new serial port to be installed and click "Next" to proceed.

Select "Device Server is accessible from this PC" and click the "Select form the list..." button. The Tibbo DS manager will start and the Device will be listed.

Select the corresponding NM-431MP device and click "Select". The Tibbo DS Manager will close automatically and the Connection wizard will display the information of the Device as in the above image. Check the "Enable MAC \rightarrow IP mapping" checkbox and click the "Next" Button to continue









Select the channel you wish to configure and click "Next" to continue

Select the "Any side (Virtual Serial Port or Device Server)" and click "Next" to continue

Select the "UDP/IP" transport protocol and fill in the desired UDP port number for listening on both sides of the link (VSP and Device Server). Click "Next" to continue.

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Disable the on-the-fly commands by selecting the "No, disable on-the-fly commands" radio button. Click "Next" to continue.

Configure the serial settings for the device server as shown in the image. You can select the baud rate, parity and data bits matching the input signal applied to the corresponding input port. RTS/CTS flow control should be always configured to "O-Disabled or remote". Click "Next" to continue.

In this window you can review the configuration settings before saving. Click "Configure" to proceed.

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This device has a data connection in progress. Performing requested operation will abort this connection. Continue still? <u>More info...</u>

OK Cancel

A pop-up message will require confirmation to install the driver for the Virtual Serial Port. Press "Continue Anyway" to proceed.

By pressing "OK" the NM-431MP will save all changes performed and reboot. The connection will be aborted.

The NM-431 is configured and the VSP is created. Click "Finish" to exit the Connection Wizard

All changes made with the connection wizard are displayed as in the below four images.

Settings: DS {ds3.5}		
General Ch1 Ch2 Ch3 Ch4	AI	
Connection timeout (min)	5	
Transport protocol	0-UDP	
Broadcast UDP data	0-Reject	
Inband commands	(irrelevant)	
Routing Mode	1- Server OR client (master)	
Accept connection from	0- Any IP-address	
Port	1001	
Connection mode	1- On data OR command	
Destination IP-address	192.168.0.115	
Destination port	1001	
Serial interface for channel 1	0- Full-duplex	
RTS/CTS flow control	0- Disabled OR remote	
DTR mode	0- Idle OR remote	
Power-up DTR state	0-LOW	
Baudrate	2-4800bps	
Parity	0-None	
Data bits	1-8 bits	
Max intercharacter delay 1		
Soft entry into serial programming mode 0- Disabled		
Escape character (ASCII code)	(irrelevant)	
On-the-Fly commands	0-Disabled	
Password for on-the-Fly commands	(irrelevant)	
Notification bitmask	0	
Notification destination	0- Last port	
Save Load Passwo	rd OK Cancel	

Owner name nm Device name NM-431MP DHCP 0-Disabled IP-address 192.168.0204 Gateway IP-address 127.0.0 Subnet mask 0.0.0 Serial port configuration Option 8	General Ch1 Ch2 Ch	n3 Ch4 All
Device name NM-431MP DHCP 0-Disabled IP-address 192.168.0.204 Gateway IP-address 127.0.0.1 Subnet mask 0.0.0.0 Serial port configuration Option 8	Owner name	nm
DHCP 0-Disabled IP-address 192.168.0.204 Gateway IP-address 0.0.0.0 Serial port configuration Option 8	Device name	NM-431MP
IP-address 192.168.0.204 Gateway IP-address 127.0.0.1 Subnet mask 0.0.0 Serial port configuration Option 8	DHCP	0-Disabled
Gateway IP-address 127.0.0.1 Subnet mask 0.0.0.0 Serial port configuration Option 8	IP-address	192.168.0.204
Subnet mask 0.0.0 Serial port configuration Option 8	Gateway IP-address	127.0.0.1
Serial port configuration 0ption 8	Subnet mask	0.0.0.0
	Serial port configuration	Option 8

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repetties Council Lines Default Could Could Council	File Action View Help
Control Lines Default Serial Settings	
/SP name: COM2 For user: Admin	
	□ ♣ OFFICE_PC
tworking	E Computer
Transport UDP 🗸 Transport TDI (default) 🗸	
protocol: provider: provider:	E Display adapters
	DVD/CD-ROM drives
Houting Server/Client V Connection On data	E Ploppy disk controllers
mode.	+ J Floppy disk drives
On-the-fly Disabled 🗸 OTF index: 1 🔼	IDE ATA/ATAPI controllers
commands:	Image Dungo
	+ w Keyboards
Listening 1001 Connection 5	
	E Betwork adapters
stination	Ports (COM & LPT)
	Communications Port (COM1)
Browse for DS	ECP Printer Port (LPT1)
	Tibbo Virtual Serial Port (COM2)
P-address: 192.168.0.204 . 1001	🕀 🛲 Processors
	Sound, video and game controllers
	🕀 😼 System devices
	🔃 😋 Universal Serial Bus controllers
OK Cancel	

In the device manager under the "Ports (COM & LPT)", a new serial port will be created "Tibbo Virtual Serial Port (COM2)" that can be accessed from all application as if it was a physical hardware serial port.

The same procedure should be followed to configure the other ports 2, 3 and 4.

1.2. NM-431MP configuration to communicate directly with an application in the target computer

The following procedure should be followed in the target computer to configure the NM-431MP, in order to communicate directly with the application via a UDP socket (without creating a Virtual Serial Port)



Click "Next" to continue



🐚 Tibbo Connection Wiza	rd - V5.9.10 🛛 🔀
	Select the kind of link you wish to create Create a link between a Virtual Serial Port and a Device Server Configure a Device Server for direct communications with an application on this PC Create a link between two Device Servers Finish remote job
	< Back Next > Help Cancel
-	



Select	"configure	а	Device	Server	for	direct
commu	nication with	n an	applicat	ion on th	nis PC	;", and
click "N	ext" to conti	nue				

Select "Device Server is accessible from this Network Segment". Verify that the IP address matches the IP of the NM-431MP interface and the Access method is UDP. Click "Next" to continue.

🖄 Tibbo Connection Wizard - V5.9.10
Which channel of multi-pot device to use? You have selected a multi-pot Device Server. Please select which channel (port) should be used for this connection. Channel #1 Channel #2 Channel #3 Channel #4
< Back Next > Help Cancel

Select the channel you wish to configure and click "Next" to continue and click "Next" to continue.

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Select the "Any side (Virtual Serial Port or Device Server)" and click "Next" to continue.

Select the "UDP/IP" transport protocol and fill in the desired UDP port number for listening on both sides of the link (VSP and Device Server). Click "Next" to continue.

Note: In this step it may be needed to assign a different UDP socket as a "Listening port on the Device Server".

Disable the on-the-fly commands by selecting the "No, disable on-the-fly commands" radio button. Click "Next" to continue

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Serial Settings f	ior the Device Server
Serial Settings	
RTS/CTS flow control	0- Disabled or remote
Baud rate	2- 4800 bps 🔹
Parity	0-None
Data bits	1-8 bits
1	
< Back Next >	Help Cancel



Communicating with Device Server
This device has a data connection in progress. Performing requested
operation will abort this connection. Continue still? More info...
OK Cancel

Configure the serial settings for the device server as shown in the image. You can select the baud rate, parity and data bits matching the input signal applied to the corresponding input port. RTS/CTS flow control should be always configured to "O-Disabled or remote". Click "Next" to continue.

In this window you can review the configuration settings before saving. Click "Configure" to proceed.

By pressing "OK" the NM-431MP will save all changes performed and reboot. The connection will be aborted and the NM-431MP will be available in the network after a few seconds.

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2. Configuring the NM-431MP with the DS Manager and the VSP Manager:



To discover the NM-431MP and configure it, the Tibbo DS Manager utility should be started by clicking the on the icon or on the corresponding shortcut via the Start>All Programs>Tibbo>Tibbo Device Server Toolkit>Tibbo VSP Manager for windows XP.

💁 Tibbo D	S Manager - V5.9	.10		
File Access I	mode Device Help			
Auto-Discov	/ery Address Book	Serial Access		
Status	MAC 0.24.77.80.40.119	IP 192.168.0.204 (local)	Owner/Device nm/NM-431MP	Refresh
		,		Settings
				Upgrade
				Initialize
				Routing Status
				Buzz!
				Change IP
				Add
				Find
<			>	
8	Devices on the loc Manager. Click here to learn	cal network segment. Ti more about the auto-di	his list is created auto scovery access mode	matically by the DS . <u>More info</u>

The NM-431MP interfaces should be listed in the main window.

Select the NM-431MP you wish to configure and click on the "Settings" button.

General Ch1 Ch2 Ch	3 Ch4 All		
Owner name	nm		
Device name	NM-431MP		
DHCP	0- Disabled		
IP-address	192.168.0.204		
Gateway IP-address	192.168.0.212		
Subnet mask	255.255.255.0		
Serial port configuration	Option 8		
Save Load	Password OK Cancel		

The General Settings Tab will appear. The Network settings for the NM-431MP should be configured as follows:

- 1. Owner name: nm
- 2. Device name: NM-431MP
- 3. DHCP: 0-Disabled
- 4. IP-address: Enter the fixed IPaddress according to your local network
- 5. Gateway IP-address: Enter the Fixed IP-address of the target computer running the software
- 6. Subnet mask: Enter the subnet mask (usually 255.255.255.0)
- 7. Serial port configuration: Option 8 (never change!!)

The DHCP option is by default set to 1-Enable in order for the NM-431MP interfaces to be discoverable in new installations. You can keep the setting enabled but it is strongly recommended to configure both target computer and the connected NM-431MP interfaces with fixed IP-addresses for ease in maintenance/troubleshooting. In addition when keeping peripherals in a fix IP configuration there is no need for a router to be part of the installation. The serial port configuration should be left unchanged to Option 8 at all times else not all input ports will be inputted.

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Settings: DS {ds3.5}	
General Ch1 Ch2 Ch	3 Ch4 All
Connection timeout (min)	5
Transport protocol	0-UDP
Broadcast UDP data	0-Reject
Inband commands	(irrelevant)
Routing Mode	1-Server OR client (master)
Accept connection from	0- Any IP-address
Port	1001
Connection mode	1- On data OR command
Destination IP-address	255.255.255.255
Destination port	1001
Serial interface for channel 1	0- Full-duplex
RTS/CTS flow control	0-Disabled OR remote
DTR mode	0-Idle OR remote
Power-up DTR state	0-LOW
Baudrate	2-4800bps
Parity	0-None
Data bits	1-8 bits
Max intercharacter delay	1
Soft entry into serial programm	0- Disabled
Escape character (ASCII co	(irrelevant)
On-the-Fly commands	0- Disabled
Password for on-the-Fly con	(irrelevant)
Notification bitmask	0
Notification destination	0- Last port
1	
Save Load	Password OK Cancel

The Settings Window will appear. Settings 6, 8, 12, 13 and 14 should be changed only to configure ch1:

- 1. Connection timeout (min):5
- 2. Transport Protocol: 0-UDP
- 3. Broadcast UDP data: 0-Reject
- 4. Routing Mode: 1-Server OR Client (master)
- 5. Accept connections from: 0-Any IP-Address
- 6. Port: Select the UDP socket to transmit data from the computer.
- 7. Destination IP-address: 255.255.255.255
- 8. Destination port: Select the UDP socket to read from the computer
- 9. Serial interface for channel:0-Full-duplex
- 10. RTS/CTS flow control: 0-Idle OR remote
- 11. Power-up DTR state: 0-LOW
- 12. Baudrate: Select the baud rate of the signal connected to input 1
- 13. Parity: Select the Parity option for the signal connected to input 1
- 14. Data bits: Select the Data bits option for the signal connected to input 1
- 15. Max intercharacter delay: 1
- 16. Soft entry into serial programming mode:0-Disabled
- 17. On-the-Fly commands: 0-Disabled
- 18. Notification bitmask: 0
- 19. Notification destination: 0-Last port

In the above image you can see a typical configuration of the input port 1 of a NM-431MP transmitting data to the 1001 UDP socket.

Similar configuration should be performed for each channel by clicking the corresponding tab. In the Tab "All" the user can review the changes made to all ports along with the network configuration settings from the "General" tab prior pressing the OK button to save the changes.

By pressing the OK button the following window will appear:

Communicating with Device Server
This device has a data connection in progress. Performing requested operation will abort this connection. Continue still? <u>More info</u>
OK Cancel

By pressing OK the NM-431MP will save all changes performed and reboot. The connection will be aborted. User should press the refresh button in the main window in order for the NM-431MP to re appear in the list.

The NM-431MP is now configured properly to transmit and receive data to and from the required UDP sockets. The target computer IP-address is also configured. Press the cross to exit the configuration manager.

In case that the Virtual Serial Ports (VSP) is not required to be created and the target application can access the UDP sockets directly, the data should be available for input from the software.



2.1. VSP manager configuration

In the case that serial COM ports are required from the target application to input the NMEA-0183 data then these should be created via the VSP manager utility as follows:



The utility is started by clicking on Tibbo VSP Manager Icon or on the corresponding shortcut under the Start>All Programs>Tibbo>Tibbo Device Server Toolkit>Tibbo VSP Manager for windows XP

The following window will appear:

A Tibbo VSP Manager - V5.9.10			
Port Help			
Port name Routing m Destinati	on Local	Re Pro ₽ C	Add move All operties llow er-User onfigs
Add, edit, remove Tibbo Virtual Serial Ports			

If any Virtual Serial Port (VSP) is already configured then it will show up in the list. Already added ports can be removed by pressing the Remove/Remove All buttons or edited by selecting the port pressing the Properties button.

Pressing the Add button will add and start the configuration of a new Virtual Serial Port.

The software you are installing for this hardware: Tibbo Virtual Serial Port has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either impediately us in the future. Microsoft strongly
recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway STOP Installation

A pop-up message will require confirmation on installing the driver for the Virtual Serial Port. Press "Continue Anyway" to proceed.



New Tibbo Virt	ual Serial Port Prop	perties	? 🛛
VSP Properties	Control Lines Default S	erial Settings	
VSP name:	СОМ2 🗸	For user: <u>Main Conf</u>	ig 🔰
Networking-			
Transport protocol:	UDP 💌	Transport provider:	ult) 🔽
Routing mode:	Server 💌	Connection On data mode:	~
On-the-fly commands:	Disabled 💌	OTF index: 0	A V
Listening port:	1001	Connection 5 timeout:	-
Destination-			
Specify by:	IP-address	Browse for E	S
IP-address:	127.0.0.1	: 1001	
		ОК	Cancel

Har dwar	e Installation The software you are installing for this hardware: Tibbo Virtual Serial Port
	has not passed Windows Logo testing to verify its compatibility with Windows XP. [Tell me why this testing is important.] Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	Continue Anyway STOP Installation

🔍 Tibbo V	SP Manager -	V5.9.10		×
<u>P</u> ort <u>H</u> elp				
Port name COM2	Routing m UDP server	Destination	Local 1001	Add Remove Remove All Properties Properties Allow Per-User Configs
Add, edit, rem	ove Tibbo Virtual	Serial Ports		

The new Virtual Serial Port configuration window will appear.

Configure the port new port as show in the image:

- 1. VSP name: Select the new COM port name. It will be assigned automatically to the first available COM of the computer. Change to a not used COM port if required.
- 2. Transport Protocol: change to UDP
- 3. Routing mode: change to Server
- 4. On-the-fly commands: change to Disabled
- 5. Listening port: Fill in the UDP socket configured for listening according to Image 3
- 6. Transport provider: TDI (default)
- 7. Connection timeout: 5

Pressing "OK" will result for the pop-up window to appear.

Press "Continue Anyway" once more to proceed with the VSP creation.

The new Virtual Serial Port will be created.

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The new Port will be shown in the device manager (windows XP) as shown in the image and it will be accessed by applications as if it was a physical Serial Port.

Data input in the created VSP can be reviewed with a typical hyper terminal application:



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3. Configuring the NM-431MP using the http browser and the VSP manager

To configure the NM-431MP start your web browser (i.e. Windows Internet Explorer, Firefox, Chrome etc) and type in the IP address of the NM-431MP. A login screen will be loaded.



Click "Login" (leave the password field bank) to enter the configuration setup.

Firefox 🔻					
http://192.168.0.204/h	ome.	html +			
	iome	.html 🏫 🔻	C 8 - Google	2	
Nuova Marea Itd	^	General Setting	js		
		Setting name	Setting value		
Serial Settings		Login Password			
Routing Status	=	Owner Name	nm		
Initialize		Device Name	NM-431MP		
Reboot		DHCP	Disabled 💌		
Log out		IP-address	192.168.0.204		
209 001		Gateway IP-address	192.168.0.115		
		Subnet Mask	255.255.255.0		
		Serial Port Configuration-B	Option 8 💌		
		Save Reload			
<	~				

The General Settings screen will load displaying all network configurations as in the image 2 above The Network settings for the NM-431MP should be configured as follows:

- 1. Owner name: nm
- 2. Device name: NM-431MP
- 3. DHCP: 0-Disabled
- 4. IP-address: Enter the fixed IP-address according to your local network
- 5. Gateway IPaddress: Enter the Fixed IP-address of the target computer running the software
- 6. Subnet mask: Enter the subnet mask (usually 255.255.255.0)

 Serial port configuration: Option
 8 (never change!!)

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www.nuovamarea.net (c) nuova marea Itd The DHCP option is by default set to 1-Enable in order for the NM-431MP interfaces to be discoverable in new installations. You can keep the setting enabled but it is strongly recommended to configure both target computer and the connected NM-431MP interfaces with fixed IP-addresses for ease in future maintenance. In addition when keeping peripherals in a fix IP configuration there is no need for a router to be part of the installation.

The serial port configuration should be left unchanged to Option 8 at all times else not all input ports will be inputted.

By selecting the Serial Settings option in the left pane you can configure the NM-431MP for each channel (here channel 1 is shown only) as in the image 3 above

http://192.168.0.204/hom	e.html +		
	e.html 🏠 🔻 🕻	🔋 🔀 🔻 Google 🛛 🔎	
Nuova Marea Itd	Serial Settings		
General Settings	Channel 1	~	
Serial Settings			
Routing Status	Setting name	Setting value	
- Initializa	Connection Timeout	5	
milianze	Transport Protocol	UDP	
Reboot	Broadcast UDP Data	Reject 💌	
Log out	Inband Commands	Disabled 💌	
	Routing Mode	Server OR Client (Mas 💌	
	Accept Connection From	Any IP-address 💌	
	Port	1001	
	Connection Mode	On data OR commant	
	Destination IP-address	255.255.255.255	
	Destination Port	1001	
	Serial Interface	Full-duplex	
	RTS/CTS Flow Control	Disabled OR remote 💌	
	DTR Mode	Idle OR remote	
	Power-up DTR State		
wner Name: nm levice Name:	Baudrate	4800bps	
IM-431MP	Parity	None 💌	
P: 192.168.0.204	Data Bits	1	
1AC: 0.24.77.80.40.119	May Intercharacter Delay		
	Soft Entry Into Serial Programming Mode	Disabled V	
	Escane Character (ASCII Code)	1	
	On the fly Commands		
	Descurred for On the flu Commands		
	Password for Un-the-fly Commands		
	Notification Destination	Last port 💌	
	Save Reload		

- 1. Connection Mode: On data OR command
- 2. Destination IP-address: 255.255.255.255
- 3. Destination port: Select the UDP socket to read from the computer
- 4. Serial interface: Fullduplex
- 5. RTS/CTS Flow Control: Disable OR remote
- 6. DTR Mode: Idle OR remote
- 7. Power-up DTR state: LOW
- 8. Baudrate: Select the baud rate of the signal connected to input 1
- 9. Parity: Select the Parity option for the signal connected to input 1
- 10. Data bits: Select the Data bits option for the signal connected to input 1
- 11. Max intercharacter delay: 1
- 12. Soft entry into serial programming
- 13. Escape Character (ASCII Code): 1
- 14. On-the-Fly commands: Disabled
- 15. Password for On-the-fly Commands: Disabled
- 16. Notification bitmask: 0
- 17. Notification destination: Last port
- Connection timeout (min):5
- Transport Protocol: UDP
 Broadcast UDP data:
- Reject
- 21. Inband Commands: Disabled
- 22. Routing Mode: Server OR Client (master)
- 23. Accept connections from: Any IP-Address

24. Port: Select the UDP socket to transmit data from the computer.

After configuring correctly the NM-431MP click "Save" and then "Reload". The same procedure must be followed to configure all four input ports by selecting the corresponding channels in the Serial settings menu.

In the case that serial com ports are required from the target application to input the NMEA-0183 data then these should be created via the VSP manager utility as show in the 2.1 section of this manual.

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Appendix A: Windows Firewall configuration

1. Using auto-discovery access mode of DS Manager with Windows Firewall

Once you run the *DS Manager* (or click *Refresh* in the auto-discovery mode), and provided that your *Firewall* is using default configuration, you will get this warning message:



This message means that Windows Firewall has detected certain network activity that is currently not allowed. Application name is "Run DLL as an App". Click Unblock and the DS Manager will be able to auto-discover local Device Servers again.

If, when you run the *DS Manager* (click *Refresh*), the warning is not displayed (and the *DS Manager* is still unable to find Device Servers) then this may be because the *Firewall* is not allowing "exceptions" and/or firewall notifications are not enabled.



Run the Firewall (Start→Control Panel→Windows Firewall) and make sure that "Don't allow exceptions" checkbox is unchecked (clear)

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Windo	ws Firewa	ill		
eneral	Exceptions	Advanced		
Vindow rogram owork	is Firewall is t is and service better but mij is and Servic	blocking incoming ne sselected below. A ght increase your se es:	stwork connection dding exceptions curity risk.	s, except for the allows some programs
Name				
Ac	tiveSync Cor	nection Manager		
Fike	and Printer	Sharing		
☑ 100	Lite			
MS MS	N Messenge	ir	/	
🗹 Re	mote Assista	nce		
Re	mote Deskto	p		
🗹 Ru	n a DLL as a	п Арр		
✓ To	tal Command	er 32 bit internationa	I version, file man	ager replacement
LUP	mP Framewo	rk		
			C	
Add	rogram	Add Port	Edit	Delete
Disp	lay a notifical	ion when Windows	Firewall blocks a p	rogram
What ar	e the risks of	allowing exceptions	2	
			_	
				DK Cancel
_	_	_		

Next, click on the *Exceptions tab* and make sure that *Display a notification when Windows Firewall blocks a program checkbox* is checked:

After you "unblock" the DS Manager the Firewall puts it into the list of "exceptions" i.e. programs whose traffic is allowed to pass through the Firewall:

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2. Manual way of making the auto-discovery mode work

Same result can be achieved by telling the Firewall which port on the PC should be opened. To do this click on the Exceptions tab of the Windows Firewall dialog, then press Add Port... button- Edit a port dialog will open:

Add a Port	
Use these settings number and protoc want to use.	to open a port through Windows Firewall. To find the port ol, consult the documentation for the program or service you
Name:	DSMan bcast
Port number:	65534
	O TCP O UDP
What are the risks	of opening a port?
Change scope	OK Cancel

Input any meaningful name into the Name textbox (i.e. "DSMan bcast"- this is because what we are opening here is a port for DS Manager's autodiscovery broadcasts to work). In the Port number textbox input 65534- this is the port number that must be opened on your PC. Finally, select UDPthis is a protocol the DS Manager is using to find Device Servers on the network. Click OK when finished.

Windows Firewall	×
General Exceptions Advanced	
Windows Firewall is blocking incoming network connections, except for the programs and services selected below. Adding exceptions allows some programs to work better but might increase your security risk.	
Name	
ActiveSync Connection Manager File and Printer Sharing ICQLite MSN Messenger Remote Assistance Remote Desktop Tibbo bcast Total Commander 32 bit international version, file manager replacement UPnP Framework	
Add Program Add Port Edk Delete Display a notification when Windows Firewall blocks a program What are the risks of allowing exceptions? OK Cancel	

New entry will appear in the list of exceptions and the *DS Manager* will start working properly

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3. Opening the Firewall for DS data connections

Windows Firewall monitors all incoming connections and that means that if your DS is supposed to connect to the *VSP* on the PC (or directly to your application) then a specific port (to which the DS will be connecting) must be opened on the *Firewall*.

For example, if you know that the DS will be opening a TCP connection to the VSP "COM3" with listening port number 1001 then you need to "open" this port in the *Firewall*. Use *Add port*... feature to do this:

	Add a Port
ort 8 you	Use these settings to number and protocol want to use.
	Name:
1	Port number:
	(
A	What are the risks of
	(What are the risks of Change scope

You only need to open ports if your DS is going to connect to your PC. If it is the *VSP* (or application) on your PC that is going to connect to the DS then you don't need to setup the *Firewall*. This is because the *Firewall* doesn't block any connections that originate from within the PC.

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