

Use this screen to enable or disable HTTP console, HTTPS console, TELNET console, and SSH console.

Accessible IP List

ΜΟΧΛ	w.moxa.com		≫ Total Solution for Industi
Main Menu Overview Wizard Time Settings Network Settings Serial Port Settings System Management	Accessible IP List Console list Enable Console list Conso	IP Address	Netmask
 Misc. Network Settings Console Settings Accessible IP List TCP Alive Check Time Serial Data Logging SNMP Agent Auto Warning Settings System Status Maintenance Logout 	Port data list # Enable 1	IP Address	Netmask

NPort W2004 uses an IP address based filtering method to control access to itself.

Accessible IP Settings allows you to add or block remote host IP addresses to prevent unauthorized access. Access to NPort W2004 is controlled by IP address. That is, if a host's IP address is in the accessible IP table, then the host will be allowed to access the NPort W2004. You can set up one of the following cases by setting the parameters accordingly.

- Only one host with a specific IP Address can access the NPort W2004 Enter the specific IP address (e.g., 192.168.1.1), and enter 255.255.255.255 for Netmask.
- Hosts on the specific subnet can access the NPort W2004 Enter an IP address (e.g., 192.168.1.0), and enter the Netmask (e.g., 255.255.255.0). Note that this type of setting will allow access to all network hosts on a particular subnet.
- Any host can access the NE-4000T

Disable this function by un-checking the "Enable the accessible IP list" checkbox. Refer to the following table for more configration examples.

Allowable Hosts	IP Address	Netmask
Any host	blank	blank
192.168.1.120	192.168.1.120	255.255.255.255
192.168.1.1 to 192.168.1.254	192.168.1.0	255.255.255.0
192.168.0.1 to 192.168.255.254	192.168.0.0	255.255.0.0
192.168.1.1 to 192.168.1.126	192.168.1.0	255.255.255.128
192.168.1.129 to 192.168.1.254	192.168.1.128	255.255.255.128

The following "Allowable Hosts" table gives five configuration examples.

TCP Alive Check Time

	w.moxa.com
Main Menu Overview Mizard Time Settings	Total Solution for Industrial Device TCP Alive Check Time NPort W2000 Series automatically closes the TCP connection if there is no TCP activity from the host computer given time.
Serial Port Settings Settings System Management	Settings Alive Check Time 7 (0 - 99 min)
Misc. Network Settings Console Settings Accessible IP List	Submit Cancel
TCP Alive Check Time Serial Data Logging SNMP Agent	
🗉 📋 Auto Warning Settings	

TCP alive check time

Setting	Factory Default	Necessity
0 to 99 min	7 min	Optional

0 min: TCP connection is not closed due to an idle TCP connection.

1 to 99 min: NPort W2004 automatically closes the TCP connection if there is no TCP activity for the given time. After the connection is closed, NPort W2004 starts listening for another host's TCP connection.

Serial Data Logging

MOXAww	w.moxa.com	>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	
Main Menu Overview Mizard Time Settings	Serial Data Loggi The data to and fro	ng m the serial ports can be recorded and stored in the system RAM for troubles!	
Network Settings	Serial Data Logging		
🗉 🧰 Serial Port Settings	Service	○ Enable ④ Disable	
🖻 🚖 System Management			
Misc. Network Settings Console Settings	Submit C	ancel	
Accessible IP List			
TCP Alive Check Time			
Serial Data Logging			
SNMP Agent			
🗉 🖽 Auto Warning Settings			

NPort provides the capability to store data logs for all serial ports. The logs will be stored in the system RM. The data will be deleted when NPort is powered off. Due to the system's SDRAM limitation, the memory size of local buffers is fixed. Each serial port is allotted 64 KB to store the port's log file.

SNMP Agent

MOXA	w.moxa.com		≫ Total Solution for Indus
Contraction Menu	SNMP Agent		
·· 🔁 Wizard	Configuration		
 Time Settings Network Settings Serial Port Settings System Management Misc. Network Settings Console Settings 	SNMP Read community string System description Contact name Location	 Enable Disable public Device Server 	
Accessible IP List TCP Alive Check Time Serial Data Logging SNMP Agent	Submit Cancel		

To enable the SNMP Agent function, select the enable option, and enter a Community Name (e.g., "public").

Community name

Setting	Factory Default	Necessity
1 to 39 characters (e.g., Support, 886-89191230 #300)	public	Optional

A community name is a plain-text password mechanism that is used to authenticate weakly queries to agents of managed network devices.

Contact

Setting	Factory Default	Necessity

NPort W2004 User's Manual

Web Console Configuration

#300)	1 to 39 characters (e.g., Support, 886-89191230 #300)	None	Optional
-------	---	------	----------

The SNMP contact information usually includes an emergency contact name and telephone or pager number.

Location

Setting	Factory Default	Necessity
1 to 39 characters (e.g., Floor 1, Office No. 2)	None	Optional

Specify the location string for SNMP agents such as NPort W2004. This string is usually set to the street address where the NPort W2004 is physically located.

Auto Warning Settings

Event Settings

ΜΟΧΛ	w.moxa.com		NN Tetal Coludi	
Main Menu	Event Settings		m Total Solutio	n for maustrial D
Wizard	System Event			
 Time Settings Network Settings Serial Port Settings System Management Misc. Network Settings Auto Warning Settings Event Settings Event Settings SNMP Trap System Status Maintenance 	Cold start Warm start Authentication failure IP address changed Password changed Serial Port Event : DCD change Port 1 Port 2 Port 3	Local Log Local Log Local Log Local Log Local Log Local Log Local Log Local Log Local Log	Mail Mail Mail Mail Mail Mail Mail	 Trap
Logout	Port 4	Local Log	Mail	Trap
	Serial Port Event : DSR change	d		
	Port 1	Local Log	🗌 Mail	🗌 Trap
	Port 2	Local Log	🗌 Mail	Trap
	Port 3	Local Log	Mail	Trap
	Port 4	Local Log	🗌 Mail	🗌 Trap
	Submit Cancel			

System Event

Cold start

This refers to starting the system from power off (contrast this with warm start). When performing a cold start, NPort W2004 will automatically issue an Auto warning message by e-mail, or send an SNMP trap after booting up.

Warm start

This refers to restarting the computer without turning the power off. When performing a warm

start, NPort W2004 will automatically send an e-mail, or send an SNMP trap after rebooting.

Authentication Failure

The user inputs a wrong password from the Console or Administrator. When authentication failure occurs, NPort W2004 will immediately send an e-mail or send an SNMP trap.

IP address changed

The user has changed NPort W2004's IP address. When the IP address changes, NPort W2004 will send an e-mail with the new IP address before NPort W2004 reboots. If the NPort W2004 is unable to send an e-mail message to the mail server within 15 seconds, NPort W2004 will reboot anyway, and abort the e-mail auto warning.

Password changed

The user has changed NPort W2004's password. When the password changes, NPort W2004 will send an e-mail with the password changed notice before NPort W2004 reboots. If the NPort W2004 is unable to send an e-mail message to the mail server within 15 seconds, NPort W2004 will reboot anyway, and abort the e-mail auto warning.

Serial Port Event : DCD Changed

The DCD (Data Carrier Detect) signal has changed, also indicating that the modem connection status has changed. For example, a DCD change to high also means "Connected" between local modem and remote modem. If the DCD signal changes to low, it also means that the connection line is down.

When the DCD changes, NPort W2004 will immediately send an e-mail or send an SNMP trap.

Serial Port Event : DSR Changed

The DSR (Data Set Ready) signal has changed, also indicating that the data communication equipment's power is off. For example, a DSR change to high also means that the DCE is powered ON. If the DSR signal changes to low, it also means that the DCE is powered off.

When the DSR changes, NPort W2004 will immediately send an e-mail or send an SNMP trap.

Checkbox Items

. .

Local Log	
Setting	Factory Default

Setting	Factory Default	Necessity
Enable, Disable	Disable	Optional

This feature helps the administrator manage how the NPort W2004 logs system events when enabled events—such as Cold start, Warm start, Authentication failure, etc.—occur. To configure this feature, click on the Event Type **Local Log** checkbox.

Mail

Setting	Factory Default	Necessity
Enable, Disable	Disable	Optional

This feature helps the administrator manage how the NPort W2004 sends e-mail to pre-defined e-mail boxes when the enabled events—such as Cold start, Warm start, Authentication failure, etc.—occur. To configure this feature, click on the Event Type **Mail** checkbox.

Trap

Setting	Factory Default	Necessity
Enable, Disable	Disable	Optional

This feature helps the administrator manage how the NPort W2004 sends SNMP Trap to a pre-defined SNMP Trap server when the enabled events—such as Cold start, Warm start, Authentication failure, etc.—occur. To configure this feature, click on the Event Type **Trap** checkbox.

E-mail Alert

ΜΟΧΛ	w.moxa.com	>>>> Total Solution for Inc
 Main Menu Overview Wirzed 	E-mail Alert	
	Mail Server Settings	
Inne Sectings Network Settings	Mail server (SMTP)	
🗉 🗀 Serial Port Settings	My server requires authentication	
🖹 🔁 System Management	User name]
🖲 🗀 Misc. Network Settings	Password]
🖻 🔄 Auto Warning Settings	From E-mail address	
Event Settings	Alert Mailing List	
SNMP Trap	E-mail address 1	
🗉 🧰 System Status	E-mail address 2	
🖲 🧰 Maintenance	E-mail address 3	
Logout	E-mail address 4	
	Submit Cancel	

Mail Server Settings

Mail server (SMTP)

Setting	Factory Default	Necessity
IP Address or Domain Name	None	Optional

User name

Setting	Factory Default	Necessity
1 to 15 characters	None	Optional

Password

Setting	Factory Default	Necessity
1 to 15 characters	None	Optional

From E-mail address

Setting	Factory Default	Necessity
1 to 63 characters	None	Optional

Alert Mailing List

E-mail address 1/2/3/4

Setting	Factory Default	Necessity
1 to 63 characters	None	Optional



Consult your Network Administrator or ISP for the proper mail server settings. The Auto warning function may not work properly if it is not configured correctly. NPort W2004 SMTP AUTH supports LOGIN, PLAIN, CRAM-MD5 (RFC 2554).

SNMP Trap

	<i>N</i> .m	oxa.com		>>> Total Solution for Industrial Devi
 Main Menu Overview Wizard Time Settings Serial Port Settings System Management Misc. Network Settings Auto Warning Settings Event Settings Event Settings E-mail Alert SNMP Trad System Status Maintenance Logout 	SNI 1 2 3 4	AP Trap SNMP trap receiver IP	Trap version ● v1 ○ v2c ● v1 ○ v2c ● v1 ○ v2c ● v1 ○ v2c ● v1 ○ v2c	Trap Community String alert alert alert alert

SNMP trap receiver IP (or domain name)

Setting	Factory Default	Necessity
IP address or Domain Name	None	Optional

System Status

WLAN Status

The WLAN Status page lists Mode, SSID, Band, Channel, Link Status, Signal Strength, Connection Speed, WEP Mode, IP Configuration, IP Address, and Netmask, as shown in the following figure.

ΜΟΧΛ	w.moxa.com	
Main Menu Overview	WLAN Status	
🔲 Wizard	WLAN Status	
🔲 Time Settings	Country Code	US
Network Settings	Network Mode	Infrastructure Mode
Serial Port Settings	SSID	default
🔄 System Management	Channel	N/A
Misc. Network Settings	Link Status	Not Connected
Auto Warning Settings	Signal Strength	0 %
	Connection Speed	0 MDps Disable
	IP Configuration	Static
Coriol to Notwork Coppor	IP Address	192.168.127.254
	Netmask	255.255.255.0
Serial Port Status		
Serial Port Settings		
🔲 Serial Data Log	Refresh	
Network Connections		
🛄 System Log		
🗄 🧰 Maintenance		
🗀 Logout		

Serial to Network Connections

The **Serial to Network Connections** page lists the operation modes and IP addresses associated with each of the wireless device server's serial ports.

	w.mo	Aa.com		💓 Total Solut
Main Menu Overview Nicord	Seria	Il to Network Connection	าร	
wizard	Port	OP Mode		Connections
Time Settings	1	TCP Server Mode		
🗈 🧰 Network Settings	2	TCP Server Mode		
🗄 🧰 Serial Port Settings	3	TCP Server Mode		
🗄 🔄 System Management	4	TCP Server Mode		
🖲 📄 Misc. Network Settings				
🗉 🧰 Auto Warning Settings				
🖻 🔁 System Status				
·· 🔁 WLAN Status				
💼 Serial to Network Connec				
💼 Serial Port Status				
🗀 Serial Port Settings				
"📄 Serial Data Log				
Network Connections				
System Log				
🗄 🛄 Maintenance				

Serial Port Status

The **Serial Port Status** page lists serial transmission stats for each of the wireless device server's serial ports.

s	erial Port St	tatus						
	Port	TxCnt	RxCnt	TxTotalCnt	RxTotalCnt	DSR	CTS	DCD
	1	0	0	0	0	Off	Off	Off
	2	0	0	0	0	Off	Off	Off
	3	0	0	0	0	Off	Off	Off
	4	0	0	0	0	Off	Off	Off

Serial Port Settings

The Serial Port Settings page lists the serial transmission settings for each of the four ports.

Seria	l Port Settings						
Port	Baud Rate	Bits	Stop	Parity	Flow Control	FIFO	Interface
1	115200	8	1	None	XON/XOFF	Enable	RS-232
2	115200	8	1	None	XON/XOFF	Enable	RS-232
3	115200	8	1	None	XON/XOFF	Enable	RS-232
4	115200	8	1	None	XON/XOFF	Enable	RS-232

Serial Data Log

This Text box is enabled only when Data logging is enabled. The data log contents are displayed in ASCII mode or HEX mode. Use the **Select all** button to select the entire log; you can then copy and paste the contents into a text file. The **Clear log** and **Refresh** buttons are used to clear the log, and refresh the log contents, respectively.

		≫ Tota
Main Menu Overview Wizard Time Settings	Serial Data Log Data Log - ASCII	
 Network Settings Serial Port Settings System Management Misc. Network Settings Auto Warning Settings System Status Serial to Network Connections Serial Dort Settings Serial Data Log Network Connections System Log Maintenance 	Select Port Port1 Port2 Port3 Port4	[ASCII][HEX]
Logout		

Network Connections

The Network Connections page	displays the current st	tatus of the network	connection.
------------------------------	-------------------------	----------------------	-------------

Network Connections						
Protocol	Recv-Q	Send-Q	Local Address	Foreign Address	State	
TCP	0	0	*:1024	*:*	LISTEN	
TCP	0	0	*:20000	*.*	LISTEN	
TCP	0	0	192.168.126.254:4001	*.*	LISTEN	
TCP	0	0	192.168.126.254:4002	*.*	LISTEN	
TCP	0	0	192.168.126.254:4003	*.*	LISTEN	
TCP	0	0	192.168.126.254:4004	*.*	LISTEN	
TCP	0	0	192.168.126.254:966	*.*	LISTEN	
TCP	0	0	192.168.126.254:967	*.*	LISTEN	
TCP	0	0	192.168.126.254:968	*.*	LISTEN	
TCP	0	0	192.168.126.254:969	*.*	LISTEN	
TCP	0	0	*:110	*.*	LISTEN	
TCP	0	0	*:111	*.*	LISTEN	
TCP	0	0	*:80	*.*	LISTEN	
TCP	0	0	*:22	*.*	LISTEN	
TCP	0	0	*:23	*.*	LISTEN	
TCP	0	0	*:25	*.*	LISTEN	
TCP	0	0	*:443	*.*	LISTEN	
TCP	0	0	192.168.126.254:80	192.168.126.100:3103	TIME_WAIT	
TCP	0	653	192.168.126.254:80	192.168.126.100:3106	ESTABLISHED	
UDP	0	0	*:1032	*.*		
UDP	0	0	127.0.0.1:1033	*.*		
UDP	0	0	127.0.0.1:1034	*.*		
UDP	0	0	127.0.0.1:1035	*.*		
UDP	0	0	127.0.0.1:1036	*.*		
UDP	0	0	127.0.0.1:1037	*.*		
UDP	0	0	127.0.0.1:1038	*;*		

System Log

This window displays the **System Log**. Use the **Select all** button to select the entire log; you can then copy and paste the contents into a text file. The **Clear log** and **Refresh** buttons are used to clear the log, and refresh the log contents, respectively.



Change Password

Firmware Upgrade

Click on Firmware Upgrade to upgrade the firmware.

MOXAww	w.moxa.com	🚿 Total Sol
Main Menu Overview	Firmware Upgrade	
Wizard	Firmware Upgrade	
Ime Settings Network Settings	Select Firmware File	
E Serial Port Settings		
🖹 🔁 System Management	Submit Cancel	
🖲 🦲 Misc. Network Settings		

Select the correct firmware file, and then click on **Submit** to load the new firmware into the NPort W2004's memory.

ΜΟΧΛ	w.moxa.com	>>> Total So
Main Menu	Firmware Upgrade	
· 🔁 Wizard	Firmware Upgrade	
Time Settings	Select Firmware File	W2004\binary\firmware\NPW2004_0.2.8.ron
🗄 🛄 Network Settings		
🗉 📃 Serial Port Settings		
🖹 🔁 System Management	Submit Cancel	
🗉 🦲 Misc. Network Settings		

Configuration Import

Select the a configuration file, and then click on **Submit** to load the configuration settings into the NPort W2004.

Main Menu	Configuration Import			
Wizard Time Settings Network Settings	Configuration Import Import configuration from			
Serial Port Settings System Management	Submit Cancel			

Configuration Export

Click on the **Download** button, and then select the file that you would like to export the current configuration to.

ΜΟΧΛ	w.moxa.com		>>> Total Solution for
Main Menu Overview	Configuration Export		
Wizard	Configuration Export		
Ime Settings Network Settings	Download Configuration File	Download	

Configuration Export

Use this page to reset the NPort W2004's settings to the factory default values. Be aware that previous settings will be lost. Choose one of the two options—**Reset to factory default** (excluding IP configuration) or **Reset to factory default**—and then click on **Submit**. Choose the first option to retain the current IP address, Netmask, and Gateway address.

MOXAww	W.moxa.com
 Main Menu Overview Wizard Time Settings 	Load Factory Default This function will reset all settings to the factory default values. All the previous settings w
🗉 🦲 Network Settings	Options
 Serial Port Settings System Management Misc. Network Settings Auto Warning Settings 	 Reset to factory default (excluding IP configuration) Reset to factory default
 E System Status Maintenance 	Submit Cancel

Change Password

To change the password for the NPort W2004, input the **Old password**, **New password**, and then retype the new password in the **Retype password** input box. To erase the password, simply leave all three text input boxes blank, and then click on **Submit**.

		»»				
Main Menu Overview	Change Password					
🔁 Wizard	Password					
 Time Settings Network Settings 	Current Password					
 Serial Port Settings System Management 	Confirm New Password					
🖲 🧰 Misc. Network Settings						
 Auto Warning Settings System Status 	Submit Cancel					
Maintanance						



If you forget the password, the ONLY way to configure NPort W2004 is by using the Reset button on NPort W2004's casing to "Load Factory Default."

Restart Ports

Select the ports you would like to restart, and then click on the Submit button to restart the ports.

MOXAww	w.moxa.com »>>> Total Solution for
Main Menu Overview	Restart Ports
Wizard Time Settings Network Settings	Restart the selected serial ports. Select Ports
Serial Port Settings System Management	
 Misc. Network Settings Auto Warning Settings System Status 	Select All Submit

Restart System

Click on Submit to reboot the NPort W2004..

MOXAww	w.moxa.com » Total Solution fo
Aain Menu	Restart System
Wizard Time Settings	The configuration has been changed. Please click [Submit] button to reboot with new conf
Network Settings	!!! Warning !!!
Serial Port Settings	Reboot will disconnect both serial and Ethernet connections and data
Misc. Network Settings Auto Warning Settings	Submit

6

Installing and Configuring the Software

This following topics are covered in this chapter:

- **Overview**
- **Installing NPort COM Driver**
- □ Intalling NPort Search Utility
- **Configuring NPort COM Driver**
- **Configuring NPort Search Utility**
- **D** Real TTY and Fixed TTY Installation
- **Upgrading the Firmware**

Overview

The Documentation & Software CD included with your NPort W2004 is designed to make the installation and configuration procedure easy and straightforward. This auto-run CD includes the NPort COM Driver (for COM mapping), NPort Search Utility (to broadcast search for all NPort W2004 accessible over the network), User's Manual, and firmware upgrade utility.

Installing NPort COM Driver

1. Click on the **INSTALL COM Driver** button in the NPort Installation CD auto-run window to install the NPort W2000 Series COM Driver.



- 2. Once the installation program starts running, click on Yes to proceed.
- 3. Click on Next when the Welcome window opens to proceed with the installation.



4. Click on **Next** to install program files in the default directory, or use the folder menu to select an alternative location.

🔂 Setup - NPort Windows Driver Manager 📃 💷 🗙
Select Destination Directory Where should NPort Windows Driver Manager be installed?
Select the folder where you would like NPort Windows Driver Manager to be installed, then click Next.
C:\Program Files\NPortDrvManager
C:\ Program Files Accessories Adobe Analog Devices ArcSoft Borland
The program requires at least 1.2 MB of disk space.
< <u>B</u> ack <u>N</u> ext > Cancel

NPort W2004 User's Manual

Click on Next to install the program's shortcuts in the NPort Windows Driver Manager 5. Start Menu folder.

🕵 Setup - NPort Windows Driver Manager	_ 🗆 ×
Select Start Menu Folder Where should Setup place the program's shortcuts?	Ð
Select the Start Menu folder in which you would like Setup to create the program's shortcuts, then click Next.	
NPort Windows Driver Manager	
Click on Install to proceed with the installation.	

6.

😽 Setup - NPort Window	s Driver Manager			
Ready to Install Setup is now read computer.	y to begin installing NPort	Windows Driver	Manager on your	
Click Install to cor change any settin	tinue with the installation, gs.	or click Back if ;	you want to review	or
Destination direct C:\Program F	ory: iles\NPortDrvManager			<u> </u>
Start Menu folder NPort Windo	ws Driver Manager			
				T
1				
		< <u>B</u> ack	Install	Cancel

- 7. The Installing window will report the progress of the installation.
- Click on Finish to complete the installation of the NPort W2004 COM Mapping Utility. 8.



Installing NPort Search Utility

1. Click on the **INSTALL UTILITY** button in the NPort Installation CD auto-run window to install the NPort Search Utility.



- 2. Once the program starts running, click on Yes to proceed.
- 3. Click on Next when the Welcome window opens to proceed with the installation.

Installing and Configuring the Software



4. Click on **Next** to install program files in the default directory, or use the folder menu to select an alternative location.

7 Setup - NPort Search Utility	
Select Destination Directory Where should NPort Search Utility be installed?	
Select the folder where you would like NPort Search Utility to be installed, then click Next.	
C:\Program Files\NPortSearch	
C:\ Program Files Accessories Adobe Analog Devices ArcSoft Borland	
🖃 C:	
The program requires at least 0.5 MB of disk space.	
< <u>B</u> ack <u>N</u> ext > Cano	el

NPort W2004 User's Manual

6.

5. Click on **Next** to install the program's shortcuts in the **NPort Search Utility** Start Menu folder.

🕼 Setup - NPort Search Utility
Select Start Menu Folder Where should Setup place the program's shortcuts?
Select the Start Menu folder in which you would like Setup to create the program's shortcuts, then click Next.
NPort Search Utility
Click on Install to proceed with the installation.
🕵 Setup - NPort Search Utility
Ready to Install Setup is now ready to begin installing NPort Search Utility on your computer.
Click Install to continue with the installation, or click Back if you want to review or change any settings.
Destination directory: C:\Program Files\NPortSearch Start Menu folder:
NPort Search Utility
< <u>B</u> ack [Install] Cancel

- 7. The Installing window will report the progress of the installation.
- 8. Click on **Finish** to complete the installation of the NPort W2004 Search Utility.



Configuring NPort COM Driver

The **NPort COM Driver** utility installs Real COM drivers that work under Windows 98/ME/2000/XP/2003. After you install NPort COM Driver, you can set up the NPort W2004's serial ports as remote COM ports for your PC host.

Use the following steps to map the COM ports:

1. Click on Start → Nport Windows Driver Manager → NPort COM Mapping Utility to start the COM mapping utility.

Ē.	NPort Windows Driver Manager	Þ	*	NPort COM Mpasing Utility
	¥		1	Uninstall

2. Click on the **Add** icon.

🌾 NPort Windows Driver Manager										
_ <u>F</u> ile <u>C</u> OM Mapping <u>V</u> iew <u>H</u> elp										
<u> </u>	Exit Add Remove Apply Undo Setting									
No \triangle	COM Port	IP Address	Data Port	Command Port	Mode					

3. Click on **Rescan** to search for NPort device servers, select the server you would like to map COM ports to, and then click on **OK**.

Add 1	(Port							×
(Select From	List	Res	scan	Select	A.II	Clear All	
	No	Model		MAC Addre	ss	IP Ac	ddress	[
	⊡ 1	NPort W2004	-US	00:90:E8:9	3:04:36	192.1	168.126.254	
								-
								_
	🔿 Input Manua	ally N	Port If	P Address				-
		1:	st D at	a Port	950			-
		1:	st Corr	nmand Port	966			-
		Т	otal P	orts	1			-
	- 1						1	_
	🥐 <u>Н</u> еlp				 Image: A start of the start of	OK	🛛 🗙 Can	cel

 Alternatively, you can select Input Manually and then input the NPort IP Address, 1st Data Port, 1st Command Port, and Total Ports for the NPort W2004 that you would like to map COM ports to. Click on OK to proceed to the next step.

Add	Add NPort 🔀								
_									
	c	Select From I	_ist	Re	scan	Select	AII	Clear All	
		No	Model		MAC Addre	ss	IP Ad	ldress	
		1	NPort W20	04-US	00:90:E8:93	3:04:36	192.1	68.126.254	
		Input Manual		NPort I	P Address				-
			20	1 of Dist	- Port	050			
				TSUDAU	arun	1900			
				1st Con	nmand Port	966			
				Total P	orts	1			
		<u>?</u> <u>H</u> elp				 ✓ 	ок	🗶 Can	cel
	_								

5. Click on **Yes** to activate the COM ports at this time, or click on **No** to activate the COM ports later. Activating the COM ports saves the information in the host system registry. The host computer will not have the ability to use the COM port until you click on the **Apply** icon.

🐝 NPort Wi	indows Driver Ma	nager			
<u> </u>	Mapping <u>V</u> iew <u>H</u> e	lp			
<u> </u>	Add Remove	Apply Undo Set	d ting		
No 🛆	COM Port	IP Address	Data Port	Command Port	
1+	COM2	192.168.126.254	950	966	
2+	COM3	192.168.126.254	951	967	
3+	COM5	192.168.126.254	952	968	
4 +	COM6	192.168.126.254	953	969	
5+	COM7 Informat	ion		966	
6+	COM8	1011		967	
7+	COM9	De constant de la déce	A. COM Reduced	968	
8+	CUMIU (i)	Do you want to active	the COM Fort now?	969	
	4				
		Yes	No		
Total COM Poi	rt - 0				

6. The display text corresponding to NPorts whose ports are activated will change from blue to black.

🐝 NPort Wi	🏟 NPort Windows Driver Manager					
<u> </u>	<u>File C</u> OM Mapping <u>V</u> iew <u>H</u> elp					
<u> </u>	dd Remove	Apply Undo Setti	i ing			
No 🛆	COM Port	IP Address	Data Port	Command Port		
1	COM2	192.168.126.254	950	966		
2	COM3	192.168.126.254	951	967		
3	COM7	192.168.126.254	950	966		
4	COM8	192.168.126.254	951	967		
5	COM9	192.168.126.254	952	968		
6	COM10	192.168.126.254	953	969		

7. To re-configure the settings for a particular NPort, click on the row corresponding to that NPort to highlight it, and then click on the **Setting** icon.

😵 NPort Windows Driver Manager 🛛						
<u> </u>	Mapping ⊻iew <u>H</u> elp)				
<u> </u>	din din Add Remove	Apply Undo Setti	ng			
No 🛆	COM Port	IP Address	Data Port	Command Port		
1	COM2	192.168.126.254	950	966		
2	COM3	192.168.126.254	951	967		
3	COM7	192.168.126.254	950	966		
4	COM8	192.168.126.254	951	967		
5	COM9	192.168.126.254	952	968		
6	COM10	192.168.126.254	953	969		

8. In the **Basic Setting** panel, use the **COM Number** drop-down list to select a COM number for the NPort's first serial port. Check mark the **Auto Enumerating COM Number for Selected Ports** checkbox to automatically assign the next available COM number to the second serial port. Note that ports that are "in use" will be labeled accordingly.

🔹 COM Port Setting
Port Number: 1 Port(s) Selected. 1st port is Port 1
Basic Settings Advanced Settings Serial Parameters
COM Number COM2 (current) (in use)
Auto Enumerating COM Number for Selected Ports.
Cancel

Click on the Advanced Setting tab to modify Tx Mode, FIFO, and Flash Flush.

<u>Tx Mode</u>

Hi-performance mode is the default for Tx mode. When the driver finishes sending data to the NPort W2004, the driver will issue a "Tx Empty" response to the program.

Under **classical mode**, the driver will not notify the user's program that Tx transmission is finished until all Tx data has been sent out from the NPort W2004. This ODE will cause

lower throughput. Classical mode is recommended if you want to ensure that all data is sent out before further processing.

<u>FIFO</u>

If the FIFO is **Disabled**, NPort W2004 will transmit one byte each time the Tx FIFO becomes empty, and an Rx interrupt will be generated for each incoming byte. This will result in a faster response and lower throughput. If you want to use XON/XOFF flow control, we recommend setting the FIFO to Disable.

Fast Flush (only flushes the local buffer)

- a. We have added one optional Fast Flush function to Moxa's new NPort Real COM driver.
- b. For some applications, the user's program will use the Win32 "PurgeComm()" function before it reads or writes data. With our design, after the program uses this Purge Comm() function, the NPort driver will keep querying NPort's firmware several times to make sure no data is queued in the NPort firmware buffer, rather than just flushing the local buffer. This kind of design is used to satisfy some special considerations. However, it might take more time (about several hundred milliseconds) than a native COM1, because it needs to work via Ethernet. That's why the native COM ports on the motherboard can work fast with this function call, but NPort requires much more time. In order to accommodate other applications that require a faster response time, the new NPort driver implements a new "Fast Flush" option. Note that by default, this function is disabled.
- c. To begin with, make sure there are some "PurgeComm()" functions being used in your application program. In this kind of situation, you might find that your NPort exhibits a much poorer operation performance than when using the native COM1 port. Once you have enabled the "Fast Flush" function, you can check to see if there has been an improvement in performance.
- d. By default, the optional "Fast Flush" function is disabled. If you would like to enable this function, double click on the COM ports that are mapped to the NPort, and then select the "Fast Flush" checkbox. You should find that when "Fast Flush" is enabled, the NPort driver will work faster with "PurgeComm()."

🐝 COM Port S	etting 📃 🗖 🔀
Port Number:	1 Port(s) Selected. 1st port is Port 1
Basic Settings	Advanced Settings Serial Parameters
(The FIFO se	ettings will overwrite the firmware setting .)
Tx Mode	Hi-Performance
FIFO	Enable
🔽 Fast Fl	ush (Only Flush Local Buffer)
C Apply A	Il Selected Ports
	Cancel

9. The Serial Parameter settings shown in the following figure are the default settings when the NPort W2004 is powered on. However, the program can redefine the serial parameters to different values after the program opens the port via Win 32 API.

*	COM Port Setting		
	Port Number: 1	Port(s) Selecte	ed. 1st port is Port 1
	Basic Settings Advar	nced Settings	Serial Parameters
	(*These options will be few application such a case you can ignore t	e saved on reg as serial printer hese settings.)	istry and used on driver. In general
	Baud Rate	9600	•
	Parity	None	-
	Data Bits	8	•
	Stop Bits	1	•
	Flow Control	None	•
	🗖 Apply All Selec	ted Ports	
		🗸 ок	Cancel

10. To save the configuration to a text file, select Export COM Mapping. You will then be able to import this configuration file to another host and use the same COM Mapping settings in the other host.

🐝 NP	ort Windows	Driver M	lanager		
<u> </u>	<u>C</u> OM Mapping	<u>V</u> iew <u>⊦</u>	<u>l</u> elp		
	💼 Add 💼 Remove	Ctrl+N Ctrl+D	Apply Undo Sett	j ing	
No	R Catting	CHUC	IP Address	Data Port	Command Port
1	EL PEIDIS	CIII+C	192.168.126.254	950	966
2	A Apply	Ctrl+S	192.168.126.254	951	967
3		CHUZ	192.168.126.254	950	966
4	Lever 01000	CIII+Z	192.168.126.254	951	967
5	A Famort		192.168.126.254	952	968
6	- Export		192.168.126.254	953	969
	👗 Import				

Configuring NPort Search Utility

The Broadcast Search function is used to locate all NPort W2004s that are connected to the same LAN as your computer. After locating an NPort W2004, you will be able to change the IP address.

Since the Broadcast Search function searches by MAC address and not IP address, all NPort W2004s connected to the LAN will be located, regardless of whether or not they are part of the same subnet as the host.

1. Open the NPort Search Utility and then click on the Search icon.

🔎 NPort Se	arch Utility					
∫ <u>F</u> ile F <u>u</u> ncti	ion <u>H</u> elp					
<u> </u>	<u> </u>	arch <u>I</u> P	 Locate	<u>_</u> <u>C</u> onsole	P Assigin IP	 Un-Lock
No 🛆	Model	MAC Ad	ldress	IP Address		
1	NPort W2004-US	00:90:E	8:93:04:36	192.168.126.254		

2. The **Searching** window indicates the progress of the search.

Searc	hing:				×
	Searching for I Found 1 NP	NPort ort(s), 4 second(s)	left.	✓ <u>S</u> top	
	No	Model	MAC Address	IP Address	
	1	NPort W2004-US	00:90:E8:93:04:36	192.168.126.254	

3. When the search is complete, the NPort W2004 units that were located will be displayed in the NPort Search Utility window.

🔎 NPort Se	arch Utility			
<u> </u>	ion <u>H</u> elp			
<u> </u>	<u> </u>	arch <u>I</u> P <u>L</u> ocate	<u> </u>	E sigin IP <u>U</u> n-Loc
No 🛆	Model	MAC Address	IP Address	
1	NPort W2004-US	00:90:E8:93:04:36	192.168.126.254	

4. Click on the **Assign IP** icon to change the IP address.

🔎 NPort Search Utility					
<u>File</u> F <u>u</u> nct	ion <u>H</u> elp				
	<u>ea</u> <u>S</u> earch Se	arch <u>I</u> P <u>L</u> ocate	 Console	Assigin IP	Un-Lock
No 🛆	Model	MAC Address	IP Address		
1	NPort W2250-US	00:90:E8:24:51:10	192.168.8.72		
					?1

Cancel

Real TTY and Fixed TTY Installation

Installing the Real TTY driver

Procedure

To map an NPort serial port to the host's tty port, you need to:

- Set up NPort Make sure the IP configuration is ok and you can access the NPort (ping, telnet...) successfully, and then configure the NPort serial port to Real COM Mode.
- 2. *Install driver files on the host* Refer to "Driver Files Installation" below for details.
- 3. *Map the NPort serial port to the host's tty port* Refer to "Mapping TTY Ports" below for details.

Hardware Installation

Before proceeding with the software installation, make sure you have completed the hardware installation, as illustrated in the user's manual.

The default IP address for NPort Server is 192.168.127.254.

NOTE After installing the hardware, you MUST configure the NPort operating mode to **Real COM Mode**.

Driver Files Installation

- a. Get the driver file from the product CD-ROM or Moxa website.
- b. Log in to the console as a super user (root).
- c. Execute **cd** / to go to the root directory.
- d. Copy the driver file **npreal2xx.tgz** to the "/" directory.
- e. Execute tar xvfz npreal2xx.tgz to copy all files into the system.
- f. Execute /tmp/moxa/mxinst.

NOTE For RedHat AS/ES/WS and Fedora Core1, extra argument is needed: # /tmp/moxa/mxinst SP1

g. The shell script will install the driver files automatically.

After installing the driver, you will be able to see several files in the /usr/lib/npreal2/driver folder, including"

- > mxaddsvr (Add Server, mapping tty port)
- > mxdelsvr (Delete Server, un-mapping tty port)
- > mxloadsvr (Reload Server)
- > mxmknod (Create device node/tty port)
- > mxrmnod (Remove device node/tty port)

> mxuninst (Remove tty port and driver files)

At this point, you will be ready to map the NPort serial port to the system tty port. See "Mapping TTY Ports" below for detailed instructions.

Mapping TTY Ports

Before mapping tty ports, you must set the operation mode of your NPort to **Real Com Mode**. We provide two ways to map tty ports.

Mapping tty ports automatically

After logging in as a super user, enter the directory /usr/lib/npreal2/driver and then execute mxaddsvr to map the target NPort serial port to the host tty ports. The syntax of mxaddsvr is:

mxaddsvr [NPort IP Address] [Total Ports] ([Data port] [Cmd port])

Example 1:

cd /usr/lib/npreal2/driver

./mxaddsvr 192.168.3.4 16

Example2:

cd /usr/lib/npreal2/driver

./mxaddsvr 192.168.3.4 16 4001 966

In Example 1, 16 tty ports will be added, all with IP **192.168.3.4**, but with data ports equal to (950, 951, ..., 965), and command ports equal to (966, 967, 968, ..., 981).

In example2, 16 tty ports will be added, all with IP **192.168.3.4**, but with data ports equal to (4001, 4002, ..., 4016), and command ports equal to (966, 967, 968, ..., 981).

The following actions will be performed:

- > Modify the "npreal2d.cf"
- > Create tty ports in directory "/dev" with major & minor number configured in npreal2d.cf.
- > Stop and then restart the driver.

Remove Mapped TTY ports

As with the "Mapping TTY Ports" task, we provide two ways to remove mapped tty ports:

Remove the mapped tty ports automatically

After logging in as root, enter the directory /usr/lib/npreal2/driver and then execute mxdelsvr to delete a server. The syntax of mxdelsvr is:

mxdelsvr [IP]

Example:

cd /usr/lib/npreal2/driver

./mxdelsvr 192.168.3.4

If you don't provide the IP address in the command line, the program will list the installed servers and total ports on screen, so that you can only choose the index of the installed server list to delete. The following actions will be performed:

> Modify the npreal2d.cf

- > Remove the relevant tty ports in directory /dev
- > Stop and then restart the driver.

Driver Files Removal

Driver Removal will remove all driver files, mapped tty ports, and unload the driver. To do this, you only need to enter the directory /usr/lib/npreal2/driver, and then execute mxuninst to uninstall the driver. This program will perform the following actions:

- > Unload the driver.
- > Delete all files and directories in "/usr/lib/npreal2"
- > Delete directory "/usr/lib/npreal2".
- > Modify the system initializing script file.

Installing the fixed TTY driver

Installation and Configuration

step 1:	login to UNIX and create a directory for MOXA TTY, for instance, /usr/etc. # mkdir /usr/etc # cd /usr/etc
step 2:	Extract source code from tar-file : Type "tar xvf moxattyd.tar".
	After extract, you can find the following files : README> this file moxattvd.c> source program
	moxattyd.cf> empty configuration file Makefile> makefile
step 3:	Compile and Link : For SCO UNIX: # make sco For Linux: # make linux For UnixWare 7: # make svr5 For UnixWare 2.1.x, SVR4.2: # make svr42 For IBM AIX:
	<pre># make aix For HP-UNIX: # make hpunix For SunOS 5.8: # make sun For QNX6: # make qnx6</pre>
step 4:	Modify configuration : The configuration of moxattyd program is defined on

"moxattyd.cf" file at the same directory where contains

	program moxattyd. User can use vi or any edit to modify it. It's a text file. For more configuration information, please take at moxattyd.cf file. We put detail decription on it.
	Please note that the "Device Name" is depended on OS. See "E. Device Naming Rule" for more information.
step 5:	Add program moxattyd into /etc/inittab and any tty name you configued at moxattyd.cf. eg. for Linux: ts:2:respawn:/usr/etc/moxattyd p1:345:respawn:/etc/mingetty ttyp1 p2:345:respawn:/etc/mingetty ttyp2
finish:	You have finished the installation and configuration of MOXA TTY.

Start moxattyd program

Run "init q" or reboot your UNIX.

Add additional server

Step 1	: Modify "moxattyd.cf" file to add additional server. User can use vi or any edit to modify it. It's a text file. For more configuration information, please take a look at moxattyd.cf file. We put detail decription on it.
Step 2	: Find the proccess id (PID) of program "moxattyd". # ps -ef grep moxattyd
Step 3	: Update configuration of moxattyd program. # kill -USR1 PID (ex. if "moxattyd" PID = 404, "kill -USR1 404")
finish:	You have finished to add additional server.

A

SNMP Agents with MIB II & RS-232 Like Groups

NPort has built-in SNMP (Simple Network Management Protocol) agent software that supports SNMP Trap, RFC1317 RS-232 like groups and RFC 1213 MIB-II. The following table lists the standard MIB-II groups, as well as the variable implementation for NPort .

		1	
System MIB	Interfaces MIB	IP MIB	ICMP MIB
SysDescr	itNumber	ipForwarding	IcmpInMsgs
SysObjectID	ifIndex	ipDefaultTTL	IcmpInErrors
SysUpTime	ifDescr	ipInreceives	IcmpInDestUnreachs
SysContact	ifType	ipInHdrErrors	IcmpInTimeExcds
SysName	ifMtu	ipInAddrErrors	IcmpInParmProbs
SysLocation	ifSpeed	ipForwDatagrams	IcmpInSrcQuenchs
SysServices	ifPhysAddress	ipInUnknownProtos	IcmpInRedirects
	ifAdminStatus	ipInDiscards	IcmpInEchos
	ifOperStatus	ipInDelivers	IcmpInEchoReps
	ifLastChange	ipOutRequests	IcmpInTimestamps
	ifInOctets	ipOutDiscards	IcmpTimestampReps
	ifInUcastPkts	ipOutNoRoutes	IcmpInAddrMasks
	ifInNUcastPkts	ipReasmTimeout	IcmpOutMsgs
	ifInDiscards	ipReasmReqds	IcmpOutErrors
	ifInErrors	ipReasmOKs	IcmpOutDestUnreachs

RFC1213 MIB-II	supported SNMP	variables:
----------------	----------------	------------

System MIB	Interfaces MIB	IP MIB	ICMP MIB
SysServices	ifInUnknownProtos	ipReasmFails	IcmpOutTimeExcds
	ifOutOctets	ipFragOKs	IcmpOutParmProbs
	ifOutUcastPkts	ipFragFails	IcmpOutSrcQuenchs
	ifOutNUcastPkts	ipFragCreates	IcmpOutRedirects
	ifOutDiscards	ipAdEntAddr	IcmpOutEchos
	ifOutErrors	ipAdEntIfIndex	IcmpOutEchoReps
	ifOutQLen	ipAdEntNetMask	IcmpOutTimestamps
	ifSpecific	ipAdEntBcastAddr	IcmpOutTimestampReps
		ipAdEntReasmMaxSize	IcmpOutAddrMasks
		IpNetToMediaIfIndex	IcmpOutAddrMaskReps
		IpNetToMediaPhysAddress	
		IpNetToMediaNetAddress	
		IpNetToMediaType	
		IpRoutingDiscards	

UDP MIB	TCP MIB	SNMP MIB
UdpInDatagrams	tcpRtoAlgorithm	snmpInPkts
UdpNoPorts	tcpRtoMin	snmpOutPkts
UdpInErrors	tcpRtoMax	snmpInBadVersions
UdpOutDatagrams	tcpMaxConn	snmpInBadCommunityNames
UdpLocalAddress	tcpActiveOpens	snmpInASNParseErrs
UdpLocalPort	tcpPassiveOpens	snmpInTooBigs
	tcpAttempFails	snmpInNoSuchNames
Address Translation MIB	tcpEstabResets	snmpInBadValues
AtlfIndex	tcpCurrEstab	snmpInReadOnlys
AtPhysAddress	tcpInSegs	snmpInGenErrs
AtNetAddress	tcpOutSegs	snmpInTotalReqVars

NPort W2004 User's Manual

Address Translation MIB	TCP MIB	SNMP MIB
AtNetAddress	tcpRetransSegs	snmpInTotalSetVars
	tcpConnState	snmpInGetRequests
	tcpConnLocalAddress	snmpInGetNexts
	tcpConnLocalPort	snmpInSetRequests
	tcpConnRemAddress	snmpInGetResponses
	tcpConnRemPort	snmpInTraps
	tcpInErrs	snmpOutTooBigs
	tcpOutRsts	snmpOutNoSuchNames
		snmpOutBadValues
		snmpOutGenErrs
		snmpOutGetRequests
		snmpOutGetNexts
		snmpOutSetRequests
		snmpOutGetResponses
		snmpOutTraps
		snmpEnableAuthenTraps

RFC1317: RS-232 MIB objects

Generic RS-232-like Group	RS-232-like General Port Table	RS-232-like Asynchronous Port Group
rs232Number	rs232PortTable	rs232AsyncPortTable
	rs232PortEntry	rs232AsyncPortEntry
	rs232PortIndex	rs232AsyncPortIndex
	rs232PortType	rs232AsyncPortBits
	rs232PortInSigNumber	rs232AsyncPortStopBits
	rs232PortOutSigNumber	rs232AsyncPortParity
	rs232PortInSpeed	
	rs232PortOutSpeed	

The Input Signal Table	The Output Signal Table
rs232InSigTable	rs232OutSigTable
rs232InSigEntry	rs232OutSigEntry
rs232InSigPortIndex	rs232OutSigPortIndex
rs232InSigName	rs232OutSigName
rs232InSigState	rs232OutSigState

Well Known Port Numbers

This appendix is for your reference. Listed below are Well Known Port Numbers that may cause network problems if you configure NE-4000T for the same port. Refer to RFC 1700 for Well Known Port Numbers or refer to the following introduction from IANA.

The port numbers are divided into three ranges: the Well Known Ports, the Registered Ports, and the Dynamic and/or Private Ports.

- The Well Known Ports range from 0 through 1023.
- The Registered Ports range from 1024 through 49151.
- The Dynamic and/or Private Ports range from 49152 through 65535.

The Well Known Ports are assigned by IANA, and on most systems, can only be used by system processes or by programs executed by privileged users. The following table shows famous port numbers among the well-known port numbers. For more details, please visit the IANA website at http://www.iana.org/assignments/port-numbers.

TCP Socket	Application Service
0	reserved
1	TCP Port Service Multiplexor
2	Management Utility
7	Echo
9	Discard
11	Active Users (systat)
13	Daytime
15	Netstat
20	FTP data port
21	FTP CONTROL port
23	Telnet
25	SMTP (Simple Mail Transfer Protocol)
37	Time (Time Server)
42	Host name server (names server)

NPort W2004 User's Manual

Well Known Port Numbers

TCP Socket	Application Service
43	Whois (nickname)
49	(Login Host Protocol) (Login)
53	Domain Name Server (domain)
79	Finger protocol (Finger)
80	World Wibe Web HTTP
119	Netword news Transfer Protocol (NNTP)
123	Network Time Protocol
213	IPX
160 - 223	Reserved for future use

UDP Socket	Application Service
0	reserved
2	Management Utility
7	Echo
9	Discard
11	Active Users (systat)
13	Daytime
35	Any private printer server
39	Resource Location Protocol
42	Host name server (names server)
43	Whois (nickname)
49	(Login Host Protocol) (Login)
53	Domain Name Server (domain)
69	Trivial Transfer Protocol (TETP)
70	Gopler Protocol
79	Finger Protocol
80	World Wide Web HTTP
107	Remote Telnet Service
111	Sun Remote Procedure Call (Sunrpc)
119	Network news Tcanster Protocol (NNTP)
123	Network Time protocol (nnp)
161	SNMP (Simple Network Mail Protocol)
162	SNMP Traps
213	IPX (Used for IP Tunneling)

Service Information

This appendix shows you how to contact Moxa for information about this and other products, and how to report problems.

In this appendix, we cover the following topics.

- **D** MOXA Internet Services
- **D** Problem Report Form
- **D** Product Return Procedure

MOXA Internet Services

Customer satisfaction is our number one concern, and to ensure that customers receive the full benefit of our products, Moxa Internet Services has been set up to provide technical support, driver updates, product information, and user's manual updates.

The following services are provided

E-mail for technical support.....support@moxa.com.tw

Moxa Group website for product information, driver downloads, documentation, and more:

.....<u>http://www.moxa.com</u>

Problem Report Form

MOXA NPort W2004

Customer name:	
Company:	
Tel:	Fax:
Email:	Date:

1. Moxa Product: D NPort W2004

2. Serial Number:

Problem Description: Please describe the symptoms of the problem as clearly as possible, including any error messages you see. A clearly written description of the problem will allow us to reproduce the symptoms, and expedite the repair of your product.

Product Return Procedure

For product repair, exchange, or refund, the customer must:

- Provide evidence of original purchase.
- Obtain a Product Return Agreement (PRA) from the sales representative or dealer.
- Fill out the Problem Report Form (PRF). Include as much detail as possible for a shorter product repair time.
- Carefully pack the product in an anti-static package, and send it, pre-paid, to the dealer. The PRA should be visible on the outside of the package, and include a description of the problem, along with the return address and telephone number of a technical contact.

D

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- -- Reorient or relocate the receiving antenna.
- -- Increase the separation between the equipment and receiver.
- -- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- -- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

"Moxa declares that NPort W2004 is limited to CH1-CH11 by specified firmware when controlled in the USA."

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

INFORMATION TO USER:

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.