

Model Information



■ Features

- Controls 4 RS232 or RS422/485 devices located virtually anywhere via Ethernet, WLAN or Internet
- Easy selection of RS232, RS422 or RS485 by single DIP switch or individually by software
- Port expansion over USB A connector
- LAN 1000/100/10 Ethernet auto-detect
- NetCom Manager automatically finds NetCom+ devices in the network
- Configuration over Driver Panels, serial Port, Telnet, WEB Browser, SNMP
- Automatic mode switching between Driver and Raw Mode
- Supports TCP/IP, UDP, Telnet, DHCP, ICMP, HTTP, SNMP V1/2c/3, DNS, PPP, openVPN
- SSL/AES-256 encryption on Ethernet, WLAN and Internet
- Optional: Wireless network IEEE 802.11b/g/n
- Optional: 3G/4G Modem for mobile networks

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NetCom Plus 413

Quick Link: | [Features](#) | [More Pictures](#) | [Overview](#) | [Application](#) | [Interface](#) | [Serial Performance](#) | [Operating Modes](#) | [Power and Environment](#) | [Standards](#) | [Special Features](#) | [Security](#) | [Ordering Information](#) | [Options](#) | [Packaging](#) |

■ More Pictures



Click on the thumbnails for the large picture ...

[>Back to top](#)

■ Overview

The NetCom+ 413 is an industrial-strength network-based serial device servers for connecting four RS232 devices (or RS485 communication lines) like CNC, PLC, weighting scale, scanner and others directly to a network running TCP/IP. The driver for Windows operating system installs Virtual Com Ports. The network is Gigabit Ethernet or optionally wireless by WLAN 802.11b/g/n, another option is Power over Ethernet.

The NetCom+ Servers use a state-of-the art RISC processor for low power and cost effective design. The 4 and 8 port models are very similar, including the case size. Power supply is via DC adapter, or optionally via Ethernet cable with POE IEEE 802.3af.

The serial ports enable data rates of up to 12Mbps in RS422/485 or 1000kbps in RS232 modes. The ports also allow every non-standard bitrate up to 3.5Mbps, and many above that (e.g. 1Mbps). See the [FAQ](#).

The USB 2.0 port supports [USB-COM Plus modules](#), to add more non-isolated and also isolated serial ports. The USB port may also connect external WLAN.

NetCom+ can be configured over Driver Panels, WEB Browser, serial Port, Telnet, SNMP and serves as a transparent serial channel without platform and distance limitation. As modern devices the NetCom+ provide encryption for all communication.

■ Application

- Secure Remote Monitoring
- SCADA system
- Building automation system
- Self-service banking system
- Industrial / Factory / Laboratory automation
- Automatic warehouse control system
- Wafer fabrication system
- Other remote and distributed serial devices control

■ Interface

Ethernet interface	Auto-detecting 1000BaseT/100BaseTx/10BaseT (GigaLAN) Connector 8P8C (RJ45)
Wireless interface	Optional via internal module or external USB stick IEEE 802.11b/g/n operation in Access Point or Client Mode
Protocols	TCP/IP, UDP, Telnet, PPP, DHCP, ICMP, HTTP, LPD, SNMP V1/2c/3, DNS, openVPN
No. of serial port	4x DSUB 9 male connector (as PC) Expandable by USB-COM Plus modules
Serial interface	RS232/422/485 individually selected by software or common by DIP-switch
Available Modes	<ul style="list-style-type: none">● RS232 full duplex● RS422 full duplex (120Ω on/off)● RS485 4 wire, full duplex (120Ω on/off)● RS485 2 wire, half duplex (120Ω on/off) Internal Termination, controlled by operation mode BIAS resistors not required
Signals	<ul style="list-style-type: none">● RS232: TxD,RxD, RTS,CTS, DTR,DSR, DCD, GND● RS422: Tx+/-, Rx+/-, GND● RS485 2 wire: Data+/-, GND● RS485 4 wire: Tx+/-, Rx+/-, GND
RS485 Data control	Controlled by ART (Automatic Receive Transmit control)
USB port	USB 2.0 High Speed, for WLAN and serial port expansion
Mini PCIe slot	Option: mPCIe over USB interface for 3G / 4G connections. Uses internal SIM slot.

[>Back to top](#)

■ Serial Performance

Speed	RS232: 200 bps to 921.6/1000 kbps RS422/485: 200 bps to 12 Mbps Supports non-standard baudrates
Parity	None, even, odd, mark, space
Data bits	7, 8
Stop bits	1, 2

[>Back to top](#)

■ Operating Modes

Driver Mode	VScOm Driver for Windows up to 10, Server up to 2008 R2, both x86 and x64 Editions. The Driver creates a virtual Com port, using VScOm NetCom protocol.
Other Modes	TCP Raw Server, TCP Raw Client, Null Modem Tunnel, UDP Mode, Print Server and IP Modem

[>Back to top](#)

■ Power and Environment

Connector	3-pin Terminal Block with Protective Earth
Power requirements	9 - 54V DC, 0.5A @ 12V, 6W
Dimension	196×147×44 mm ³ (W×L×H)
Operating Temp	-20°C - 65°C
Storage Temp	-20°C – 85°C
Case	SECC sheet metal (1mm)
Weight	0.9kg
Mounting	<ul style="list-style-type: none">• 19-inch Rack• Wall mount

[>Back to top](#)

■ Standards

Declarations	CE
Safety	EN 60950-1
ESD	EN 61000-4-2 8kV contact 16kV air for <ul style="list-style-type: none">• Serial Ports• USB• Ethernet• DC Power connector
EMI	<ul style="list-style-type: none">• EN 55022 Class A• EN 61000-3-2• EN 61000-3-3
EMS (EN 55024)	EN 61000-4-3
Power (EN 55024)	<ul style="list-style-type: none">• EN 61000-4-4• EN 61000-4-5• EN 61000-4-6

[>Back to top](#)

■ Special Features

Installation	For easy installation the configuration utility NetCom Manager automatically finds NetCom+ devices in the network
Operating mode	Automatic mode switching between Driver and TCP RAW Server mode.
PPP Access	Dial-In to a modem attached to a serial port using Point to Point Protocol. TCP/IP is transported over the serial line, allowing access to configuration and the serial ports, even without Ethernet.
Configuration	Configuration over Driver Panels, NetCom Manager, WEB Browser, serial console, Telnet, SNMP
Firewall	Special precautions for Firewall environments
Firmware	Firmware update over WEB Browser
LEDs	LEDs for Power, Ready, WLAN, serial Tx, Rx, Ethernet Link, Speed

[>Back to top](#)

■ Security

Password access	Every capabilities of configuration use the same password including SNMP V3
	OpenVPN™ SSL tunnel provides security on Ethernet and Internet. The tunnel protects configuration and serial data, especially

Secure communication

convenient to use across the Internet. OpenVPN software is available for many systems, including Windows, Linux and Mac OS. Strong encryption by AES up to 256 bit keys.

[>Back to top](#)

■ Ordering Information

6675

NetCom Plus 413 (4x RS232/422/485, expandable)

[>Back to top](#)

■ Options

6689

WLAN Kit internal
internal module 802.11b/g/n, pigtail and antenna
Purchase time option, not for later retrofitting
This option allows for replacement of NetCom 423 WLAN

6690

WLAN Kit external
USB stick 802.11b/g/n, antenna

6031

Power supply adapter 12V DC, 1A

[661](#)

Serial Null-Modem adapter 9PF-9PF, change male to female

[>Back to top](#)

■ Packaging

Packing list

- NetCom Plus Serial Device Server
- Mounting brackets for 19-inch rack
- Wall mount plates
- Terminal block for Power Supply
- CD-ROM with Driver and configuration software

[>Back to top](#)

NetCom Plus 413

[>Back](#)



Model NetCom Plus 411 with WLAN

[>Back](#)



NetCom Plus back side

[>Back](#)



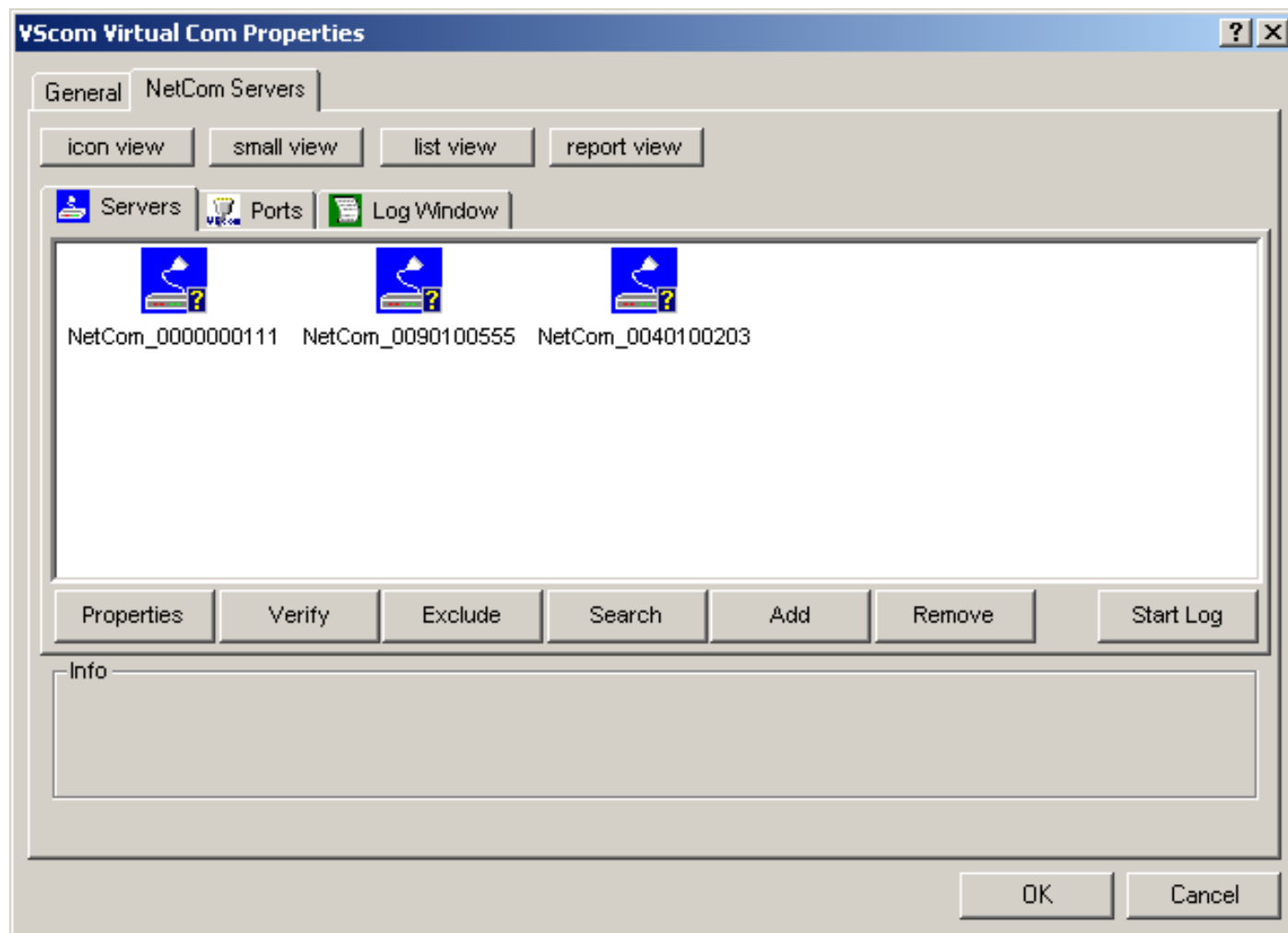
Rackmount Kit

[>Back](#)



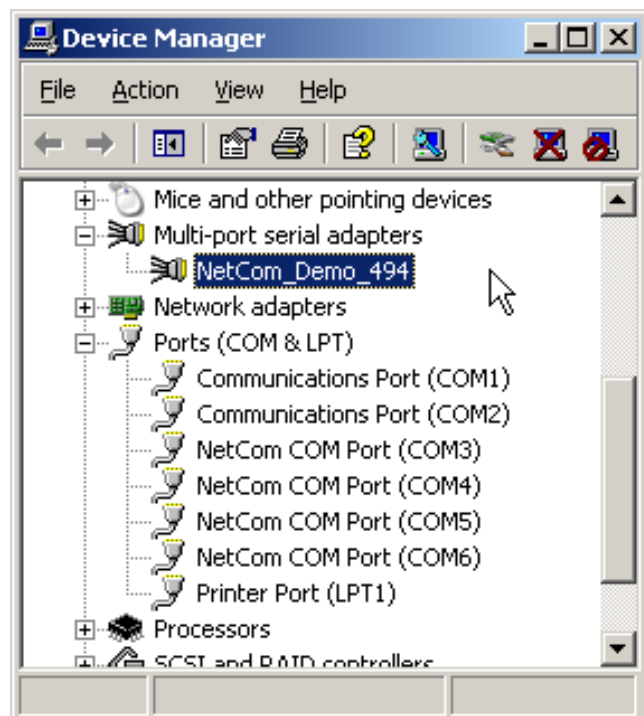
NetCom Manager

[>Back](#)



NetCom Plus in Device Manager

[>Back](#)



Serial Port in Web Interface

[>Back](#)

Port 1	
PortType (current)	rs232
Baud Base	60000000
PortType ?	<input type="text" value="rs232"/>
Baudrate ?	<input type="text" value="38400"/>
Manual ?	38400
FlowType ?	<input type="text" value="None"/>
DataBit ?	<input type="text" value="8"/>
Parity ?	<input type="text" value="None"/>
StopBit ?	<input type="text" value="1"/>
RxFifoLength	1024
RxTriggerLevel ?	<input type="text" value="224"/>
TxFifoLength	1024
TxTriggerLevel ?	<input type="text" value="800"/>