Korenix JetPort 5604 / 5604i
Serial Device Server

User's Manual

Mar. 2007 (V1.0)

www.korenix.com

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Contents

1 Introduction

JetPort 5604 series is a 4-ports Serial to Redundant Ethernet device server. JetPort 5604 provides 4 3-in-1 RS232/422/485 serial interfaces. You can use one IP address, dual redundant paths to control max. 4 serial devices over the Ethernet. You can configure the devices as Virtual COM, TCP Server, TCP Client or UDP modes.

The 5604 series supports RTTD technology so that the dual Ethernet ports can auto-recovery within 200ms. 5604 series also equipped with abundant value-added hardware features include the 2 types of power inputs, 4 Digital Input and 2 Digital Output. JetPort 5604 series can be configured by JetPort Commander, the easy-to-use utility for Windows and the HTTPS and SSH for secured management. The Notification includes the Email alert, System log, SNMP traps and Digital Output for pre-defined events.

This chapter describes:

- **Serial to Ethernet Technology Overview**
- **Product features**
- **Product specification**
- **Package checklist**

1.1 Serial to Ethernet Technology Overview

Korenix JetPort serial device servers provide perfect solution to manage serial devices via Ethernet in flexible ways, such as TCP server, TCP client, UDP, or Windows virtual COM. JetPort creates a transparent gateway for the serial communication to Ethernet. If the control program uses network standard API, you can choose TCP or UDP as the communication protocol. If the control program uses COM port, you can install the Windows driver to add virtual COM ports.

1.2 Product Features

JetPort 5604/5604i has the following features:

- 4-ports RS232, RS422, RS485 to Redundant Ethernet Solution(5604)
- 4-ports RS422/485 with Isolation to Redundant Ethernet Solution(5604i)
- Serial ports supports 2KV isolation protection(5604i)
- RTTD, Redundant to the Device. Redundant Dual Ethernet Ports, Auto-Recovery in Less Than 200ms
- Redundant Power Inputs by 12-48VDC Terminal Block and DC Jack.
- 4 x 5V/TTL Digital Input and 2 x 5V/TTL Digital Output
- Secured Management by HTTPS and SSH
- JetPort Commander, Smart Windows Utility for Device Discovery, Multiple Device Setup Wizards and Monitoring.
- Up to 5 Simultaneous Virtual COM, TCP Server/Client/Tunnel and UDP Connections
- Event Notification by Syslog, Email, SNMP trap, and Digital Output
- Embedded beeper for positioning
- Virtual COM Driver for Windows 2000/XP/2003
- Wall-Mount/DIN Rail/Desktop Installation

1.3 Product Specification

Network Interface	
Ethernet	2* 10/100BaseTX, Redundant Dual Ethernet
Connector	RJ-45
Feature	Auto Recovery in less than 200ms, Auto MDI/MDI-X
Protection	Built-in 1.5 KV magnetic isolation protection
Protocols	IP, TCP, UDP, ICMP, DHCP, BootP, ARP/RARP, SNMP, HTTPS, SSH, SNTP, SMTP
Serial Communication	
Number of Ports	4
Interface	RS-232, RS422, 2/4-wire RS485(5604) RS422, 2/4-wire RS485 with 2KV Isolation Protection(5604i)

Connectors	male DB9
Baud Rates	110 bps to 460.8 Kbps
Data Bits	5, 6, 7, 8
Parity	odd, even, none
Stop Bits	1, 1.5, 2
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, GND, DCD
RS-422	Tx+,Tx-, Rx+, Rx-,GND
RS-485 (4-wire)	Tx+,Tx-, Rx+, Rx-,GND
RS-485 (2-wire)	Data+, Data-,GND
Flow Control	XON/XOFF, RTS/CTS, DTR/DSR
Serial Line Protection	15KV ESD
Long Distance	2*pin 120ohm DIP switches
Termination	
Digital Input/Output	
Number of DI	4
Power Input voltage	5V/TTL
	Logic 0: 0.8V max (0-0.8V)
	Logic 1: 2.0V min (2-5V)
Number of DO	2
Power Output voltage	5V/TTL
	Logic 0: 0.8V max (0-0.8V)
	Logic 1: 2.0V min (2-5V)
Features	
LED	Power 1/Power 2: Startup(Red); Ready(Green)
	Ethernet port:
	Left:100M Link (Green On) / Activity(Green Blinking)
	Right:10M Link (Orange On) /Activity(Orange Blinking)
	Serial 1/2/3/4:TX only(Green), RX only(Red), Both RX/TX(Orange)
Configuration	Windows Utility-JetPort Commander, HTTP, Telnet
Serial Service	Virtual COM, TCP Server, TCP Client, TCP Tunnel and UDP
Reset	Software reload default, Hardware reset button
Beeper	Embedded beeper for positioning
RTTD	Redundant to the Device, Auto-recover in less than 200ms
SNTP	For time management
Access IP Table	16 IP addresses to prevent illegal users
Monitor	Devices' status, VCOM status
SNMP	RFC1213 MIB II, RFC1317 RS232_like and SNMP Trap
E-Mail Alert	Automatic e-mail warning by pre-defined events
System Log	Trap to Syslog server or local display

System Events	Cold/Warm Start, Login Failed, IP and Password Changed, Access IP Blocked, DI/DO changed, Serial Port DCD/RI/DSR/CTS changed, Serial Port connected/disconnected.
TTY Driver	Fixed TTY driver for Linux
Windows Utility	
JetPort Commander	Device Discovery, Auto IP, Network Setting, Device and Serial Port Setting and monitoring, Notification setting, Firmware Upgrade, Configuration Backup and Restore, Group Configuration Wizards.
Serial Service Mode	Virtual COM, TCP Server, TCP Client, TCP Tunnel and UDP
Advanced Serial Setting	TCP Alive Check Timeout, Inactivity Idle Timeout, Performance mode, Delimiter, Force TX Timeout for Data Packing and Force TX interval time
Group Configuration Wizard	JetPort Commander: Group IP Wizard, Group firmware upgrade, Group Backup/Restore, VCOM and TCP Tunnel Setup Wizard
Power Requirements	
System Power	PWR1: 12~48VDC Terminal Block PWR2: 12~48VDC Power Jack with Power Adapter
Power Line protection	1 KV Burst (EFT), EN61000-4-4 0.5 KV Surge, EN61000-4-5
Mechanical	
Dimensions	145mm(W)x120mm(D)x46.5mm(H)
Regulatory Approvals	FCC Class A, CE Class A , UL, RoHS
Environmental	
Operating Temperature	-10℃ ~70℃
Operating Humidity	5% ~ 95%, non-condensing
Storage Temperature	-20℃ ~ 85 ℃

1.4 Package Checklist

JetPort 5604: Industrial 4-port RS232/422/485 Redundant Serial Device Server

Includes:

4-port RS232, RS422, RS485 Redundant Serial Device Server, Quick Installation Guide, 100-240VAC power adapter, Din-Rail/Wall Mount kit and foot pads, Documentation and Software CD-ROM

JetPort 5604-i: Industrial 4-port RS-422/485 with Isolation Redundant Serial Device Server

Includes:

4-port RS232, RS422, RS485 Redundant Serial Device Server, Quick Installation Guide, 100-240VAC power adapter, Din-Rail/Wall Mount kit and foot pads, Documentation and Software CD-ROM

2 Hardware Installation

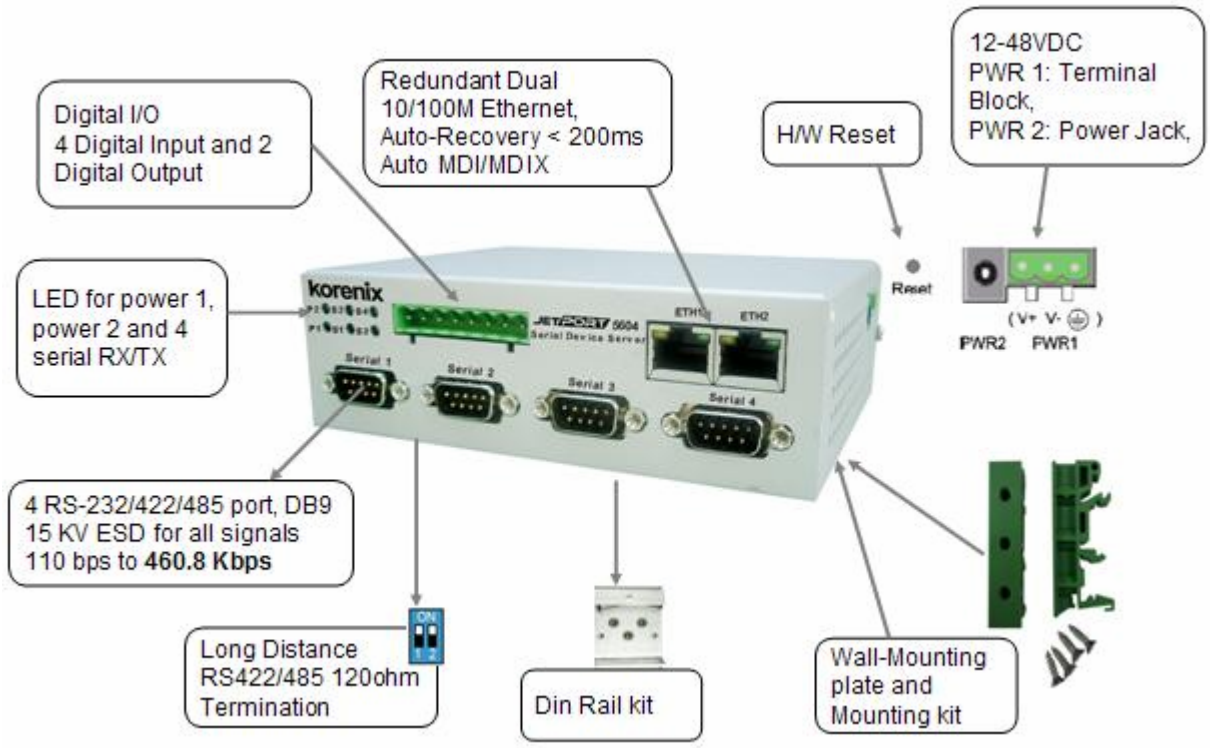
JetPort serial device server can be configured by Windows utility, web browser, or Telnet console. Advanced management features include SNMP support and Email alert. JetPort Commander is a powerful Windows utility that supports device discovery, group setup, group firmware update, and monitoring functions.

This chapter introduces how to quick start JetPort

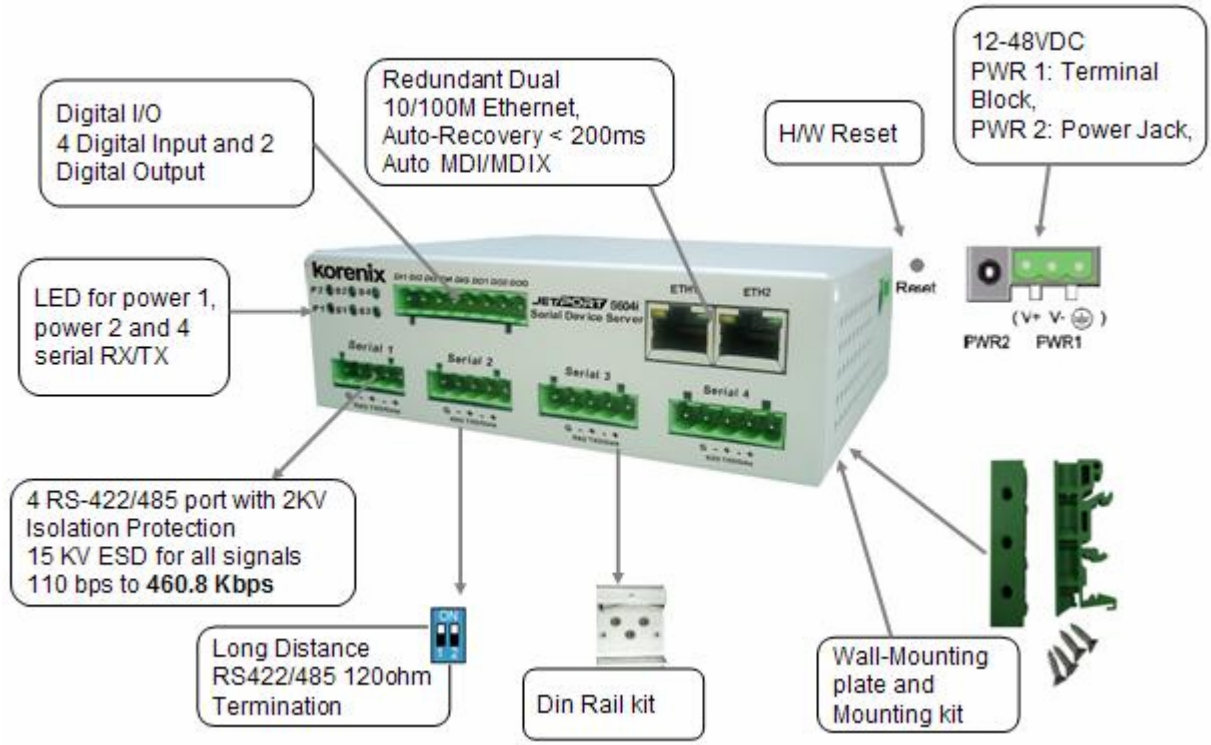
- **2.1 Panel and LED**
- **2.2 Reset Button**
- **2.3 Connecting the Power**
- **2.4 Connecting the Network**
- **2.5 Connection the Serial Device**
- **2.6 Digital Input/Output**
- **2.7 DIN Rail Mounting Installation**
- **2.8 Wall Mounting Installation**

2.1 Panel and LEDs

5604 Panel and Interfaces



5604i Panel and Interfaces



5604/5604i LED Indicators

There are 6 LEDs in 5604/5604i front panel and 2 LED in RJ-45 ports, indicating real-time system status.

LED	Color	Indication
PWR 1	Red	On: Power 1 is on and booting up. Blinking: Indicates an IP conflict, or DHCP or BOOTP server did not respond properly.
	Green	On: Power is on and functioning normally. Blinking: Located by Administrator's Location function.
	Off	Power is off, or power error condition exists.
PWR 2	Red	On: Power 2 is on and booting up. Blinking: Indicates an IP conflict, or DHCP or BOOTP server did not respond properly.
	Green	On: Power 2 is on and functioning normally. Blinking: Located by Administrator' s Location function.
	Off	Power is off, or power error condition exists.
Eth 1	Left	Green: 100M Ethernet cable is connected. Green Blinking: Traffic is transmitting or receiving.
	Right	Orange: 10M Ethernet cable is connected. Orange Blinking: Traffic is transmitting or receiving.
	Off	Ethernet cable is disconnected, or has a short.
Eth 2	Left	Green: 100M Ethernet cable is connected. Green Blinking: Traffic is transmitting or receiving.
	Right	Orange: 10M Ethernet cable is connected. Orange Blinking: Traffic is transmitting or receiving.
	Off	Ethernet cable is disconnected, or has a short.
S1	Red	Serial port is receiving data.
	Green	Serial port is transmitting data.
	Orange	Serial port is receiving and transmitting data.
	Off	No data is being transmitted or received through the serial port.
S2	Red	Serial port is receiving data.
	Green	Serial port is transmitting data.
	Orange	Serial port is receiving and transmitting data.
	Off	No data is being transmitted or received through the serial port.
S3	Red	Serial port is receiving data.
	Green	Serial port is transmitting data.
	Orange	Serial port is receiving and transmitting data.
	Off	No data is being transmitted or received through the serial port.
S4	Red	Serial port is receiving data.
	Green	Serial port is transmitting data.
	Orange	Serial port is receiving and transmitting data.
	Off	No data is being transmitted or received through the serial port.

2.2 Connecting the Power

Terminal Block (PWR1):

1. Insert the positive and negative wires of your DC supply into the V+ and V- contacts of the terminal block connector.

 (GND / V- / V+)

2. Tighten the terminal screws to prevent the DC wires from coming loose.

Power Jack(PWR2):

Connect the power jack input with the enclosed 12VDC power adapter, or 24VDC power input. The power LED will show red color until the system is ready. If the IP setting is running correctly, the power LED will turn green.

Note: If the 2 power inputs are connected (PWR 1, PWR 2), the JetPort 5604 will be powered from the highest connected voltage. The unit will not alarm for loss of DC IN power, the alarm function only applies to loss of power at PWR1 or PWR2.

2.3 Connecting the Network

JetPort 5604/5604i

Connect the Ethernet cable to the JetPort 5604/5604i 10/100M Ethernet port 1, 2 or both. The interfaces support auto MDI/MDIX. If both of the Ethernet port 1 and 2 are connected when startup device, the Ethernet port 1 will be the master port, Ethernet port 2 will be the backup. But, if Ethernet port 2 is attached first before attach port 1, the Ethernet port 2 will remain the master port.

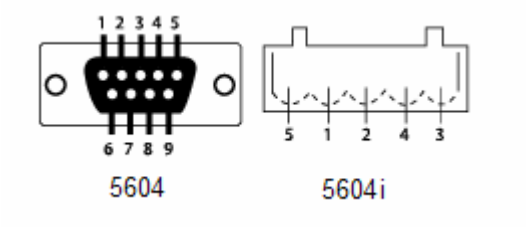
2.4 Reset Button

The Reset button provides users with a quick and easy way to restore the default settings of JetPort. Press reset button for 10 seconds. Release after Power LED blinking red. JetPort will restore to default value including default IP address (192.168.10.2), and no password. When the Power LED turns green, the device is ready to function.

2.5 Connecting the Serial Device

JetPort 5604 serial port is a standard DB9 male port. Connect the serial device to the unit DB9 male port by the pin assignment table. The Long-Range Termination switch can configure 120ohm termination for RS422/4-wire RS485/2-wire RS485.

Pin Assignment



Pin #	RS232	RS422	RS485 (4 wire)	RS485(2 wire)
1	DCD	RXD-	RXD-	
2	RXD	RXD+	RXD+	
3	TXD	TXD+	TXD+	DATA+
4	DTR	TXD-	TXD-	DATA-
5	GND	GND	GND	GND
6	DSR			
7	RTS			
8	CTS			
9	RI			

***RS232 mode act as DTE**

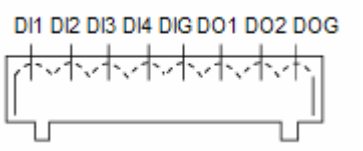
120ohm DIP

DIP 1	DIP 2	120ohm Termination Configuration
ON	ON	120ohm Terminator for Long Distance 4-wire RS485/RS422
ON	OFF	---
OFF	ON	120ohm Termination for Long Distance 2-wire RS485
OFF	OFF	No Termination for RS232/485 (short distance)

2.6 Digital Input/Output

JetPort 5604 series provides 4 digital inputs and 2 digital outputs. It allows users to connect the termination units' 5V TTL digital input/output. JetPort Commander allows you to monitor the status of the DI and DO, and set the value 0 or 1 to DO. JetPort also provides one data port for user to program DI/O get and set commands. The logic Low (Value=0) power voltage is 0-0.8V, 0.8V is the max value. The logic High (Value =1) power voltage is 2-5V, 2V is the min value.

The Digital I/O pin can be pulled high or low, thus the connected equipments can actively drive these pins high or low. When the digital output of the connected device pulls high to the digital input pin of 5604, or program the digital output value of the connected device to high, the 5604 can trigger the value and display 1 (logic high) in the JetPort Commander. When the connected device pulls low or program to low, the 5604 can display 0 (logic low).



The Digital Output pin should be connected to 5V TTL digital input of the connected device. When user set the value to 1(high), the connected device can receive circuit from 5604 and will be pulled to 1 as well. Or you can connect the digital output pin to the 5V relay output board. Then connect the alarm beeper, lights to the relay output board. You can see the same function as the Relay Output of JetNet switches.

Note: The Digital Output feature is not Relay Output board design, it should be connected to digital I/O by pair. Connect digital input of connected device to digital output of 5604 or digital output of the connected device to digital input of 5604.

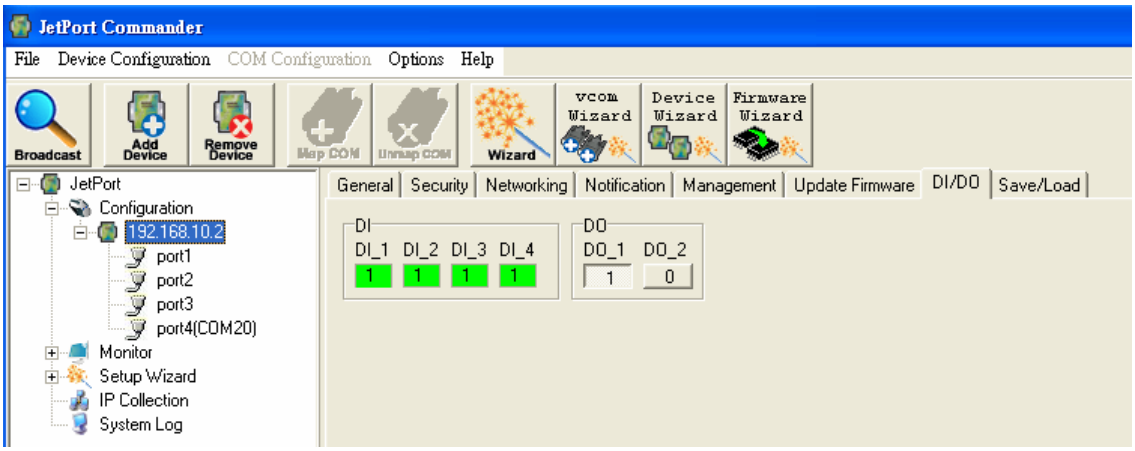
2.6.1 How to setup DI/O by JetPort Commander

DI: You can read the status of the DI. 0 means logic Low. 1 means logic High. When connect DI with DO of other terminal device, the DI can display the DO status of the terminal device.

DO: You can read and set the status of the DO. 0 means logic Low, 1 means logic High. Click the 0/1 button, you can change its value to 1 or 0.

means logic High for DO_1.

means logic Low for DO_1.



2.6.2 How to Program DI/O by the opened data port

The JetPort opens a data port for user to program. The programming socket port is 0x901 (2305). You can telnet to the device with TCP port number 2305. Below are the related commands:

Programming Commands

getdo get DO status

getdi get DI status

setdo set DO

Programming command parameters:

getdo/getdi No parameters.

setdo DO status string.

Ex: “1:0” (status delimiter is “:”, order is “DO_1: DO_2”)

Note: command should with “\r\n” at end.

Programming returns:

getdo Return DO status string. (2 DO)

Ex: “1:0\n\r”. (delimiter is “:”, order is “DO_1:DO_2”, “\n\r” is end flag.)

getdi Return DI status string. (4 DI)

Ex: “1:0:1:0\n\r”. (delimiter is “:”, order is “DI_1: DI_2:DI_3:DI_4”, “\n\r” is end flag.)

setdo Return “OK” when success. Return error message when failure (like: “Unknown command, No DO status given”).

And end flag is “\n\r”.

2.7 DIN-Rail Mounting Installation

The DIN-Rail clip is already attached to the JetPort 5604 Series products when packaged. If the DIN-Rail clip is not screwed on the Jetport, follow the instructions and the figure below to attach the DIN-Rail clip to the JetPort.

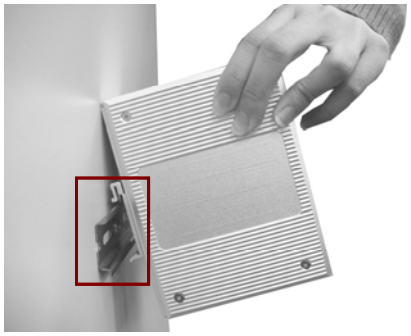
1. Use the screws to attach the DIN-Rail clip to the rear panel of the JetPort 5604/5604i.

To remove the DIN-Rail clip, reverse step 1.

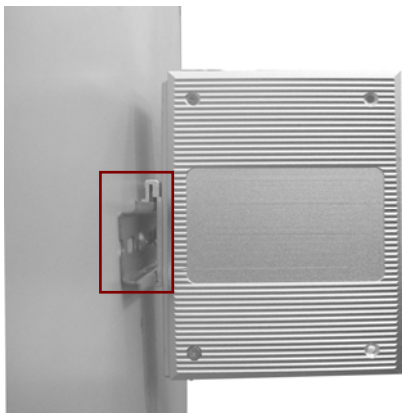
Follow the steps below to mount the JetPort to the DIN-Rail track.

1. First, insert the upper end of the DIN-Rail clip into the back of the DIN-Rail track from its upper side.

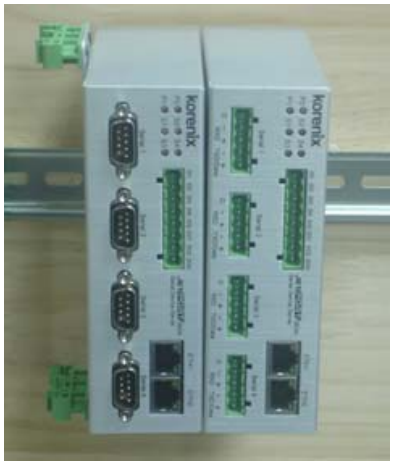
(Note: Here we use JetNet Industrial Ethernet Switch as an example.)



2. Lightly push the bottom of the DIN-Rail clip into the track.



3. Check if the DIN-Rail clip is tightly attached on the track.



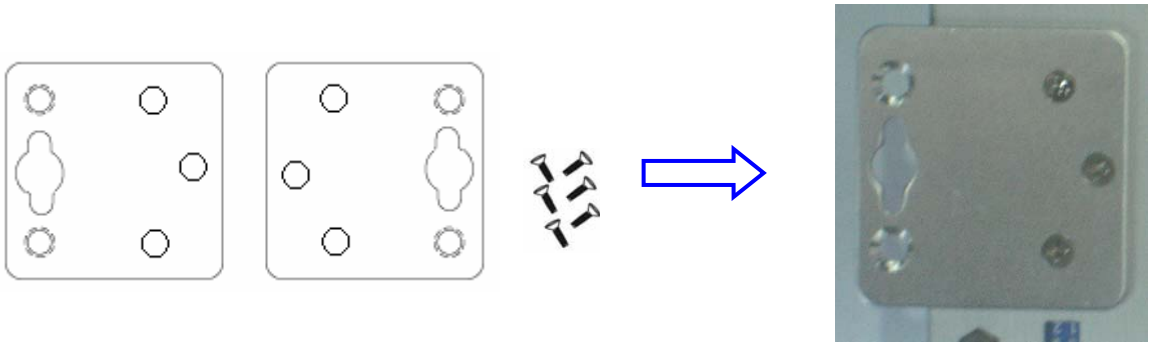
The figure shows the 5604 and 5604i are attached on the track well.

4. To remove the JetPort from the track, reverse the steps above.

2.8 Wall-Mounting Installation

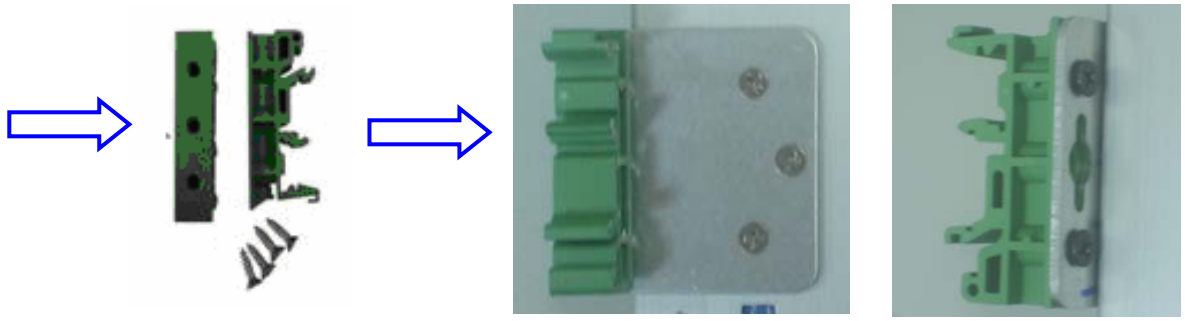
Follow these steps to mount the unit to a wall or other flat surface.

1. Use a screwdriver to attach the wall-mounting plate to the back of the JetPort using the six screws provided.



Wall-Mounting plate and screws.

2. Use a screwdriver to secure the Wall Mount kit to the wall-mounting plate.



Wall-Mounting Kits.

3. Lightly push the Wall-mounting kit into the track like the method described in Din Rail mounting installation.

The figure shows the 5604 is attached on the track well.

4. To remove the unit from the wall and from the wall-mounting plate, reverse steps 1-3.

3 Windows Management Tool

JetPort serial device server provides powerful Windows management tool for multiple device management.

Below are the major functions in JetPort Windows Commander. This chapter introduces you the **Software Quick Setup.** You can know how to install the JetPort Commander and setup the vitual COM mode.

The **"JetPort Commander Manual"** introduces the full configuration of JetPort commander. You can find the document in product CD or download from Korenix web site.

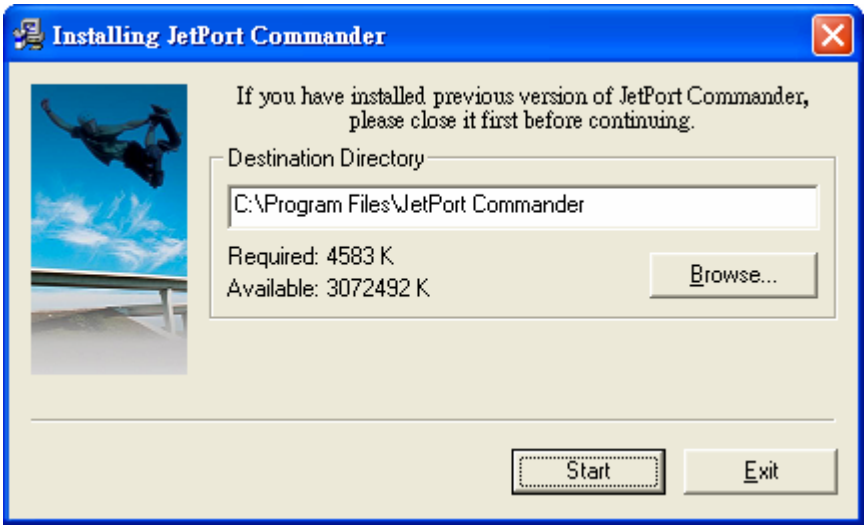
- **Server Configuration**
  - **Broadcast**
  - **Configuration**
  - **General**
  - **Locate**
  - **Security**
  - **Networking**
  - **Notification**
  - **Management**
  - **Firmware Update**
  - **Save / Reload**
- **Port Configuration**
  - **Port Serial Settings**
  - **Port Service Mode**
  - **Port Notification**
- **Setup Wizard**
  - **Virtual COM Wizard**
  - **Serial Tunnel Wizard**
  - **Group IP Wizard**
  - **Group Setup Wizard**
  - **Group Firmware Wizard**
- **IP Collection**
- **Monitor**

3.1 Software Quick Setup

JetPort Commander is an easy-to-use utility with auto device discovery in a LAN or adding devices on the public network. All of the configurations on the serial server can be done in the JetPort Commander. You can also apply configurations of one serial server to the other serial servers. This document shows you how to quick setup the software. The full functions and configurations' description, please refer to the JetPort Commander Manual which you can find in the CD or download from Korenix web site.

Install JetPort Commander

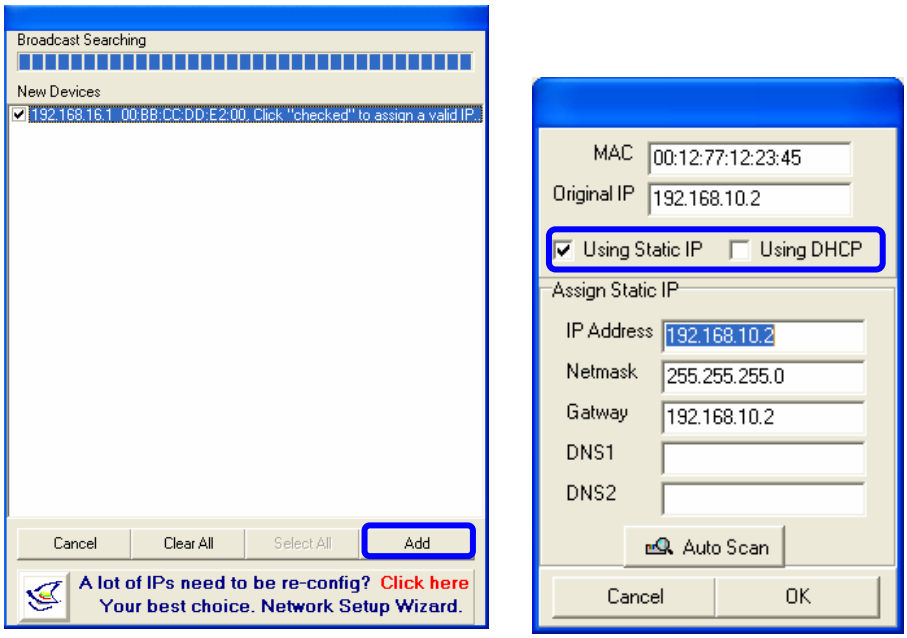
1. Insert the CD and auto-run the program. If the setup does not auto-run, select "JetPort 5604", and "Operation System", run JetPort Setup.exe to install Windows utility, JetPort Commander.



2. When the installation is finished, there are three options:
   - ✓ Launch JetPort Commander Now: Start configurations.
   - ✓ Visit Korenix registration page: Register products to Korenix.
   - ✓ Launch JetPort later: Start configurations later.

3. **Broadcast the JetPort unit:** JetPort Commander will broadcast the network and search all available JetPort units in the network. The default IP address of JetPort is "192.168.10.2".

Product Tip: If you have multiple Network Adapters (i.e. wireless and wired), please activate ONLY ONE Network Adapter that can locate the JetPort devices, and CLOSE the rest Network Adapters. Otherwise, JetPort Commander may broadcast INCORRECTLY.



4. **Configuring the JetPort unit:**

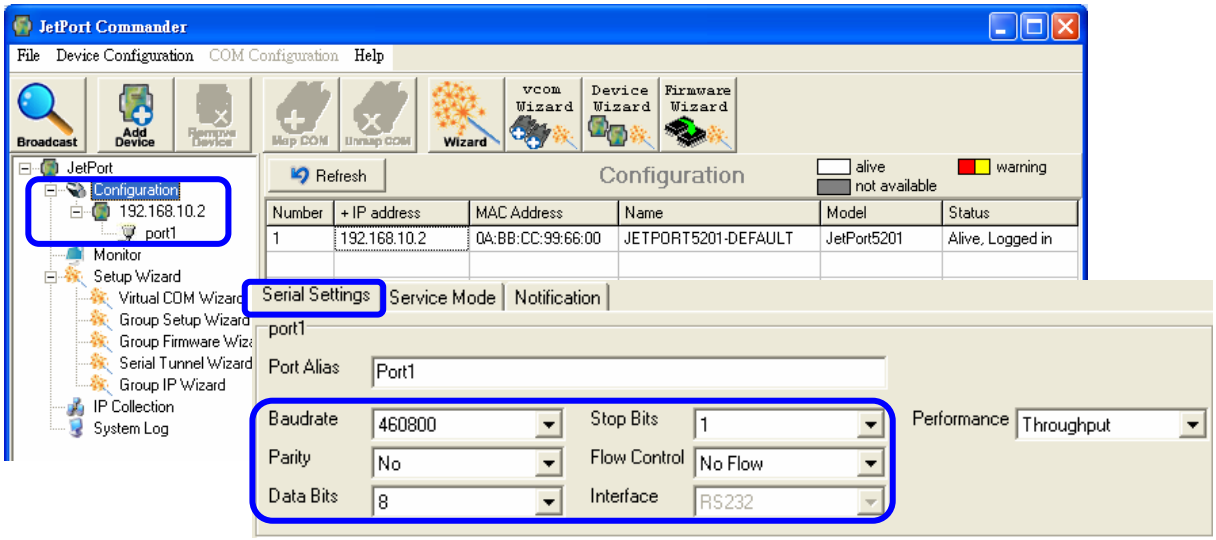
4.1 Click on the JetPort unit and select “Add” for further configuring the unit.

4.2 Select “Static IP” if you want to specify the network parameters, or select “DHCP”, or “BootP” if you want dynamic configuration for the JetPort unit.

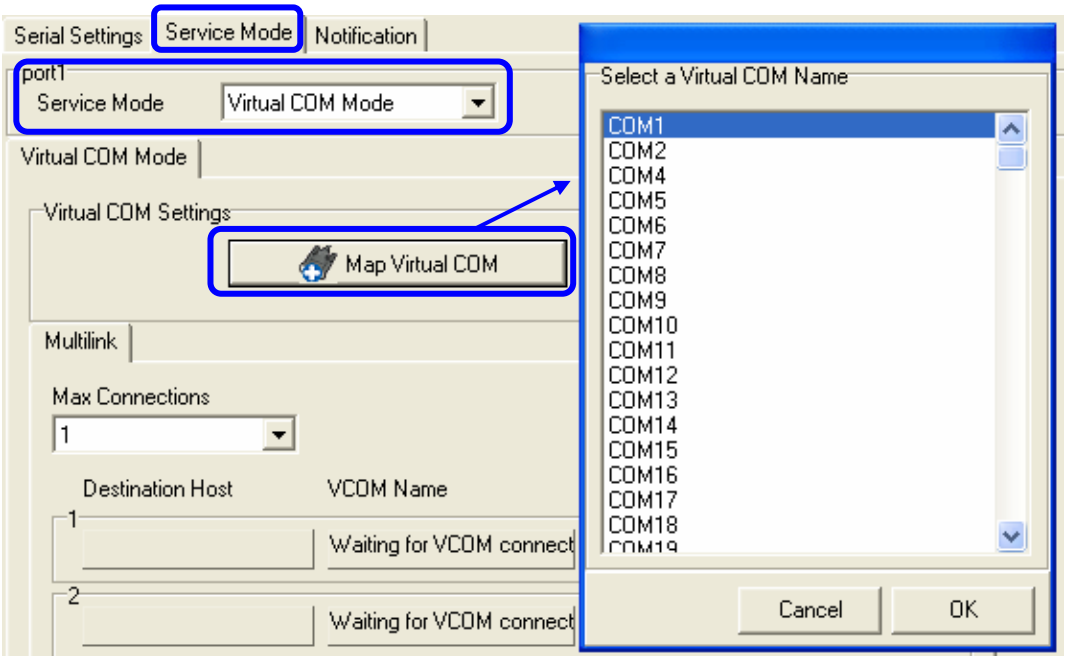
5. Configuring the serial port as COM port:

5.1 Go to “Configuration”, and choose the “device” and the “port”. Select “Serial Settings” to configure the serial parameters

Note: In 5604 series, you can see 4 serial ports, port 1,2,3 and 4. Port 1 is Serial 1, Port 2 is Serial 2, Port 3 is Serial 3. Port 4 is Serial 4.



5.2 Select “Service mode” , “Virtual COM Mode” and press “Map Virtual COM” to map the port to the COM port.



Congratulations! You have finished JetPort configurations with Virtual COM mode. You can also use web or telnet console by the JetPort IP address.

Note: *This document shows you how to quick setup the software. The full functions and configurations' description, please refer to the JetPort Commander Manual which you can find in the CD or download from Korenix web site.*

3.2 JetPort Commander Manual

The **"JetPort Commander Manual"** introduces the full configuration of JetPort commander. You can find the document in product CD or download from Korenix web site.

4 Web and Telnet Console

In addition to Windows utility, JetPort 5604 can also be managed by Web-HTTPS and the SSH Console.

The HTTPS is a security protocol that provides communication privacy over the internet. The HTTPs packets transmitted between the JetPort and PC would be encrypted.

The SSH allows users to securely login to remote host computers, to execute commands safely in a remote computer, to securely copy remote files and to provide secure encrypted and authenticated communications between tow non-trusted hosts.

This chapter describes:

- **4.1 HTTPS Console**
  - Server Configuration
  - Port Configuration
  - Management
  - Maintenance
- **4.2 SSH Console**
  - SSH Client
  - Configuration

4.1 Web Console

When the JetPort has been configured with proper IP address and the web management is enabled, you can use web browser to make further configurations.

Type JetPort's IP address in the Address input box, for example https://192.168.10.2
(Note: you can just type http://, this is not allowed in HTTPS. Your should type https://.)

Trust the JetPort. The popup window will ask you to trust the JetPort product. Press **Yes** to trust the product and then you can use the web UI of JetPort.

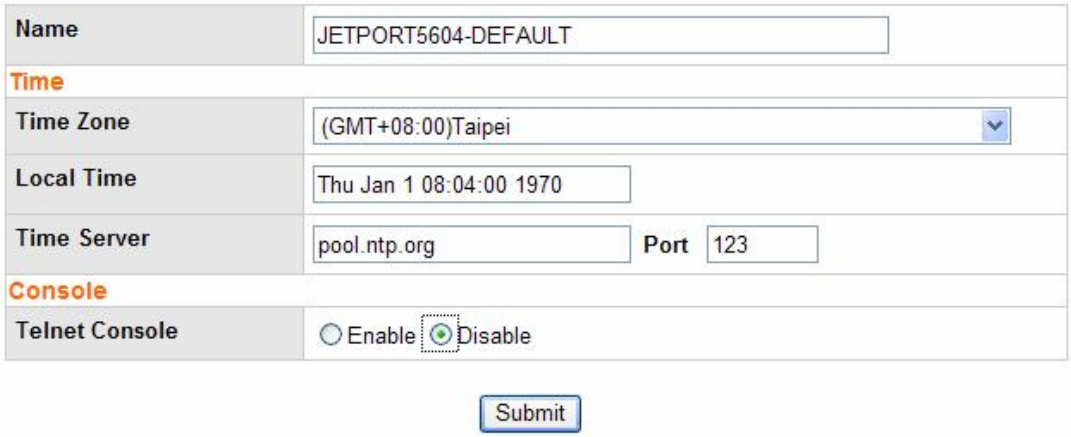
If the JetPort is password protected, use the pre-assigned password to login first.

The overview page lists the basic information of this JetPort device.

Server Configuration

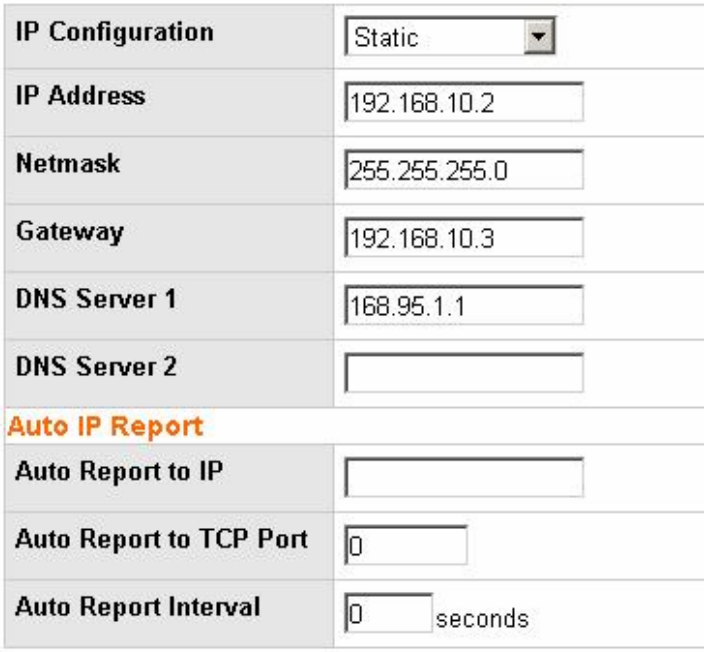
Basic Setting configures Server name, Time Server, and Telnet console enable/disable.

Basic Setting



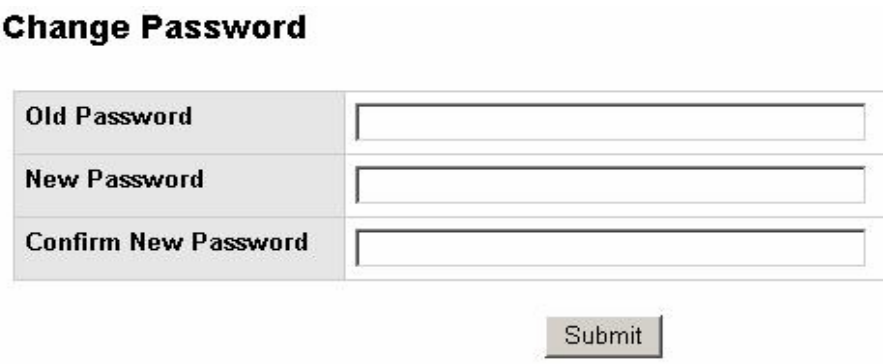
Network Setting configures the IP address, Netmask, Gateway, and DNS server for the JetPort. Auto IP Report is for dynamic IP address reporting in defined intervals.

Network Setting



You can also define Administration password to protect the JetPort from unauthorized modification. Avoid using space in password.

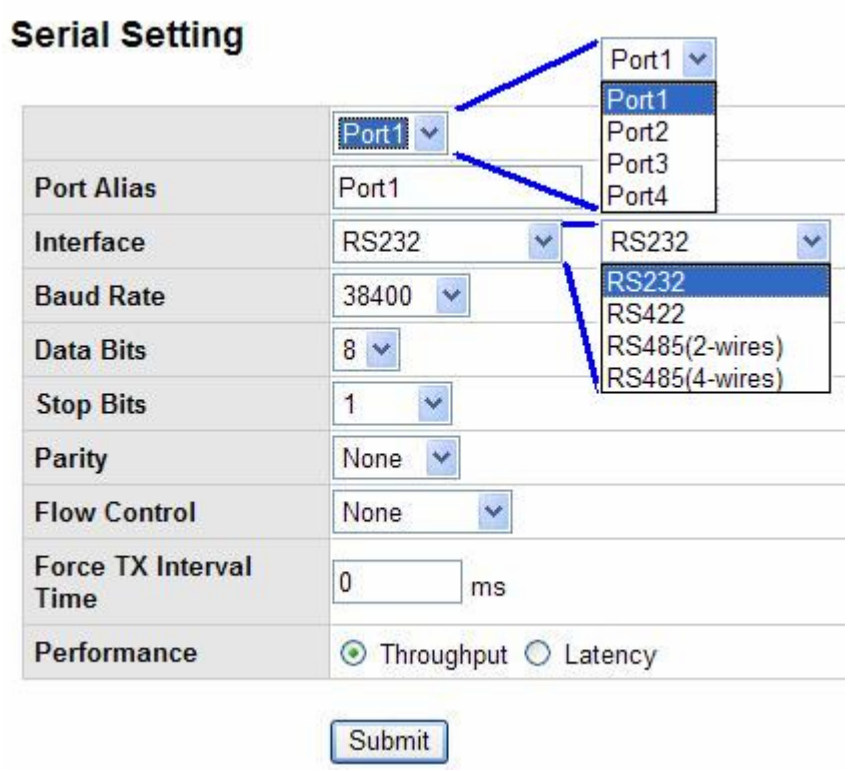
Change Password



Port Configuration

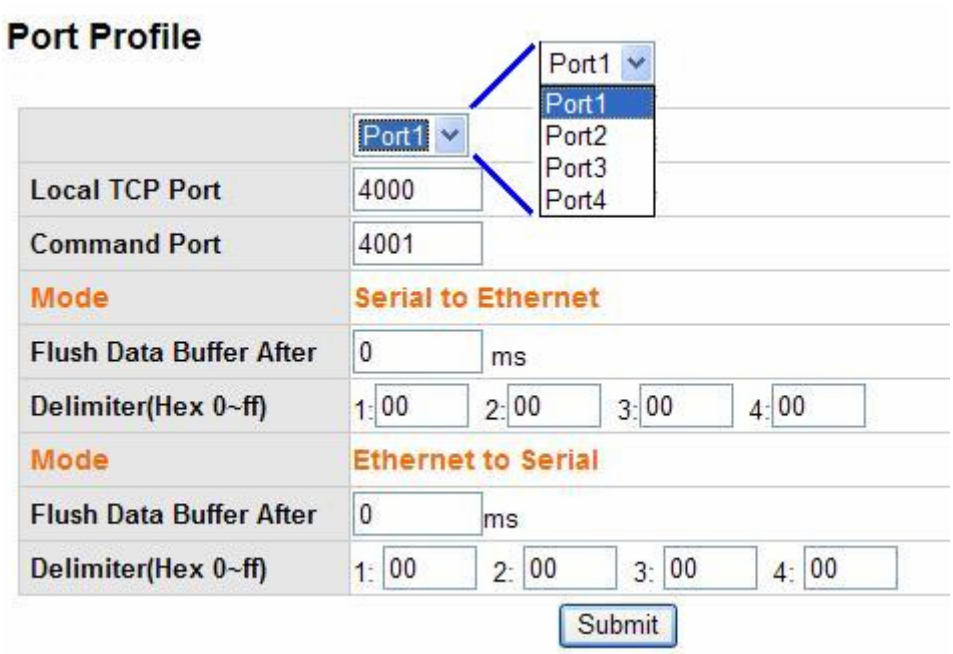
Serial Setting

Port Configuration covers Serial Parameter settings for each serial port, such as Interface type, Baud Rate, Data Bits, Stop Bits, Parity, Flow Control, Force TX Interval Time and Performance mode.
Serial Port: Port 1 / Port 2 / Port 3 / Port 4
Port Alias: Remark the port to hint the connected device.
Interface: RS232 / RS422 / RS485(2-wires) / RS485(4-wires)
Baud rate: from 110bps to 460.8kbps
Data Bits: 5, 6, 7, 8
Stop Bits: 1, 2 (1.5)
Parity: No, Even, Odd, Mark, Space
Flow Control: None, XON/XOFF, RTS/CTS, DTR/DSR
Force TX Interval Time is to specify the timeout when no data has been transmitted. When the timeout is reached or TX buffer is full (4K Bytes), the queued data will be sent. Zero means disable(factory default).
Performance: Throughput, Latency
Throughput mode guarantees highest transmission speed
Latency mode guarantees shortest response time



For advanced data packing options, you can specify delimiters for Serial to Ethernet and / or Ethernet to Serial communications.

You can define max. 4 delimiters (00~FF, HEX) for each way. The data will be hold until the delimiters are received or the optional “Flush Data Buffer After” times out. Zero means disable(factory default).

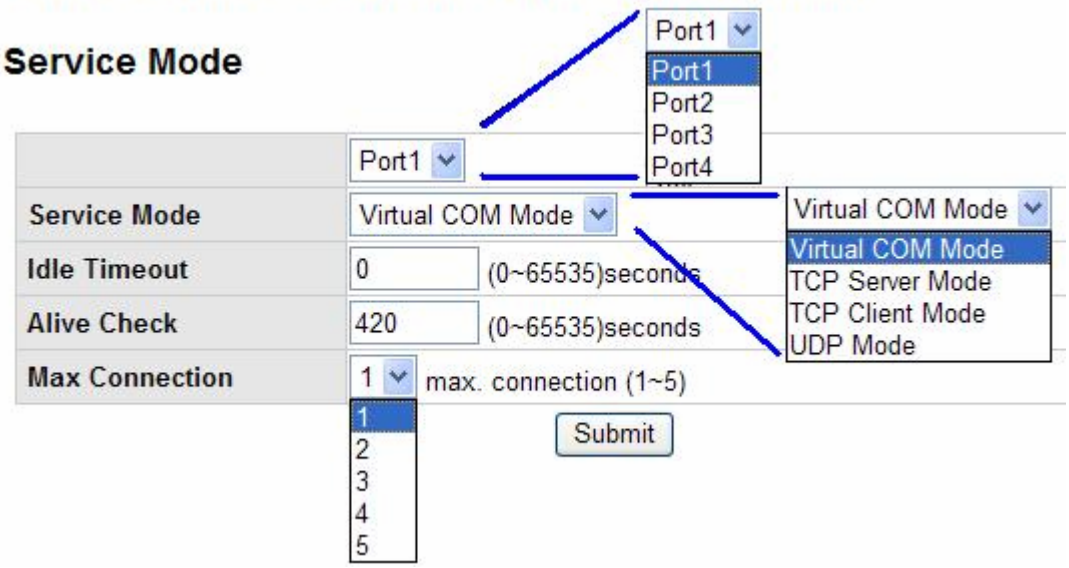


Flush Data Buffer After is to specify the timeout time if the device doesn't receive the Delimiters user setup.

Service Mode- Virtual COM

Select the Serial Port you want to configure first. In Virtual COM mode, you can define the Idle Timeout, Alive Check, and Max. Connections allowed from 1 to 5.

Note: Since JetPort's Virtual COM driver is implemented in JetPort Commander. You should run the JetPort Commander to assign the VCOM number. You can only change the related parameters in web UI.



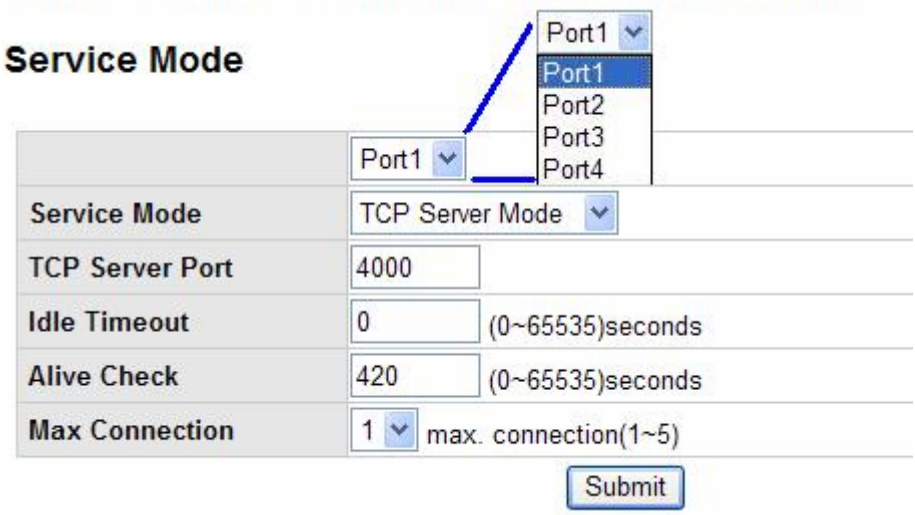
Idle Timeout: When serial port stops data transmission for a defined period of time (Idle Timeout), the connection will be closed and the port will be freed and re-try for connection with other hosts. Zero is disable this setting (default). If Multilink is configured, only the first host connection is effective for this setting.

Alive Check: The JetPort device will send TCP Alive Check packet in each defined time interval (Alive Check) to remote host to test the TCP connection. If the TCP connection is not alive, the connection will be closed and the port will be freed for other hosts. Zero is to disable this setting Default time is 420.
Note: If you want to auto-connect your Virtual COM when power on the device, you should

enable Alive Check. The Alive Check will re-connect virtual COM after booted up.

Service Mode- TCP Server

In TCP Server mode, you need to select the Serial Port, define the available TCP port number, Idle timeout, Alive check, and Max. connections allowed from 1 to 5.



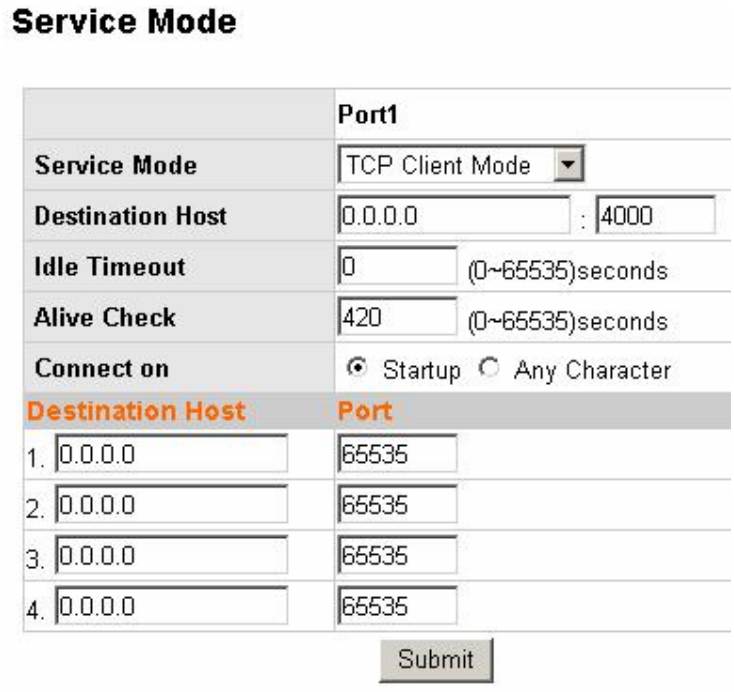
TCP Server Port: This is to assign the available TCP port number. The port number of TCP Server and TCP Client should be the same.

Idle Timeout: When serial port stops data transmission for a defined period of time (Idle Timeout), the connection will be closed and the port will be freed and re-try for connection with other hosts. Zero is disable this setting (default). If Multilink is configured, only the first host connection is effective for this setting.

Alive Check: The JetPort device will send TCP alive check package in each defined time interval (Alive Check) to remote host to test the TCP connection. If the TCP connection is not alive, the connection will be closed and the port will be freed for other hosts. Zero is disable this setting. Default time is 420.

Service Mode- TCP Client

In TCP Client mode, you need select the Serial Port, define the destination host IP and port number, Idle timeout, Alive check. To deploy multilink, specify up to 4 more hosts IP and Port number.



TCP Server Port: This is to assign the available TCP port number. The port number of TCP Server and TCP Client should be the same.

Idle Timeout: When serial port stops data transmission for a defined period of time (Idle Timeout), the connection will be closed and the port will be freed and re-try for connection with other hosts. Zero is disable this setting (default). If Multilink is configured, only the first host connection is effective for this setting.

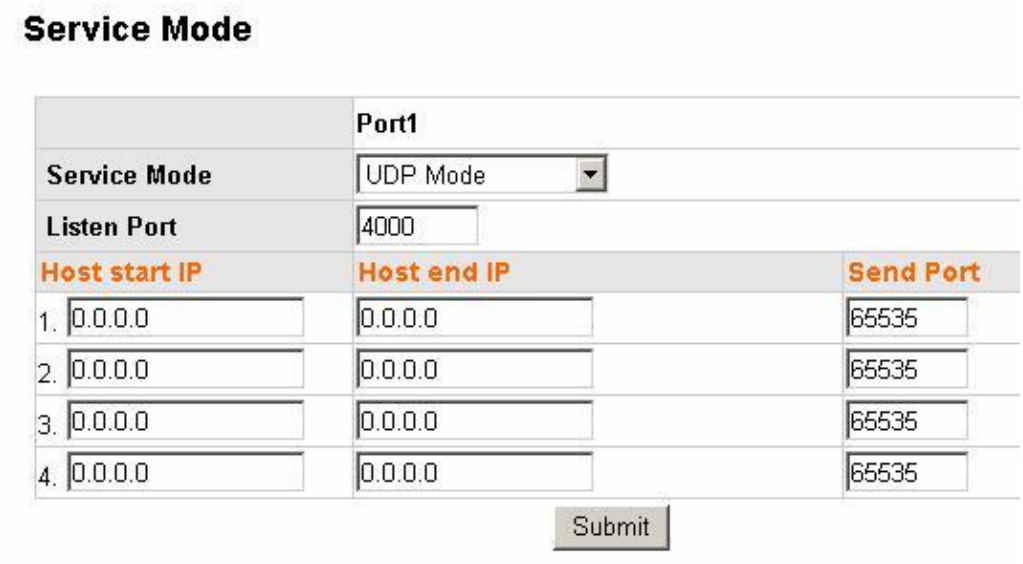
Alive Check: The JetPort device will send TCP alive check package in each defined time interval (Alive Check) to remote host to test the TCP connection. If the TCP connection is not alive, the connection will be closed and the port will be freed for other hosts. Zero is disable this setting (default).

Connect on Startup: The TCP Client will build TCP connection once the connected serial device is startup.
Connect on Any Character: The TCP Client will build TCP connection once the connected serial device starts to send data.

Service Mode- UDP

In UDP mode, you need to select the Serial Port, define the destination host IP and Local listen port number.

To create more destination hosts, specify the IP range of destination IP and send port number.



Management

DIDO Status

DI (Digital Input)

Can Get the status of the DI_1, DI_2, DI_3 and DI_4.

DO (Digital Output)

Can Get and Set the status of the DO_1 and DO_2.

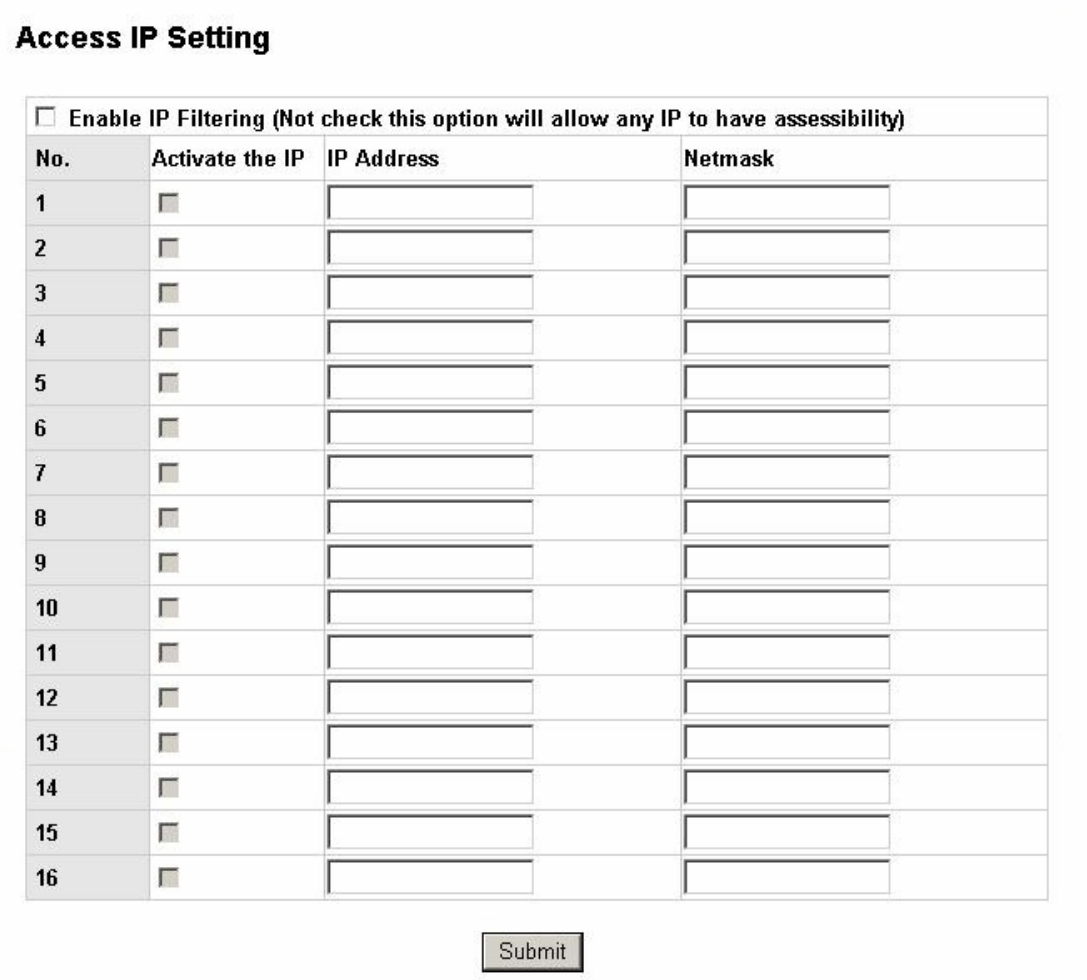
Select the value and click **Submit** to apply the setting.

IP Filtering

The IP Filtering is also known as Access IP Table (JetPort Commander). Access IP table specifies the IP address and subnet that can access to the device. The access is based on IP and Netmask combination.

Note: Type the IP address and the Netmask before you click Submit. Otherwise, no user can access the device. If the access is open to all hosts, do NOT enable this function.

Netmask: The Netmask of the host is 255.255.255.255.



Event Notification

Specify the events that should be notified to the administrator. The events can be alarmed by means of email, SNMP trap, or system log.

Device Notification:

- Hardware Reset (Cold Start): Rebooting the JetPort will trigger the event
- Software Reset (Warm Start): Restarting the computer will trigger the event
- Login Failed: Using wrong password in console will trigger the event
- IP Address Changed: Changing network setting will trigger the event
- Password Changed: Changing the password will trigger the event
- Access IP Blocked: Report blocked IP addresses
- Redundant Power Change: Power change will trigger the event
- Redundant Ethernet Change: Ethernet master port change will trigger the event

- DI 1 Changed: DI 1 status changed will trigger the event.
- DI 2 Changed: DI 2 status changed will trigger the event.
- DI 3 Changed: DI 3 status changed will trigger the event.
- DI 4 Changed: DI 4 status changed will trigger the event.
- DO 1 Changed: DO 1 status changed will trigger the event.
- DO 2 Changed: DO 2 status changed will trigger the event.

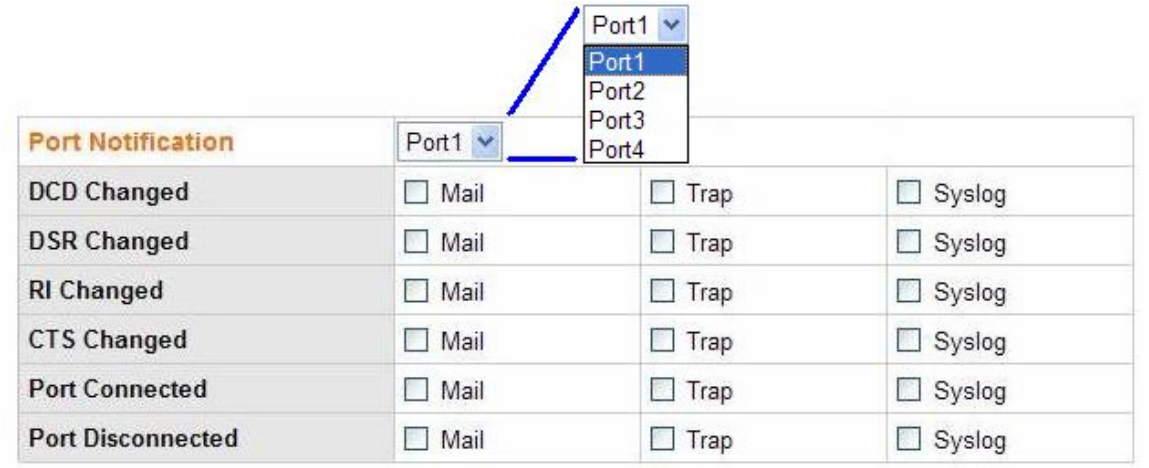
Event Notification

Device Notification			
Hardware Reset (Cold Start)	☐ Mail	☑ Trap	☐ Syslog
Software Reset (Warm Start)	☐ Mail	☑ Trap	☐ Syslog
Login Failed	☐ Mail	☐ Trap	☐ Syslog
IP Address Changed	☐ Mail	☑ Trap	☐ Syslog
Password changed	☐ Mail	☐ Trap	☐ Syslog
Access IP Blocked	☐ Mail	☐ Trap	☐ Syslog
Redundant Power Changed	☐ Mail	☐ Trap	☐ Syslog
Redundant Ethernet Changed	☐ Mail	☐ Trap	☐ Syslog
DI 1 Changed	☐ Mail	☐ Trap	☐ Syslog
DI 2 Changed	☐ Mail	☐ Trap	☐ Syslog
DI 3 Changed	☐ Mail	☐ Trap	☐ Syslog
DI 4 Changed	☐ Mail	☐ Trap	☐ Syslog
DO 1 Changed	☐ Mail	☐ Trap	☐ Syslog
DO 2 Changed	☐ Mail	☐ Trap	☐ Syslog

Select the events and the types of Email, SNMP Trap or Syslog, click **Submit** to enable it.

Port Notification:

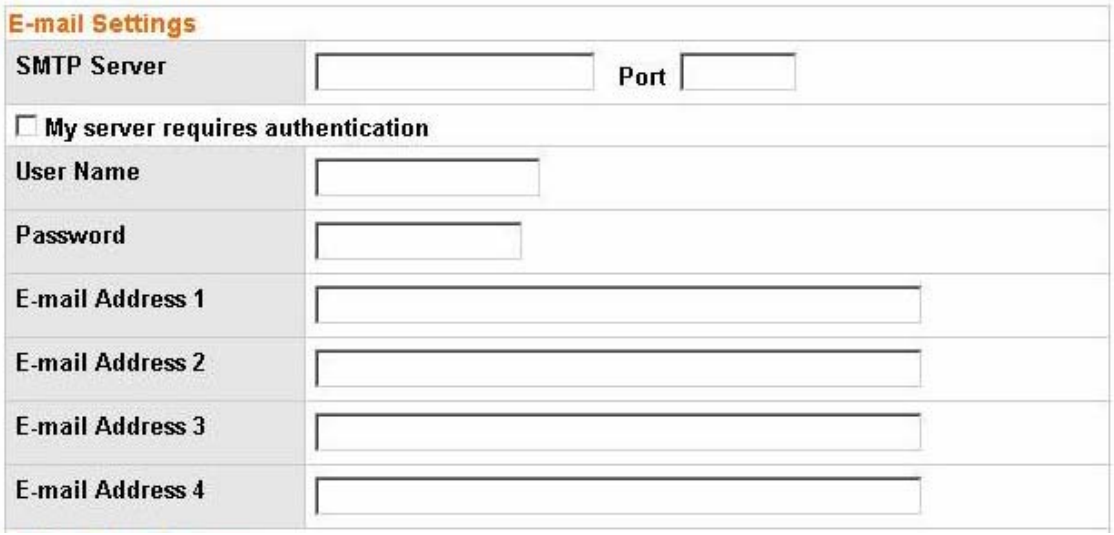
- DCD changed: When DCD (Data Carrier Detect) signal changes, indicating the modem connection status has changed, the event will be triggered.
- DSR changed: When DSR (Data Set Ready) signal changes, indicating that the data communication equipment is powered off, the event will be triggered.
- RI changed: When RI (Ring Indicator) signal changes, indicating the incoming of a call, the event will be triggered.
- CTS changed: When CTS (Clear To Send) signal changes, indicating that the transmission between computer and DCE can proceed.
- Port connected: In TCP Server Mode, when the device accepts an incoming TCP connection, this event will be trigger. In TCP Client Mode, when the device has connected to the remote host, this event will be trigger. In Virtual COM Mode, when Virtual COM is ready to use, this event will be trigger.
- Port disconnected: In TCP Server/Client Mode, when the device lost the TCP link, this event will be trigger. In Virtual COM Mode, When Virtual COM is not available, this event will be trigger.



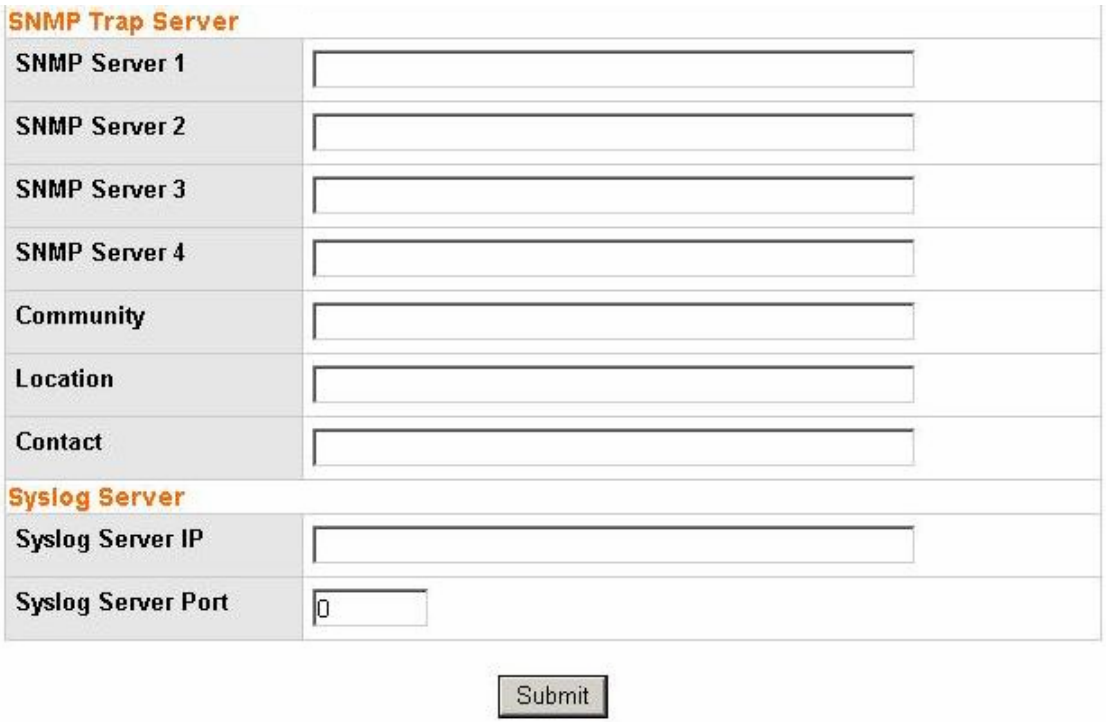
Select the target **port**, events and the types of Email, SNMP Trap or Syslog, click **Submit** to enable it.

Email and SNMP Trap Notification

Email Server configuration includes the mail server's IP address or domain. If the authentication is required, specify the username and password. There are 4 email addresses you can specify to receive the notification.

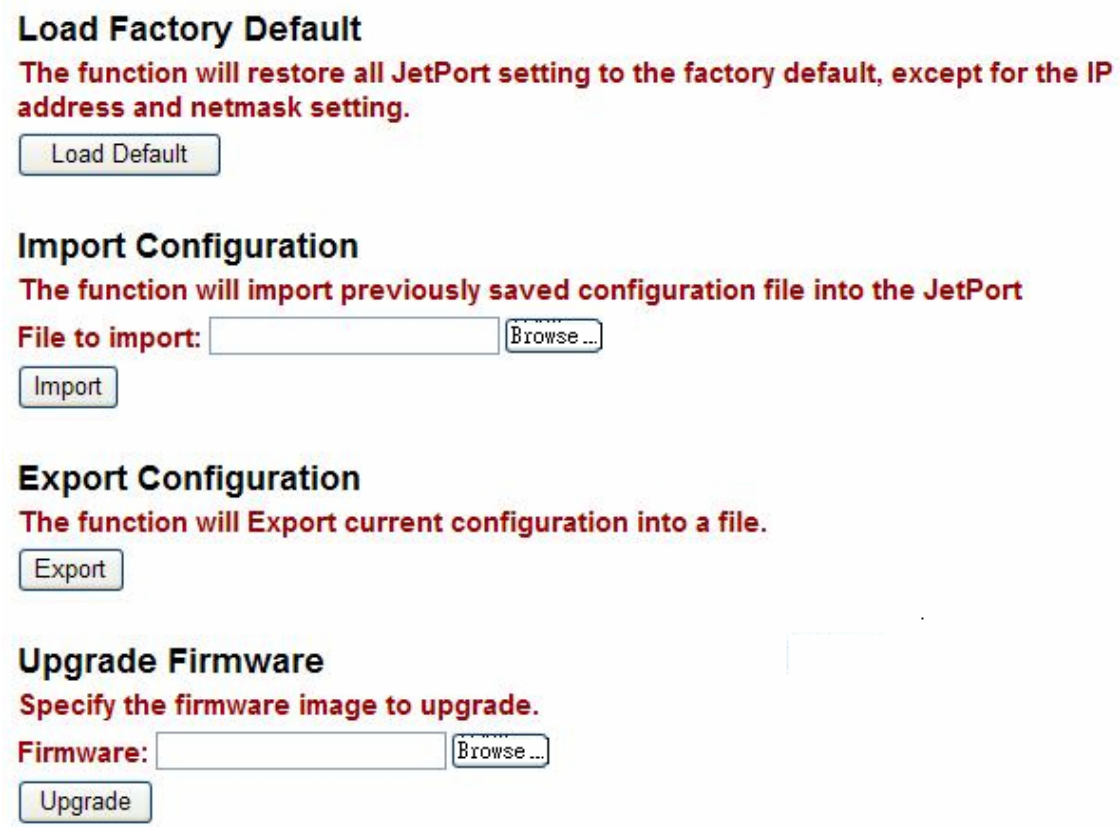


SNMP Trap configuration includes up to 4 Trap Servers. You need to at least fill in one Trap Server's IP or domain. The Community is also required information. Do not use the ";" in this column. Location and Contact is optional information.



Maintenance

This page allows you to Load Factory Default, Import and Export configuration file and Upgrade Firmware.



Load Factory Default: Load default configuration except Network Settings.
Import Configuration: Retrieve saved configuration file to apply in the device. Click Browse to choose the configuration file then click the Import command.
Export Configuration: Save the current configuration into a file and save the file in current host.
Upgrade Firmware: Upgrade to new firmware. Click Browse to select the firmware then click Upgrade command.

4.2 SSH Console

For using SSH, you should open the SSH Client, assign the IP of the JetPort you'd like to access and enter the correct Username/Password, then you can enter the SSH console menu.

SSH Client

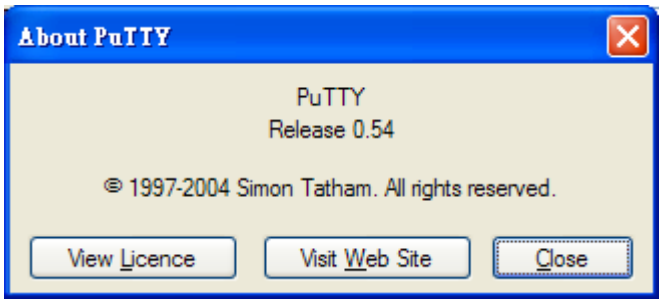
There are many free, shareware, trial or charged SSH clients you can find in the internet. Fox example, PuTTY is a free and popular Telnet/SSH client, we'll use this tool to tell you how to login the JetPort by SSH. Note: *PuTTY is copyright 1997-2006 Simon Tatham*.

Download PuTTY: http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

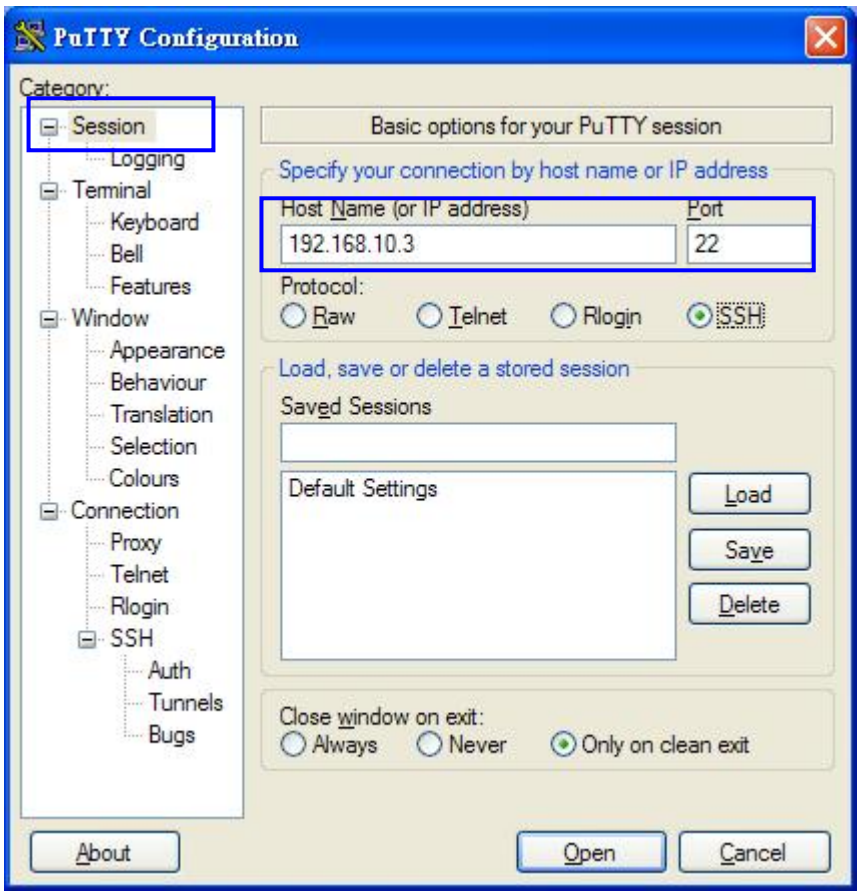
JetPort Settings: Enable the "Telnet Management Enable" to enable the SSH feature of JetPort 5604/5604i. Click "Goto Telnet Management" will ask you to open the SSH client.

After modifying configuration, be sure to validate the changes by using "Apply Only" or "Apply and Save".

The copyright of **PuTTY**



Open the PuTTY
In the Session sub-tree, enter the Host Name (IP Address of your JetPort) and Port number (default = 22). Choose the "SSH" protocol.
Then click "**Open**" to start the SSH session console.

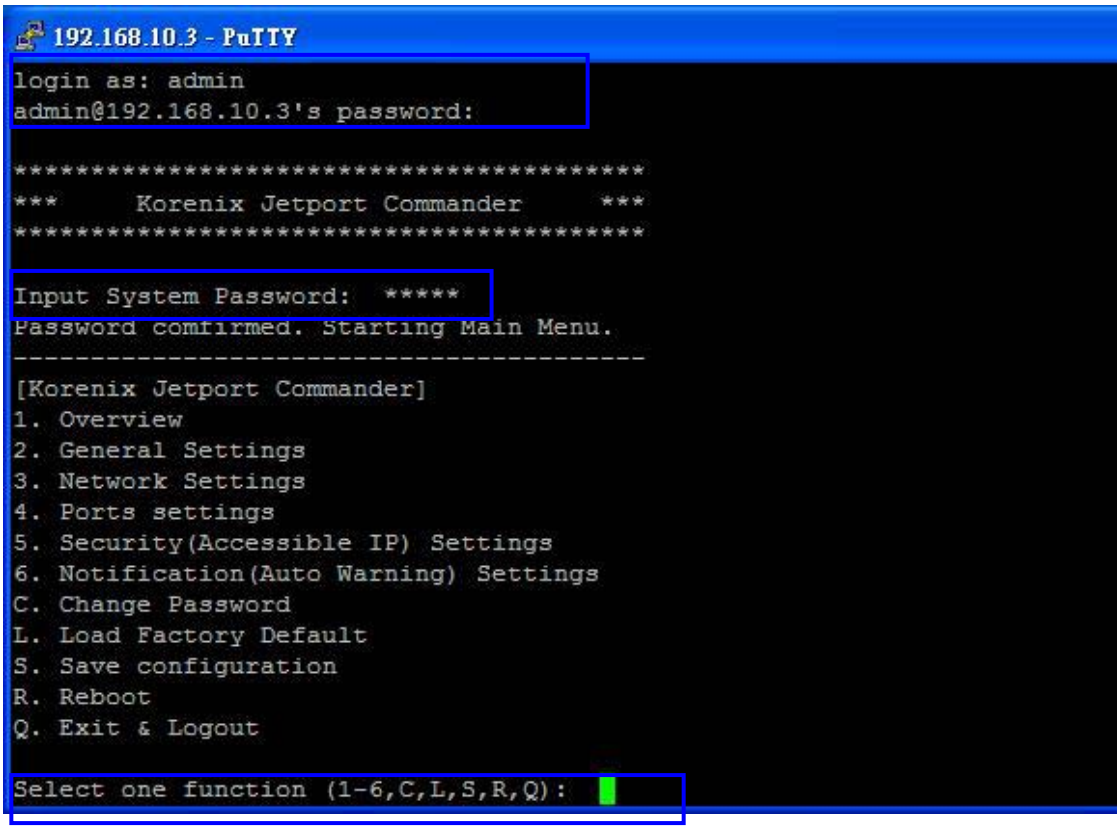


SSH Console is opened. The default username of the SSH public key is admin, password is admin. You can see the console as below:

L**ogin as:** admin
admin@192.168.10.3's password: (admin)

****
*** Korenix JetPort Commander ***
****

Input System Password: ***** (The password you setup in the Jetport commander.)
Password confirmed. Starting Main Menu.
You can start to configure your JetPort by SSH console.



Type the Password you setup in the JetPort Commander.

Configuration

Configure the device and port by pressing function number or the hinted initial.

Press “q” to exit the function.
Always press “a” to apply and save change after making a configuration.

Appendix A

SNMP MIB II and RS232 Like Support

Jetport **5604** has build-in SNMP agent that supports SNMP trap, RFC 1317 RS232 MIB and RFC1213 MIB-II. The following tables list SNMP variables implemented in Jetport 5604.

RFC1213 MIB-II supported SNMP variables

System MIB				
sysDescr	sysObjectID	sysUpTime	sysContact	sysName
sysLocation	sysORLastChange	sysORID	sysORDescr	sysORUpTime

Interface MIB				
ifNumber	ifIndex	ifDescr	ifType	ifMtu
ifSpeed	ifPhysAddress	ifAdminStatus	ifOperStatus	ifInOctets
ifInUcastPkts	ifInDiscards	ifInErrors	ifOutOctets	ifOutUcastPkts
ifOutDiscards	ifOutErrors	ifOutQLen	ifSpecific	

Address MIB				
atIfIndex	atPhysAddress	atNetAddress		

IP MIB				
ipForwarding	ipDefaultTTL	ipInReceives	ipInHdrErrors	ipInAddrErrors
ipForwDatagrams	ipInUnknownProtos	ipInDiscards	ipInDelivers	ipOutRequests
ipOutDiscards	ipOutNoRoutes	ipReasmTimeout.	ipReasmReqds	ipReasmOKs
ipReasmFails	ipFragOKs	ipFragFails	ipFragCreates	ipAdEntAddr
ipAdEntIfIndex	ipAdEntNetMask	ipAdEntBcastAddr	ipRouteDest	ipRouteIfIndex
ipRouteMetric1	ipRouteNextHop	ipRouteType	ipRouteProto	ipRouteMask
ipRouteInfo	ipNetToMediaIfIndex	ipNetToMediaPhysAddress	ipNetToMediaNetAddress	ipNetToMediaType
ipRoutingDiscards				

ICMP MIB				
icmpInMsgs	icmpInErrors	icmpInDestUnreachs	icmpInTimeExcds	icmpInParmProbs
icmpInSrcQuenchs	icmpInRedirects	icmpInEchos	icmpInEchoReps	icmpInTimestamps
icmpInTimestampReps	icmpInAddrMasks	icmpInAddrMaskReps	icmpOutMsgs	icmpOutErrors
icmpOutDestUnreachs	icmpOutTimeExcds	icmpOutParmProbs	icmpOutSrcQuenchs	icmpOutRedirects
icmpOutEchos	icmpOutEchoReps	icmpOutTimestamps	icmpOutTimestampReps	icmpOutAddrMasks
icmpOutAddrMaskReps				

TCP MIB				
tcpRtoAlgorithm	tcpRtoMin	tcpRtoMax	tcpMaxConn	tcpActiveOpens
tcpPassiveOpens	tcpAttemptFails	tcpEstabResets	tcpCurrEstab	tcpInSegs
tcpOutSegs	tcpRetransSegs	tcpConnState	tcpConnLocalAddress	tcpConnLocalPort
tcpConnRemAddress	tcpConnRemPort	tcpInErrs	tcpOutRsts	

UDP MIB				
udpInDatagrams	udpNoPorts	udpInErrors	udpOutDatagrams	udpLocalAddress
udpLocalPort				

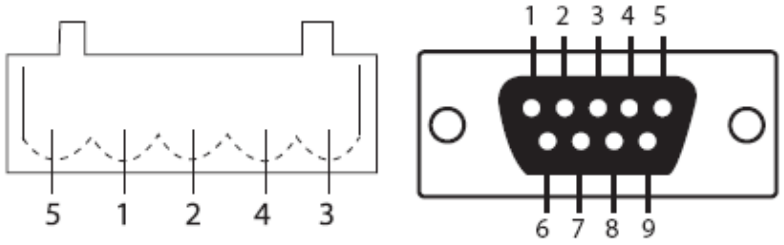
SNMP MIB				
snmpInPkts	snmpOutPkts	snmpInBadVersions	snmpInBadCommunityNames	snmpInBadCommunityUses
snmpInASNParseErrs	snmpInTooBigs	snmpInNoSuchNames	snmpInBadValues	snmpInReadOnlys
snmpInGenErrs	snmpInTotalReqVars	snmpInTotalSetVars	snmpInGetRequests	snmpInGetNexts
snmpInSetRequests	snmpInGetResponses	snmpInTraps	snmpOutTooBigs	snmpOutNoSuchNames
snmpOutBadValues	snmpOutGenErrs	snmpOutGetRequests	snmpOutGetNexts	snmpOutSetRequests
snmpOutGetResponses	snmpOutTraps	snmpEnableAuthenTraps	snmpSilentDrops	snmpProxyDrops

RFC1317 RS232 supported SNMP variables

RS232 MIB				
rs232Number	rs232PortIndex	rs232PortType	rs232PortInSigNumber	rs232PortOutSigNumber
rs232PortInSpeed	rs232PortOutSpeed	rs232PortInFlowType	rs232PortOutFlowType	
rs232AsyncPortIndex	rs232AsyncPortBits	rs232AsyncPortStopBits	rs232AsyncPortParity	rs232AsyncPortAutobaud
rs232AsyncPortParityErrs	rs232AsyncPortFramingErrs	rs232AsyncPortOverrunErrs		
rs232InSigPortIndex	rs232InSigName	rs232InSigState	rs232InSigChanges	
rs232OutSigPortIndex	rs232OutSigName	rs232OutSigState	rs232OutSigChanges	

Appendix B

RS232 Pin Assignment



Pin #	RS232	RS422	RS485 (4 wire)	RS485(2 wire)
1	DCD	RXD-	RXD-	
2	RXD	RXD+	RXD+	
3	TXD	TXD+	TXD+	DATA+
4	DTR	TXD-	TXD-	DATA-
5	GND	GND	GND	GND
6	DSR			
7	RTS			
8	CTS			
9	RI			
RS232 mode act as DTE				

Name	**Notes/Description**
DCD	Data Carrier Detect
RXD	Receive Data (RxD, Rx)
TXD	Transmit Data (TxD, Tx)
DTR	Data Terminal Ready
GND	Ground
DSR	Data Set Ready
RTS	Request To Send
CTS	Clear To Send
RI	Ring Indicator

Appendix C: About Korenix

Less Time At Work! Fewer Budgets on applications!

The Korenix business idea is to let you spend less time at work and fewer budgets on your applications. Do you really want to go through all that trouble but still end up with low quality products and lousy services? No! This is why you need Korenix. Korenix offers a complete products selection that fulfills all your needs for your applications. We bring you easier, faster, tailor-made services, and more reliable solutions. In Korenix, there is no need to compromise. Korenix takes care everything for you!

Fusion of Outstandings

Your searching stops here. Korenix Technology is your one-stop supply center for industrial communications and networking products. Established by a group of professionals with more than 10 years of experience in the arenas of industrial control, data communications and industrial networking applications. Korenix Technology is well-positioned to fulfill your needs and demands by providing a great variety of tailor-made products and services. Korenix's industrial-grade products also come with quality services. No more searching, and no more worries. Korenix Technology stands by you all the way through.

Core Strength---Competitive Price and Quality

With our work experience and in-depth know-how of industrial communications and networking, Korenix Technology is able to combine Asia's research / development ability with competitive production cost and with quality service and support.

Global Sales Strategy

Korenix's global sales strategy focuses on establishing and developing trustworthy relationships with value added distributors and channel partners, and assisting OEM distributors to promote their own brands. Korenix supplies products to match local market requirements of design, quality, sales, marketing and customer services, allowing Korenix and distributors to create and enjoy profits together.

Quality Services

KoreCARE--- KoreCARE is Korenix Technology's global service center, where our professional staffs are ready to solve your problems at any time and in real-time. All of Korenix's products have passed ISO-9000/EMI/CE/FCC/UL certifications, fully satisfying your demands for product quality under critical industrial environments. Korenix global service center's e-mail is koreCARE@korenix.com

5 Years Warranty

Each of Korenix's product line is designed, produced, and tested with high industrial standard. Korenix warrants that the Product(s) shall be free from defects in materials and workmanship for a period of five (5) years from the date of delivery provided that the Product was properly installed and used. This warranty is voided if defects, malfunctions or failures of the warranted Product are caused by damage resulting from force majeure (such as floods, fire, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances, host computer malfunction, plugging the board in under power, or incorrect cabling; or the warranted Product is misused, abused, or operated, altered and repaired in an unauthorized or improper way

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