Korenix JetPort 5804 / 5804i Wireless Serial Device Server

User's Manual

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1 Introduction

JetPort 5804 series is a 4-ports Serial to Wireless Device Server. JetPort 5804 provides 4 3-in-1 RS-232/422/485 serial interfaces. JetPort 5804i provides 4 RS-422/485 serial interfaces with 2KV isolation protection. You can use one IP address, dual redundant paths to control maximum 4 serial devices over the Ethernet. The Wireless LAN solution is 802.11b/g with up to 54Mbps bandwidth. Give you an easy solution to the hard-to-wire or moving environment. Ease your network cabling problem in the field. Protect your serial data transmission with 128 bit WEP over the Wireless LAN and avoid the illegal access or hack.

The JetPort 5804 series supports RTTD technology so that the dual Ethernet ports can auto-recovery within 200ms. JetPort 5804 series are also equipped with abundant value-added hardware features include the 2 types of power inputs, 4 Digital Input and 2 Digital Output. JetPort 5804 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 5804/5804i has the following features:

- Four-port RS-232/422/485 to 802.11b/g (up to 54Mbps) Wireless network (5804)
- Four-port RS-422/485 with Isolation to 802.11b/g (up to 54Mbps) Wireless network (5804i)
- Serial ports supports 2KV isolation protection (5804i)
- Encrypted data transmission with 128-bit WEP and WPA
- External antenna expands the range of WLAN
- Fiberglass antenna for water, dust and UV resistance
- RTTD, Redundant to the Device function Dual Ethernet Ports, network auto-recovery in 200ms
- Four Digital Inputs and Two Digital Outputs
- Redundant Power Inputs by 12-48VDC Terminal Block and DC Jack.
- Independent serial services, Real/Virtual COM, TCP Server/Client/Tunnel and UDP Connections
- JetPort Commander, Easy-to-use Windows Utility with smart setup Wizards.
- Secured Management by HTTPS and SSH
- Event Notification by Syslog, Email, SNMP trap, and Digital Output
- Vertical mounting by Din-Rail, Wall mount and Desk-top

1.3 Product Specification

Network Interface

WLAN Standard 802.11b/g WLAN

Spread Spectrum

DSSS(802.11b), OFDM(802.11g)

Technology

Tx Power

13-17dBm at maximum radiation direction **Rx Sensitivity** -71 dBm @ 54 Mbps, -84 dBm @ 11Mbps

Transmission Rate 54 Mbps (max.) with auto fallback **Transmission Distance** Up to 100 meters (open area)

Antenna Supports the antenna diversity function

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, RS-422, RS-485 2/4-wire (5804)

RS-422, RS-485 2/4-wire with 2KV Isolation Protection (5804i)

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: Startup(Red); Ready(Green); WLAN Link (Orange)

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 Real COM, 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, RCOM/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.

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 Real COM, Virtual COM, TCP Server, TCP Client, TCP Tunnel and

UDP

Advanced Serial TCP Alive Check Timeout, Inactivity Idle Timeout, Performance

Setting mode, Delimiter, Force TX Timeout for Data Packing and Force TX

interval time

Group Configuration JetPort Commander: Group IP Wizard, Group firmware upgrade,

Wizard Group Backup/Restore, RCOM, 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

Power Consumption Maximum 4.7 Watts

Mechanical

Dimensions 145mm(W)x120mm(D)x46.5mm(H)

Regulatory Approvals FCC Class A, CE Class A, RoHS

Environmental

Operating Temperature -10°C $\sim 55^{\circ}\text{C}$

Operating Humidity 5% ~ 95%, non-condensing

Storage Temperature $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$

1.4 Package Checklist

JetPort is shipped with the following items:

- Wireless Device Server
- Antenna
- 100-240VAC Power adapter
- Din-Rail/Wall Mount kit
- Foot pads
- Documentation and Software CD
- Quick Installation Guide

If any of the above items is missing or damaged, please contact your local sales representative.



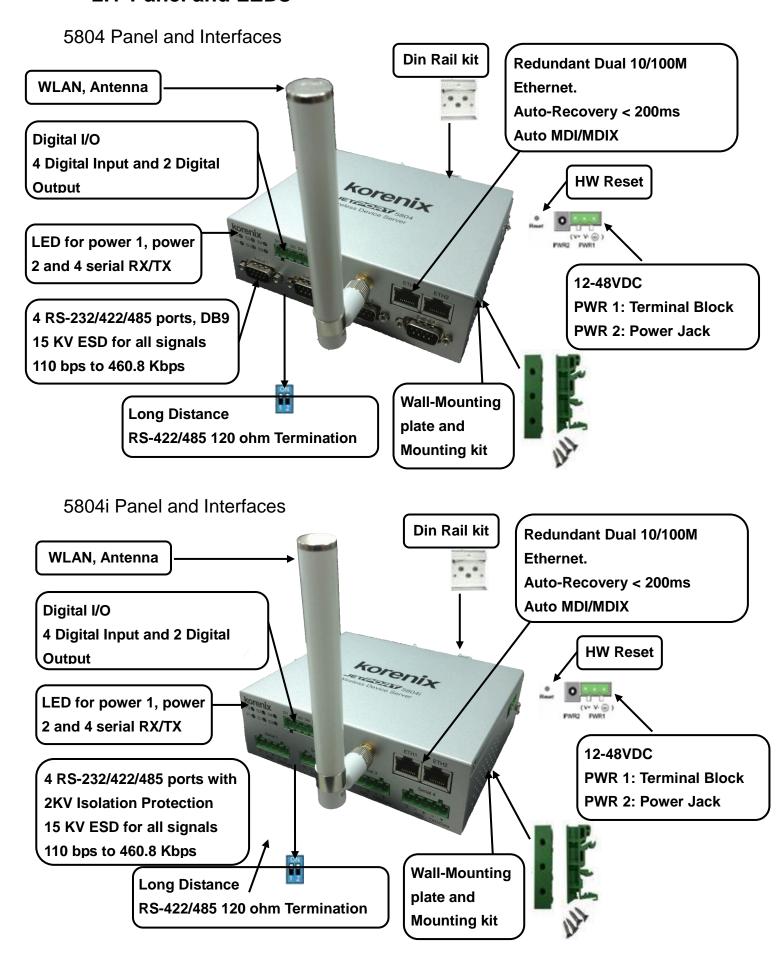
2 Hardware Installation

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

- Panel and LEDs
- Reset Button
- Connecting the Power
- Connecting the Network
- Connection the Serial Device
- Wireless LAN Architecture
- Wireless Security
- Digital Input/Output
- DIN Rail Mounting Installation
- Wall Mounting Installation

2.1 Panel and LEDs



5804/5804i LED Indicators

There are 6 LEDs in 5804/5804i front panel and 2 LED in RJ-45 ports, indicating real-time system status.

LED	Color	Indication
	Red	On: Power 1 is on and booting up. Blinking: Indicates an IP conflict, or DHCP or BOOTP server did no respond properly.
PWR 1	Green	On: Power is on and functioning normally. Blinking: Located by Administrator's Location function.
	Orange	On: WLAN is linking.
	Off	Power is off, or power error condition exists.
DWD 0	Red	On: Power 2 is on and booting up. Blinking: Indicates an IP conflict, or DHCP or BOOTP server did not respond properly.
PWR 2	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.
	Left	Green: 100M Ethernet cable is connected. Green Blinking: Traffic is transmitting or receiving.
Eth 1	Right	Orange: 10M Ethernet cable is connected. Orange Blinking: Traffic is transmitting or receiving.
	Off	Ethernet cable is disconnected, or has a short.
	Left	Green: 100M Ethernet cable is connected. Green Blinking: Traffic is transmitting or receiving.
Eth 2	Right	Orange: 10M Ethernet cable is connected. Orange Blinking: Traffic is transmitting or receiving.
	Off	Ethernet cable is disconnected, or has a short.
	Red	Serial port is receiving data.
S1	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.
	Red	Serial port is receiving data.
S2	Green	Serial port is transmitting data.
02	Orange	Serial port is receiving and transmitting data.
	Off	No data is being transmitted or received through the serial port.
	Red	Serial port is receiving data.
S3	Green	Serial port is transmitting data.
55	Orange	Serial port is receiving and transmitting data.
	Off	No data is being transmitted or received through the serial port.
	Red	Serial port is receiving data.
S4	Green	Serial port is transmitting data.
J-4	Orange	Serial port is receiving and transmitting data.
	Off	No data is being transmitted or received through the serial port.

2.2 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.

2.3 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 5804 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.

2.4 Connecting the Network

LAN Interface

Connect the Ethernet cable to the JetPort 5804/5804i 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. The major purpose of the LAN interface is for you to configure the SSID for WLAN interface. Run JetPort Commander to manually configure the SSID or Auto Search the available remote Access Point (AP). Refer to the manual of the JetPort Commander to see how to configure SSID.

WLAN Interface

Screw the attached Wireless Antenna when you get the unit. Always rotate the antenna clockwise to change the direction.



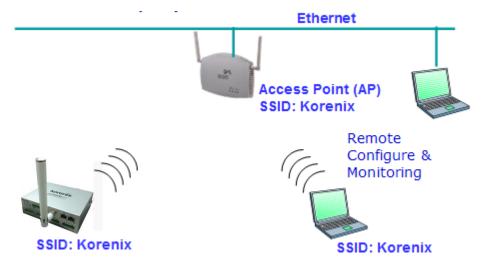




Note: Only one of the LAN or WLAN interface can work. When connecting LAN and WLAN at the same time, the LAN interface has higher priority than WLAN interface.

2.5 Wireless LAN Architecture

There are 2 typical WLAN architectures, one is infrastructure, and the other is Ad-Hoc mode.



Infrastructure mode: The 2 ends communicate via Access Point (AP). Access Point is the base station which allows WLAN clients connect to. Each AP can accept several clients depend on the network performance you plan to give. Usually up to 10-20 clients. The AP works like a hub, the connected clients share the bandwidth it supports. For example: The AP supports 802.11g which means the available

Ad-Hoc mode: The 2 ends communicate with each other directly. In this architecture, there is no need any access point. The JetPort and the host PC or 2 JetPorts can communicate with each other directly.



SSID:

SSID is short of the Service Set Identifier, it is referred to as a network name that identifies a wireless network. The SSID is attached to the header of packets sent over the WLAN. The 2 ends of the communication pairs should have the same SSID. This also can be viewed as one kind of password for the WLAN end devices.

To configure the WLAN settings, no matter Infrastructure or Ad-Hoc mode. You should know the SSID of the 2 ends first. In infrastructure mode, you should know the SSID of the access point and configure this in the JetPort. In Ad-hoc mode, you should configure the same SSID for the JetPort and host PC or 2 JetPorts.

Configure the SSID of the Access Point (AP) by JetPort Commander when you first use the WLAN interface or when you move to JetPort 5804 to the range of the other AP. Unplug the LAN port or power reboot the device, then the WLAN interface can connect to the Access Point (AP) you assigned. It may

take few seconds to connect to the WLAN AP when you unplugging the LAN interface. Refer to the WLAN LED can help you to see the WLAN connection status.

Channel:

In each region, it defines the channels of the wireless band. When choosing Infrastructure mode, the channel of the JetPort is automatically decided by the Access Point. This is to avoid the conflict and easy maintaining the WLAN performance. In Ad-hoc mode, you should assign the same channel to the 2 ends.

Transmission Rate:

The JetPort 5804 supports 802.11b and 802.11g standard. The typical transmission rate of the 802.11b is 11Mbps, the 802.11g is 54Mbps. The transmission rate of JetPort is "Auto". It'd use the best transmission rate it can meet in that environment. The transmission rate may also decide by the Access Point. The network installation may also affect this, weak signal or poor connection will reduce the rate.

2.6 Wireless Security

JetPort 5804 supports several types of Wireless security protection.

No Encryption: Disable the Wireless encryption.

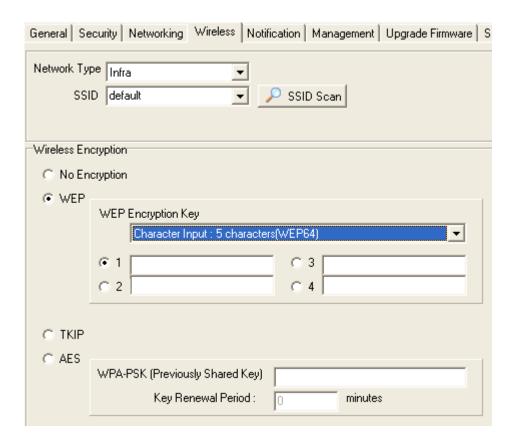
WEP: WEP is abbreviation of the **Wired Equivalent Privacy**. WEP is a security protocol for WLAN. It is designed to provide the same level of security as that of a wired LAN. WEP aims to provide security by encrypting data over radio waves so that the serial data is protected from JetPort 5804 to the Access Point (AP) or another end station.

There are 4 types WEP encryption you can choose:

Character Input: 5 Characters [WEP64]
Character Input: 13 Characters [WEP128]

Hexadecimal Input: 10 digits [WEP64]
Hexadecimal Input: 26 digits [WEP128]

After choosing the encryption type, you can type the Key in the below field. There are 4 keys you can configure and save; one of the key can work at one time.



The 5804 also supports **WPA** (Wi-Fi Protected Access). WPA was created by the Wi-Fi Alliance; it was designed to enhance the security of wireless networks. WPA has better protection than WEP.

JetPort 5804 supports **WPA Personal** mode. This mode is designed for the networks which don't require the complex 802.1x authentication server. The WPA personal mode requires manual configuration of a PSK (Previously Share Key) on the AP and Client. The PSK is a passphrase (password), each client must enter a passphrase to access the network, the security depends on the strength of the passphrase. The passphrase may be from 8 to 63 printable ASCII characters or 64 hex decimal digits (256 bits). The passphrase you typed will be stored in JetPort thus you can use this passphrase to communicate with the AP.

JetPort 5804 WPA supports 2 encryption modes, TKIP and AES.

TKIP is short of **Temporal Key Integrity Protocol**. It's an enhancement to WEP security. TKIP uses the RC4 stream cipher with 128-bit keys for encryption and 64-bit keys for authentication. TKIP helps to ensure that only the intended audience understands the transmitted data.

AES is short of **Advanced Encryption Standard**. 5804 provides encryption support AES.

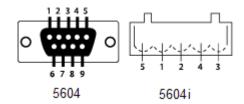
Choose the encryption type, TKIP or AES, then type the key in the WPA-PSK and time in the Key Renewal Period (minutes) field.

Note: The above security settings should be the same in your access point (AP) and JetPort. Incorrect password/key may lead you lost the connection.

2.7 Connecting the Serial Device

JetPort 5804 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 RS-422/4-wire RS-485/2-wire RS-485.

Pin Assignment



Pin #	RS-232	RS-422	RS-485 (4 wire)	RS-485(2 wire)
1	DCD	RXD-	RXD-	
2	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			

^{*}RS-232 mode act as DTE

120ohm DIP

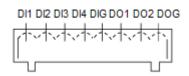


DIP 1	DIP 2	120ohm Termination Configuration	
ON	ON	120ohm Terminator for Long Distance 4-wire RS-485/RS-422	
ON	OFF		
OFF	ON	120ohm Termination for Long Distance 2-wire RS-485	
OFF	OFF	No Termination for RS-232/485 (short distance)	

2.8 Digital Input/Output

JetPort 5804 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 5804, or program the digital output value of the connected device to high, the 5804 can trigger the value and display 1 (logic high) in the JetPort Commander. When the connected device pulls low or program to low,



the 5804 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 5804 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.

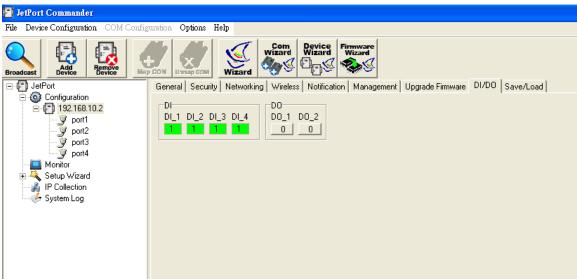
Note: The Digital Output feature is not Relay Output board design, it should be connected to digital I/O by pair. Connect digital input of connected device to digital output of 5804 or digital output of the connected device to digital input of 5804.

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.





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").

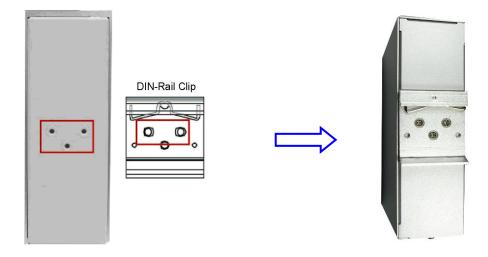
And end flag is "\n\r".

2.9 DIN-Rail Mounting Installation

The DIN-Rail clip is already attached to the JetPort 5804 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 5804/5804i.

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.



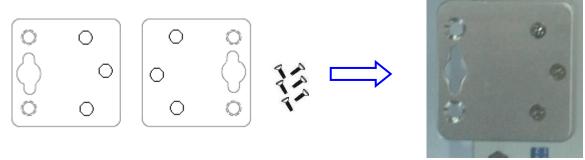
The figure shows the 5804 and 5804i are attached on the track well.

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

2.10 Wall-Mounting Installation

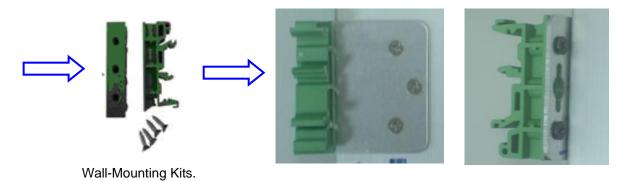
Follow these steps to mount the unit to a wall or other flat surface.

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.



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



The figure shows the 5804 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 virtual 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

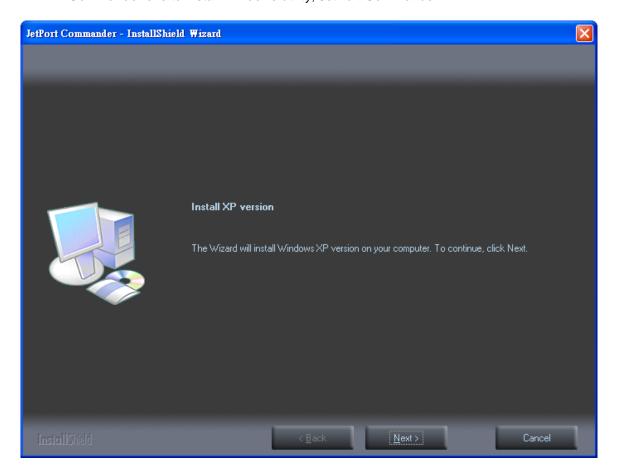
- Real/Virtual COM Wizard
- Serial Tunnel Wizard
- Group IP Wizard
- Group Setup Wizard
- Group Firmware Wizard
- IP Collection
- Monitor

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. Select "JetPort Commander", and run JetPort Commander.exe to install Windows utility, JetPort Commander.

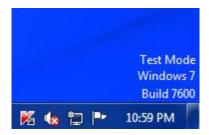


It automatically detects OS of your PC.

It will also turn on the Windows7's test mode.

Then you should reboot your PC for the settings to take effect.

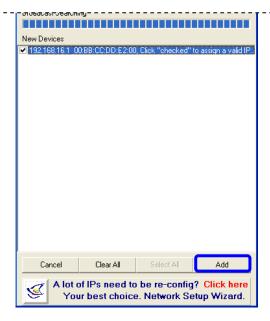
After you reboot your PC, you should see a test mode watermark on the screen.

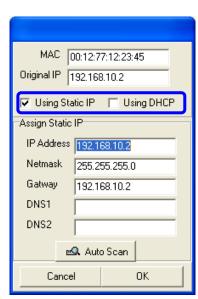


2. Broadcast the JetPort unit: Connect the Admin PC to the LAN interface of the JetPort 5804. JetPort Commander will broadcast the network and search all available JetPort units in the network. The default IP address of JetPort is "192.168.10.2".



Product Tip: If you have multiple Network Adapters (i.é. 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.





3. Configuring the JetPort unit:

3.1 Click on the JetPort unit and select "Add" for further configuring the unit.



3.2 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.

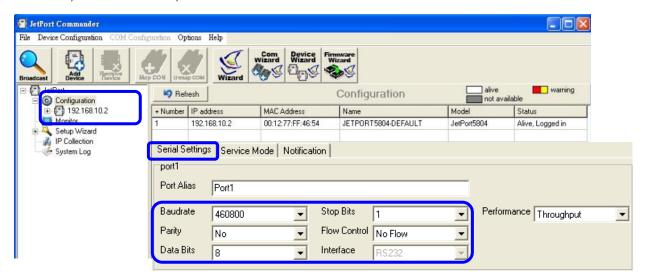
4. Configure the JetPort WLAN setting:

- 4.1 Select the target unit's IP address. Go to "Wireless" and assign Network Type to "Infra" (Infrastructure mode).
- 4.2 Press "SSID Scan" and select the available SSID.
- 4.3 If you can't find the SSID, manually configure the SSID in the SSID field.
- 4.4 Press "Apply and Save" to apply this setting.

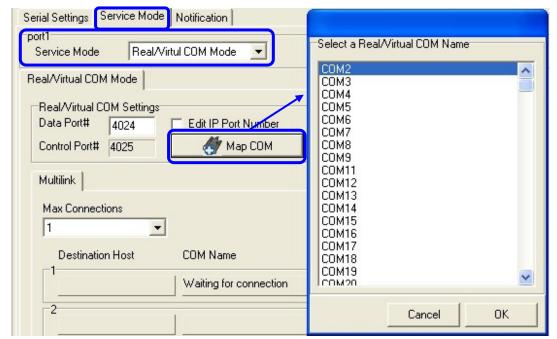
5. Configure the WLAN IP Address:

- 5.1 Go to "Networking" -> "Wireless"
- 5.2 Select "Static IP" if you want to specify the network parameters, or select "DHCP/BootP" if you want dynamic IP configuration for the JetPort unit.
- **6.** Unplug the LAN interface or power reboot the JetPort 5804 to activate the WLAN connection. Run step 3 to find the JetPort 5804 through the WLAN connection.
- 7. Configuring the serial port as COM port:
 - 7.1 Go to "Configuration", and choose the "device" and the "port". Select "Serial Settings" to configure the serial parameters

Note: In 5804 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, and Port 4 is Serial 4.



7.2 Select "Service mode", "Real/Virtual COM Mode" and press "Map COM" to map the port to the COM port.



Congratulations! You have finished JetPort configurations with Real/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.

4 Web and Telnet Console

In addition to Windows utility, JetPort 5804 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

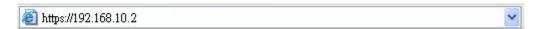
■ 4.2 SSH Console

- > 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.



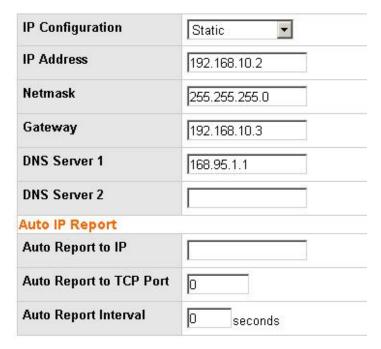
Server Configuration

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



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



Wireless Setting configures the Network Type, SSID and Wireless Encryption for the Wireless LAN settings. "SSID Scan" can scan the available APs in the network. Or manually configure the SSI in the SSID field.

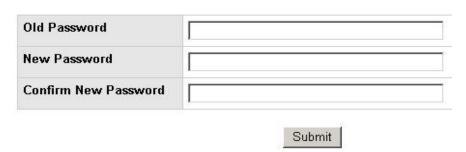
Wireless Encryption settings include WEP, TKIP and AES (WPA). Type the same settings as your AP's setting otherwise you can use the Wireless LAN network.

Wireless Settings



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:** RS-232 / RS-422 / RS-485(2-wires) / RS-485(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

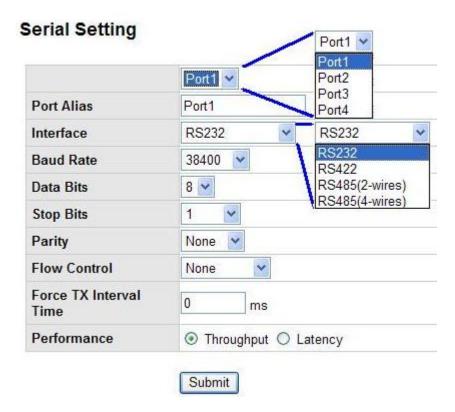
Force TX Interval Time is to specify the timeout when no data has been transmitted. When the timeout is reached or TX buffer is full (4K Bytes), the queued data will be sent. Zero means

disable (factory default).

Performance: Throughput, Latency

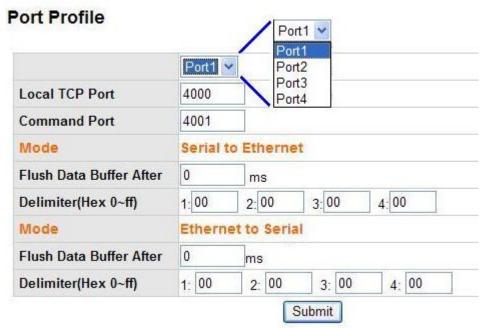
Throughput mode guarantees highest transmission speed

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).

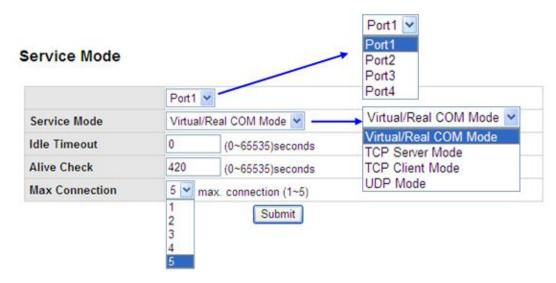


Flush Data Buffer After is to specify the timeout time if the device doesn't receive the Delimiters user setup.

Service Mode- Real/Virtual COM

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

Note: Since JetPort's Real/Virtual COM driver is implemented in JetPort Commander. You should run the JetPort Commander to assign the RCOM/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.

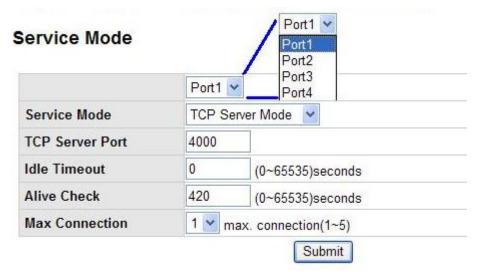
Alive Check: The JetPort device will send TCP Alive Check packet in each defined time interval (Alive Check) to remote host to test the TCP connection. If the TCP connection is not alive, the connection will be closed and the port will be freed for other hosts. Zero is to disable this setting Default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

Note: If you want to auto-connect your Real/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.

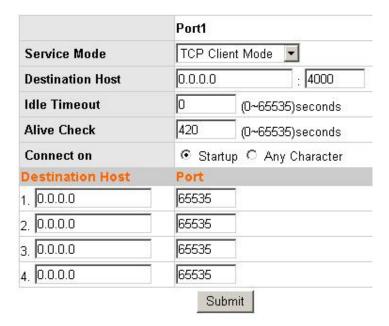
Idle Timeout: When serial port stops data transmission for a defined period of time (Idle Timeout), the connection will be closed and the port will be freed and re-try for connection with other hosts. Zero is disable this setting (default). If Multilink is configured, only the first host connection is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

Service Mode



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.

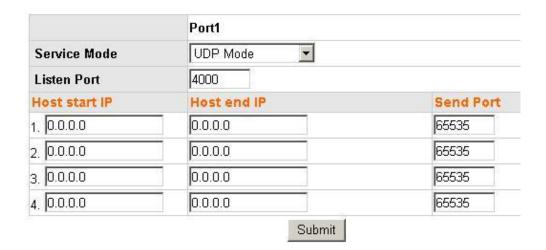
Connect on Any Character: The TCP Client will build TCP connection once the connected serial device starts to send data.

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.

Service Mode



Management

DI/DO 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.

Access IP Setting

ło.	Activate the IP	IP Address	Netmask
	П		
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1			
2			
3			
4			
5			
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Submit

Event Notification

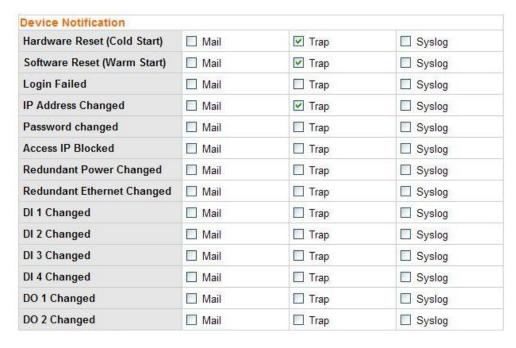
Specify the events that should be notified to the administrator. The events can be alarmed by means of email, SNMP trap, or system log.

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.

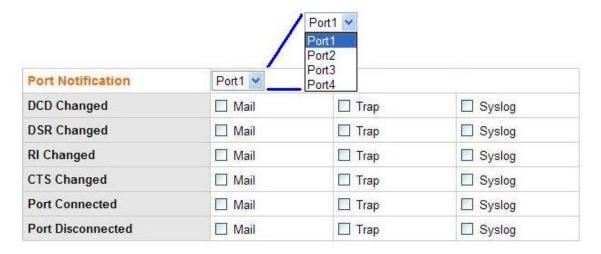
Event Notification



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

Port Notification:

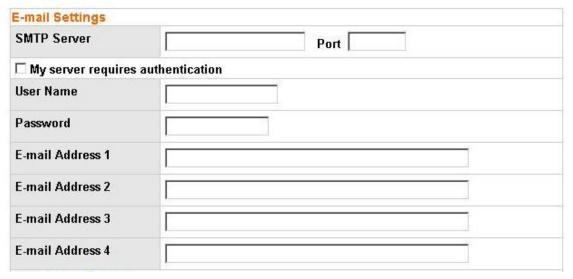
- DCD changed: When DCD (Data Carrier Detect) signal changes, indicating the modem connection status has changed, the event will be triggered.
- > DSR changed: When DSR (Data Set Ready) signal changes, indicating that the data communication equipment is powered off, the event will be triggered.
- RI 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 Real/Virtual COM Mode, when Real/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 Real/Virtual COM Mode, When Real/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.

SNMP Trap Server		
SNMP Server 1		
SNMP Server 2		
SNMP Server 3		
SNMP Server 4		
Community		
Location		
Contact		
Syslog Server	A	
Syslog Server IP		
Syslog Server Port	0	

Maintenance

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

Load Factory Default

The function will restore all JetPort setting to the factory default, except for the IP address and netmask setting.

Load Defau	ılt
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Import Configuration

The function will import previously saved configuration file into the JetPort

File to import:	Browse
Import	
, ,	

Export Configuration

The function will Export current configuration into a file.

Export

Upgrade Firmware

specify the firmware image to upgrade			
irmware:	Browse		
Upgrade			

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. For 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*.

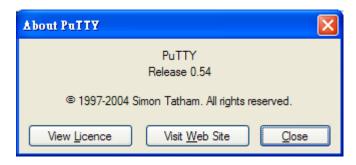
Download PuTTY: http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html

JetPort Settings: Enable the "Telnet Management Enable" to enable the SSH feature of JetPort 5804/5804i. 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".

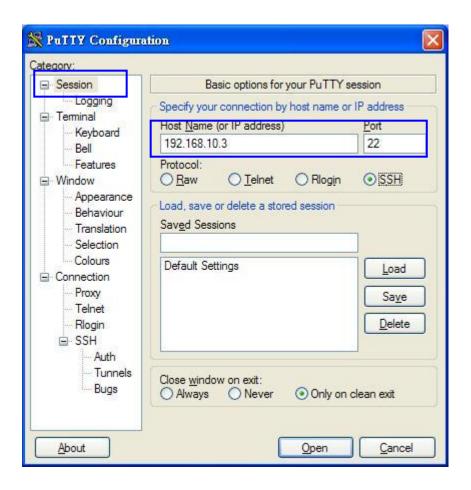
The copyright of PuTTY



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.

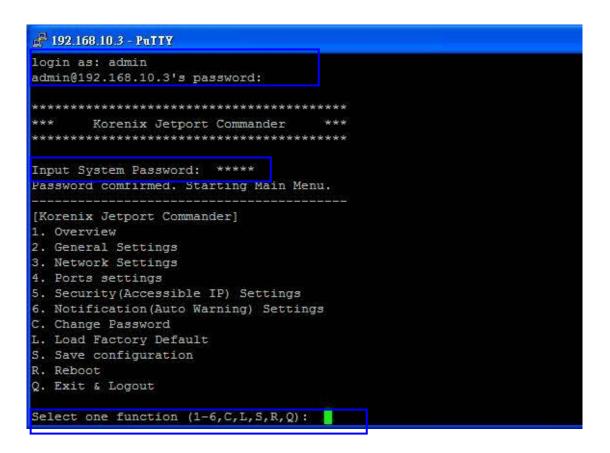


SSH Console is opened. The default username of the SSH public key is admin, password is admin. You can see the console as below:

Login 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 RS-232 Like Support

JetPort 5804 has built-in SNMP agent that supports SNMP trap, RFC 1317 RS-232 MIB and RFC1213 MIB-II. The following tables list SNMP variables implemented in JetPort 5804.

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		
atlfIndex	atPhysAddress	atNetAddress	

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

ICMP MIB				
icmplnMsgs	icmplnErrors	icmpInDestUnreachs	icmpInTimeExcds	icmpInParmProbs
icmpInSrcQuenchs	icmpInRedirects	icmplnEchos	icmpInEchoReps	icmpInTimestamps
icmpInTimestampReps	icmplnAddrMasks	icmplnAddrMaskReps	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				

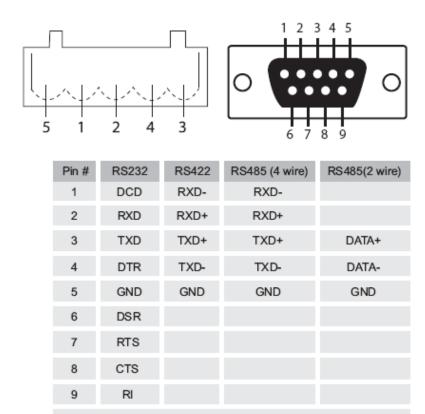
SNMP MIB				
snmpInPkts	snmpOutPkts	snmpInBadVersions	snmpInBadCommunityNames	snmpInBadCommunityUses
snmpInASNParseErrs	snmpInTooBigs	snmpInNoSuchNames	snmpInBadValues	snmpInReadOnlys
snmpInGenErrs	snmpInTotalReqVars	snmpInTotalSetVars	snmpInGetRequests	snmpInGetNexts
snmpInSetRequests	snmpInGetResponses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

RFC1317 R-S232 supported SNMP variables

RS-232 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

RS-232 Pin Assignment



RS232	mode	act	as	D.	TΕ
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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

Korenix Technologies Co., Ltd. 5F, No. 98-1, Ming-Chuan Rd., Shing Tien City, Taipei, TaiwanTel:+886-2-89111000 Fax:+886-2-29123338

Business service: sales@korenix.com

Customer service: koreCARE@korenix.com

C

Revision History

Version	Description	Date
V1.1	Update Korenix phone & fax number.	Aug. 2014
V1.0	The first released version.	Mar. 2013