

# **Korenix JetPort 5801 Wireless Serial Device Server**

---

## **User's Manual**

Oct. 2008 (V1.1)



**[www.korenix.com](http://www.korenix.com)**

# **Korenix JetPort 5801 Wireless Serial Device Server User's Manual**

## **Copyright Notice**

Copyright © 2008 Korenix Technology Co., Ltd.

All rights reserved.

Reproduction in any form or by any means without permission is prohibited.

# Contents

---

|                   |   |            |
|-------------------|---|------------|
| <b>Chapter 1</b>  | <b>Introduction .....</b>                       | <b>1-1</b> |
|                   | Serial to Ethernet Technology Overview .....    | 1-2        |
|                   | Product Features .....                          | 1-2        |
|                   | Product Specification .....                     | 1-2        |
|                   | Package Checklist .....                         | 1-4        |
| <b>Chapter 2</b>  | <b>Hardware Installation .....</b>              | <b>2-1</b> |
|                   | Panel and LEDs .....                            | 2-2        |
|                   | 5801 Panel and Interfaces .....                 | 2-2        |
|                   | 5801 LED Indicators .....                       | 2-2        |
|                   | Reset Button .....                              | 2-3        |
|                   | Connecting the Power .....                      | 2-3        |
|                   | Connecting the Network .....                    | 2-3        |
|                   | Wireless LAN Architecture .....                 | 2-4        |
|                   | Wireless Security .....                         | 2-5        |
|                   | Connecting the Serial Device .....              | 2-6        |
|                   | Din-Rail Mounting Installation .....            | 2-7        |
| <b>Chapter 3</b>  | <b>Windows Management Tool .....</b>            | <b>3-1</b> |
|                   | Software Quick Setup .....                      | 3-2        |
|                   | Install JetPort Commander .....                 | 3-2        |
| <b>Chapter 4</b>  | <b>Web and Telnet Console .....</b>             | <b>4-1</b> |
|                   | Web Console .....                               | 4-2        |
|                   | Server Configuration .....                      | 4-2        |
|                   | Port Configuration- Serial Parameter .....      | 4-4        |
|                   | Service Mode- Virtual COM .....                 | 4-5        |
|                   | Service Mode- TCP Server .....                  | 4-6        |
|                   | Service Mode- TCP Client .....                  | 4-7        |
|                   | Service Mode- UDP .....                         | 4-7        |
|                   | Access IP Table .....                           | 4-8        |
|                   | Event Notification .....                        | 4-9        |
|                   | Email and SNMP Trap Notification .....          | 4-9        |
|                   | Maintenance .....                               | 4-10       |
|                   | SSH Console .....                               | 4-11       |
|                   | SSH Client .....                                | 4-11       |
|                   | Configuration .....                             | 4-14       |
| <b>Appendix A</b> | <b>SNMP MIB II and RS232 Like Support .....</b> | <b>A-1</b> |
| <b>Appendix B</b> | <b>RS232 Pin Assignment .....</b>               | <b>B-1</b> |
| <b>Appendix C</b> | <b>Revision History .....</b>                   | <b>C-1</b> |



# 1

## Introduction

---

Jetport 5801 is a one port RS232/422/485 to Wireless Serial Device Server. The Wireless LAN solution is 802.11b/g with up to 54Mbps. Give you an easy way and high bandwidth connection to the hard-to-wire or moved serial devices. 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 5801 can be configured by JetPort Commander, users can manage the wired and wireless JetPort without installing additional software. JetPort 5801 equips with two types of power input, terminal block or power jack, JetPort 5801 can be wall mounted or din-rail mounted by the din-rail kit.

This chapter describes:

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

# Serial to Ethernet Technology Overview

Korenix JetPort serial device servers provide perfect solution to manage serial devices via Ethernet or Wireless LAN 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.

## Product Features

JetPort 5801 has the following features:

- Smart one-port RS232/422/485 to Ethernet Solution
- One-port RS232, RS422, RS485 to 802.11b/g (up to 54Mbps) Wireless network
- Encrypted data transmission with 128-bit WEP
- External antenna can expand the range of WLAN
- Dual Power Input by 12~48VDC Terminal Block and Power Jack.
- JetPort Commander, Windows Utility for Device Discovery, Multiple Device Setting and Monitoring.
- Versatile Serial Application: Virtual Com, TCP Tunnel, TCP Server, TCP Client, UDP
- Embedded beeper for positioning
- Virtual COM Driver for Windows 2000/XP/2003/Vista

## Product Specification

### Network Interface

|                                   |   |
|-----------------------------------|---|
| <b>WLAN Standard</b>              | 802.11b/g WLAN                                |
| <b>Spread Spectrum Technology</b> | DSSS(802.11b), OFDM(802.11g)                  |
| <b>Tx Power</b>                   | 13-17dBm at maximum radiation direction       |
| <b>Rx Sensitivity</b>             | -71 dBm @ 54 Mbps, -84 dBm @ 11Mbps           |
| <b>Transmission Rate</b>          | 54 Mbps (max.) with auto fallback             |
| <b>Transmission Distance</b>      | Up to 100 meters (open area)                  |
| <b>Antenna</b>                    | Supports the antenna diversity function       |
| <b>Ethernet</b>                   | 1* 10/100BaseTX, Auto MDI/MDI-X               |
| <b>Connector</b>                  | RJ-45   |
| <b>Protection</b>                 | Built-in 1.5 KV magnetic isolation protection |

### Serial Communication

|                        |                               |
|------------------------|-------------------------------|
| <b>Number of Ports</b> | 1                             |
| <b>Interface</b>       | RS-232, RS422, 2/4-wire RS485 |

|                               |   |
|-------------------------------|---|
| <b>Connectors</b>             | male DB9  |
| <b>Baud Rates</b>             | 110 bps to 460.8 Kbps   |
| <b>Data Bits</b>              | 5, 6, 7, 8  |
| <b>Parity</b>                 | odd, even, none   |
| <b>Stop Bits</b>              | 1, 1.5, 2   |
| <b>RS-232</b>                 | TxD, RxD, RTS, CTS, DTR, DSR, GND, DCD, RI  |
| <b>RS-422</b>                 | Tx+,Tx-, Rx+, Rx-,GND   |
| <b>RS-485 (4-wire)</b>        | Tx+,Tx-, Rx+, Rx-,GND   |
| <b>RS-485 (2-wire)</b>        | Data+, Data-,GND  |
| <b>Flow Control</b>           | XON/XOFF, RTS/CTS, DTR/DSR  |
| <b>Serial Line Protection</b> | 15KV ESD  |
| <b>Long Distance</b>          | 2*pin 120ohm DIP switches   |
| <b>Termination</b>            |   |
| <b>Features</b>               |   |
| <b>Protocols</b>              | IP, TCP, UDP, ICMP, DHCP, BootP, ARP/RARP, SNMP, HTTPS, SSH, SNTP, SMTP   |
| <b>LED</b>                    | Power 1/Power 2: Startup(Red); Ready(Green)<br>LAN : 10M Link(Orange), 100M Link(Green)<br>WLAN: Good Link Quality(Green), Poor Link Quality (Orange)<br>Serial: Transmitting date(Green), Receiving date(Orange) |
| <b>Configuration</b>          | JetPort Commander, HTTPS, SSH   |
| <b>Serial Service</b>         | Virtual COM, TCP Server, TCP Client, TCP Tunnel and UDP   |
| <b>WLAN Discover</b>          | 5 AP list   |
| <b>WLAN Strength</b>          | 5 Levels  |
| <b>WLAN Security</b>          | WEP 64-bit/128-bit data encryption, WPA (TKIP/AES)  |
| <b>Reset</b>                  | Software reload default, Hardware reset button  |
| <b>Beeper</b>                 | Embedded beeper for positioning   |
| <b>SNTP</b>                   | For time management   |
| <b>Access IP Table</b>        | 16 IP addresses to prevent illegal users  |
| <b>Monitor</b>                | Devices' status, VCOM status  |
| <b>E-Mail Alert</b>           | Automatic e-mail warning by pre-defined events  |
| <b>System Log</b>             | Trap to Syslog server or local display  |
| <b>System Events</b>          | Cold/Warm Start, Login Failed, IP and Password Changed, Access IP Blocked, Serial Port DCD/RI/DSR/CTS changed, Serial Port connected/disconnected.  |
| <b>SNMP</b>                   | RFC1213 MIB II, RFC1317 RS232_like and SNMP Trap  |
| <b>Windows Utility</b>        |   |
| <b>JetPort Commander</b>      | Device Discovery, Auto IP, Network Setting(Wire and Wireless),  |

|                                   |   |
|-----------------------------------|---|
|                                   | Device and Serial Port Setting and monitoring, Notification setting, Firmware Upgrade, Configuration Backup and Restore, Group Configuration Wizards. |
| <b>Advanced Serial Setting</b>    | TCP Alive Check Timeout, Inactivity Idle Timeout, Performance mode, Delimiter, Force TX Timeout for Data Packing and Force TX interval time           |
| <b>Group Configuration Wizard</b> | JetPort Commander: Group IP Wizard, Group firmware upgrade, Group Backup/Restore, VCOM and TCP Tunnel Setup Wizard                                    |
| <b>Power Requirements</b>         |   |
| <b>System Power</b>               | PWR1: 12~48VDC Terminal Block<br>PWR2: 12~48VDC Power Jack with Power Adapter   |
| <b>Power Line protection</b>      | 1 KV Burst (EFT), EN61000-4-4<br>0.5 KV Surge, EN61000-4-5  |
| <b>Mechanical</b>                 |   |
| <b>Dimensions</b>                 | 96.1mm(W)x124mm(D)x29.6mm(H)  |
| <b>Regulatory Approvals</b>       | FCC Class A, CE Class A , UL, RoHS  |
| <b>Environmental</b>              |   |
| <b>Operating Temperature</b>      | -10°C ~60°C   |
| <b>Operating Humidity</b>         | 5% ~ 95%, non-condensing  |
| <b>Storage Temperature</b>        | -20°C ~ 70 °C   |
| <b>Warranty</b>                   | 3 years   |

## Package Checklist

JetPort is shipped with the following items:

- Wireless Device Server
- 100-240V Power adapter
- Mounting kit and 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

---

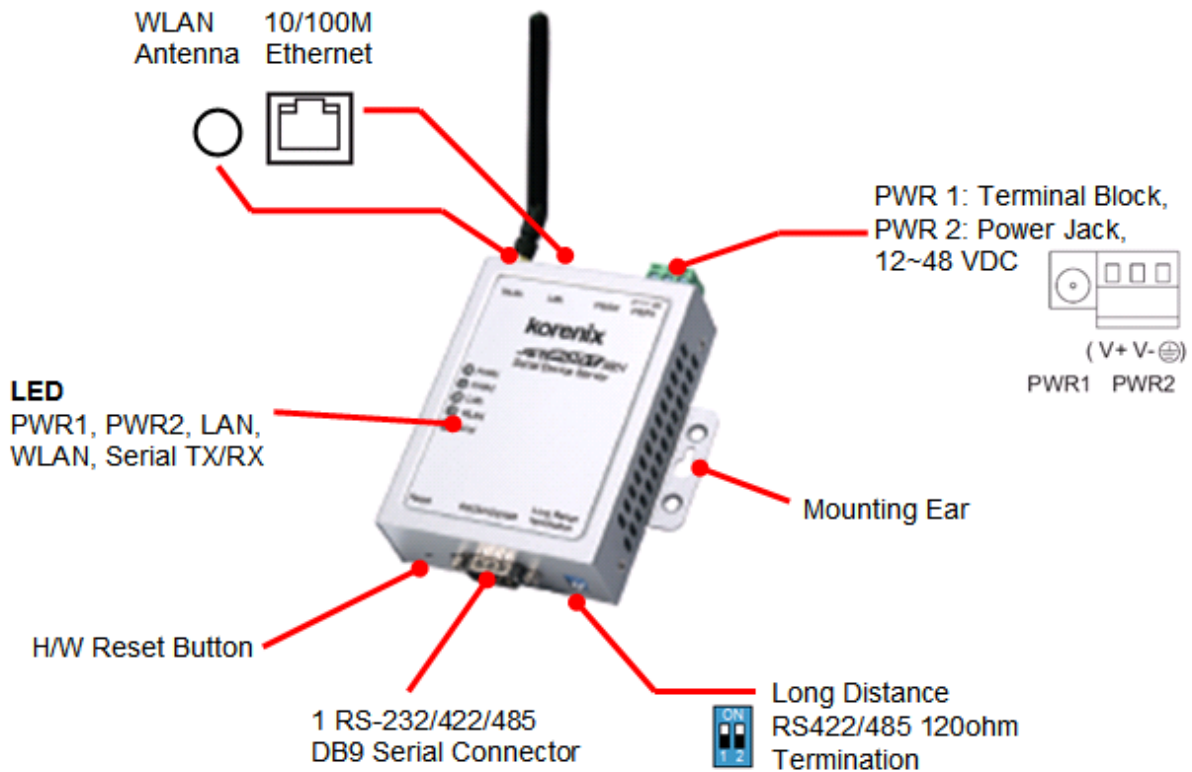
JetPort serial device server can be configured by Windows utility, web browser, or Telnet console. Advanced management features include SNMP support and Email alert. JetPort Commander is a powerful Windows utility that supports device discovery, group setup, group firmware update, and monitoring functions.

This chapter introduces how to quick start JetPort

- **Panel and LED**
- **Reset Button**
- **Connecting the Power**
- **Connecting the Network**
- **Wireless LAN Architecture**
- **Wireless Security**
- **Connection the Serial Device**
- **Din-Rail Mounting Installation**

# Panel and LEDs

## 5801 Panel and Interfaces



## 5801 LED Indicators

There are 5 LEDs in 5801, indicating real-time system status.

| LED    | Color  | Indication   |
|--------|--------|--|
| PWR 1  | Red    | On: Power 1 is on and booting up.<br>Blinking: Indicates an IP conflict, or DHCP or BOOTP server did not respond properly. |
|        | Green  | On: Power is on and functioning normally.<br>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.<br>Blinking: Indicates an IP conflict, or DHCP or BOOTP server did not respond properly. |
|        | Green  | On: Power 2 is on and functioning normally.<br>Blinking: Located by Administrator's Location function.                     |
|        | Off    | Power is off, or power error condition exists.   |
| LAN    | Orange | Blinking: 10 Mbps Ethernet connection.   |
|        | Green  | Blinking: 100 Mbps Ethernet connection.  |
|        | Off    | Ethernet cable is disconnected, or has a short.  |
| WLAN   | Orange | Poor Link Quality.   |
|        | Green  | Good Link Quality. Intermittent Blinking: AP searching.  |
|        | Off    | WLAN is disconnected.  |
| Serial | Red    | Serial port is receiving data.   |
|        | Green  | Serial port is transmitting data.  |
|        | Off    | No data is being transmitted or received through the serial port.  |

## 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.

## 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.



3. To provide better power input environment, Korenix provides several types DIN-Rail Power Supply accessories, you can find this in Korenix web site and order information.

### 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 5801 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.

## Connecting the Network

### LAN Interface

Connect the Ethernet cable to the JetPort 5801 10/100M Ethernet port. The interface support auto MDI/MDIX. 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.

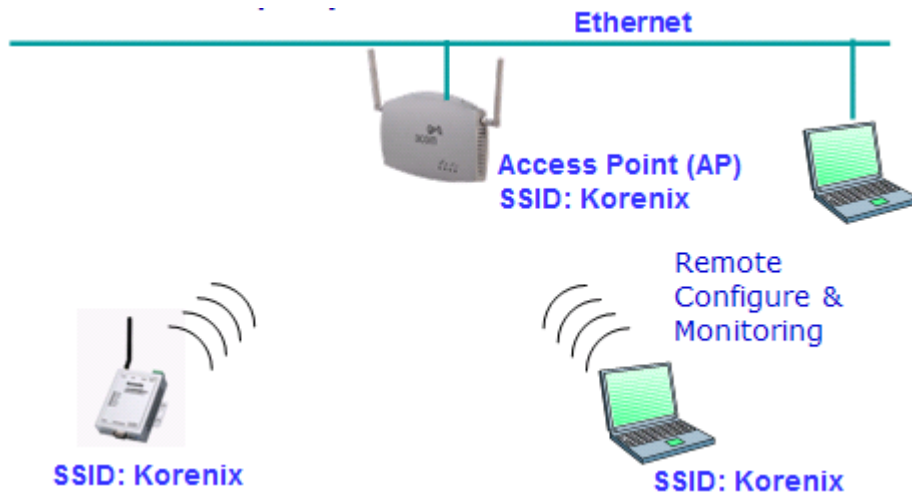


**Note:** Only one of the LAN or WLAN interface can work. When connecting LAN and WLAN at the same time, the LAN interface has higher priority than WLAN interface.

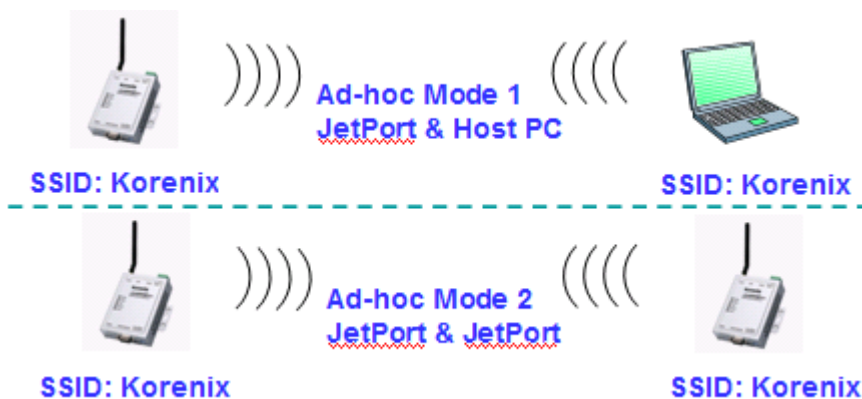
## Wireless LAN Architecture

There are 2 typical WLAN architecture, one is infrastructure, 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 bandwidth is up to 54Mbps. All the wireless clients share the 54Mbps bandwidth.



**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 5801 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 5801 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.

## Wireless Security

JetPort 5801 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 5801 to the Access Point (AP) or another end station.

There are 4 types WEP encryption you can choose:

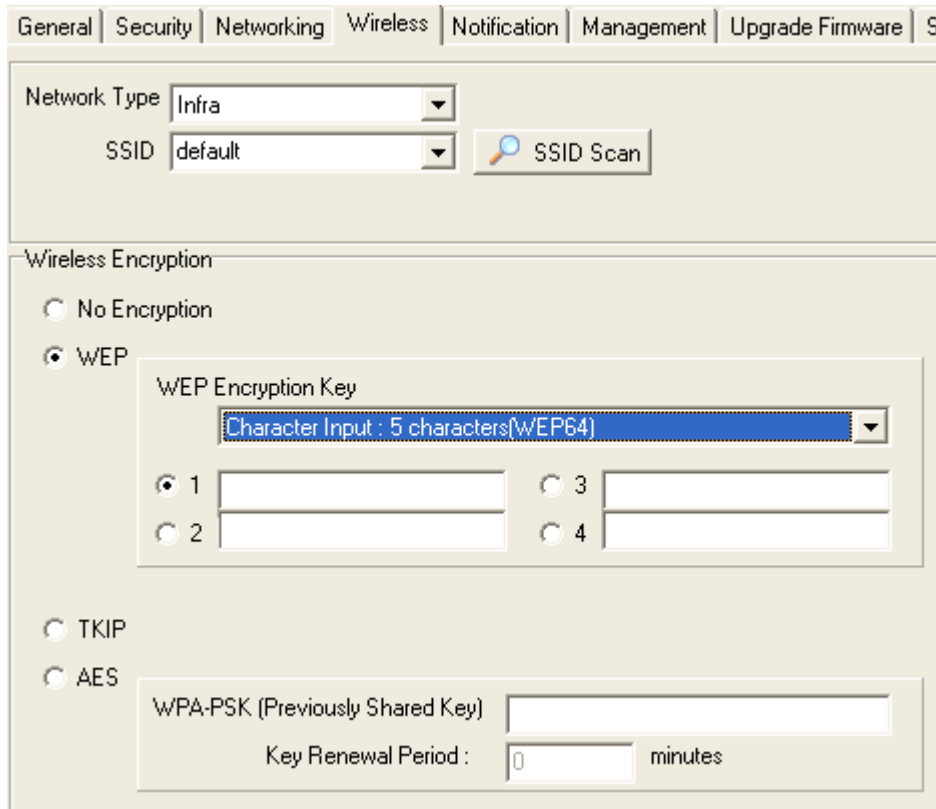
Character Input: 5 Characters [WEP64]

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 5801 also supports **WPA** (WiFi 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 5801 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 5801 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.

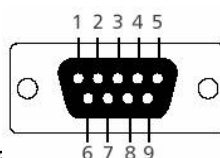
**AES** is short of **Advanced Encryption Standard**. 5801 provides encryption support AES.

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.*

## Connecting the Serial Device

JetPort 5801 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)          |

## Din-Rail Mounting Installation

Follow these steps to mount the unit to the rail/track.

1. Use a screwdriver to secure the Din-Rail mounting kit to the ear.



Wall-Mounting Kits.



2. Lightly push the 5801 into the rail/track.



The right figure shows the 5801 is attached on the rail/track well.

3. To remove the unit from the rail/track, reverse steps 1-3.

**Notice:** Due to the safety concern, Korenix requests users to vertically mount the 5801 device to the rail when using the Terminal Block as the power input. Use the certificated power supply, assured power construction in your factory as the power source.

# 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
- Wireless
- 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

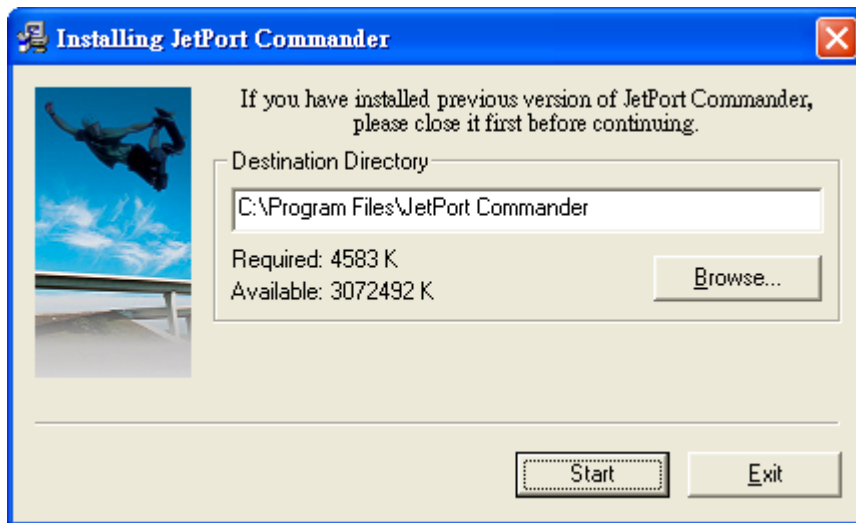
### ■ Monitor

## 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 5801", and "Operation System", run JetPort Setup.exe to install Windows utility, JetPort Commander.



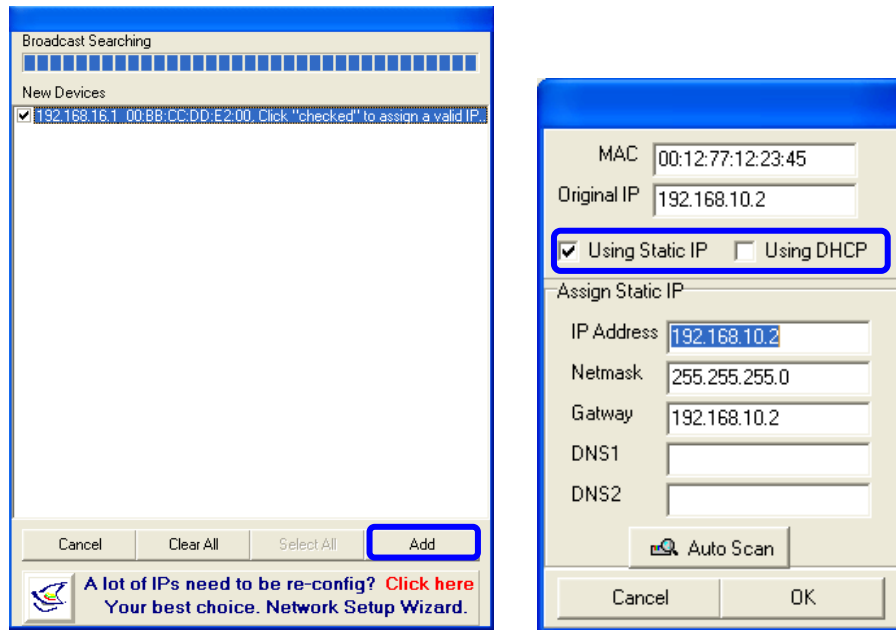
2. When the installation is finished, there are three options:
  - ✓ Launch JetPort Commander Now: Start configurations.
  - ✓ Visit Korenix registration page: Register products to Korenix.
  - ✓ Launch JetPort later: Start configurations later.



3. **Broadcast the JetPort unit:** Connect the Admin PC to the LAN interface of the JetPort 5801. 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.*



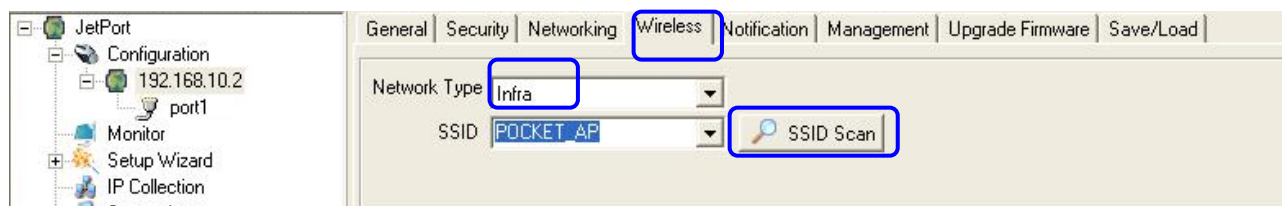
#### 4. Configuring the JetPort unit:

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/BootP” if you want dynamic IP configuration for the JetPort unit.

#### 5. Configure the JetPort WLAN setting:

- 5.1 Select the target unit's IP address. Go to “Wireless” and assign Network Type to “Infra” (Infrastructure mode).
- 5.2 Press “SSID Scan” and select the available SSID.
- 5.3 If you can't find the SSID, manually configure the SSID in the SSID field.
- 5.4 Press “Apply and Save” to apply this setting.



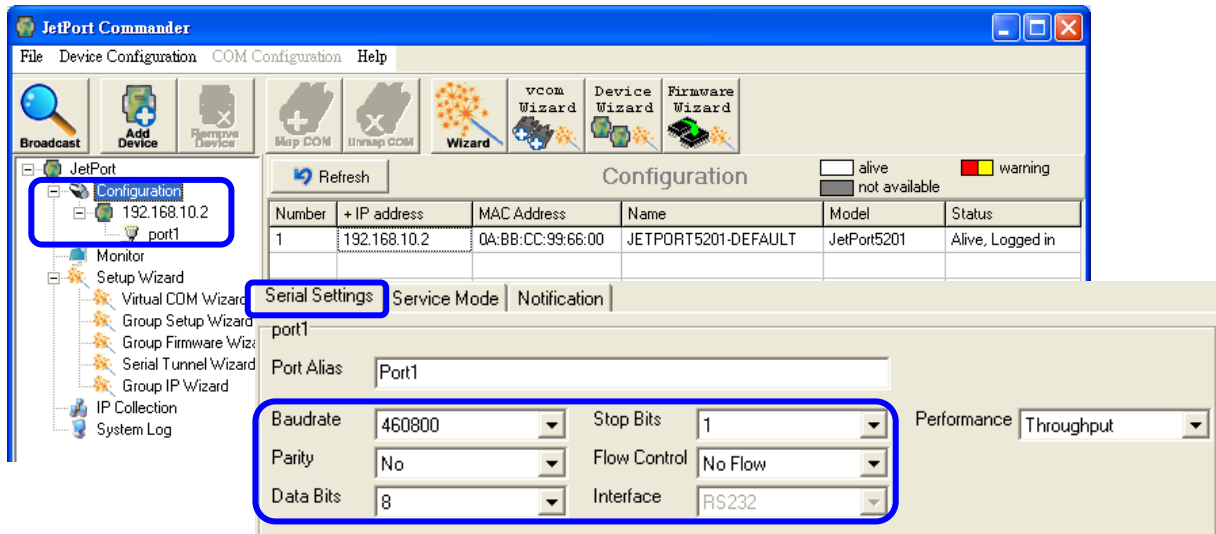
#### 6. Configure the WLAN IP Address:

- 6.1 Go to “Networking” -> “Wireless”
- 6.2 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.

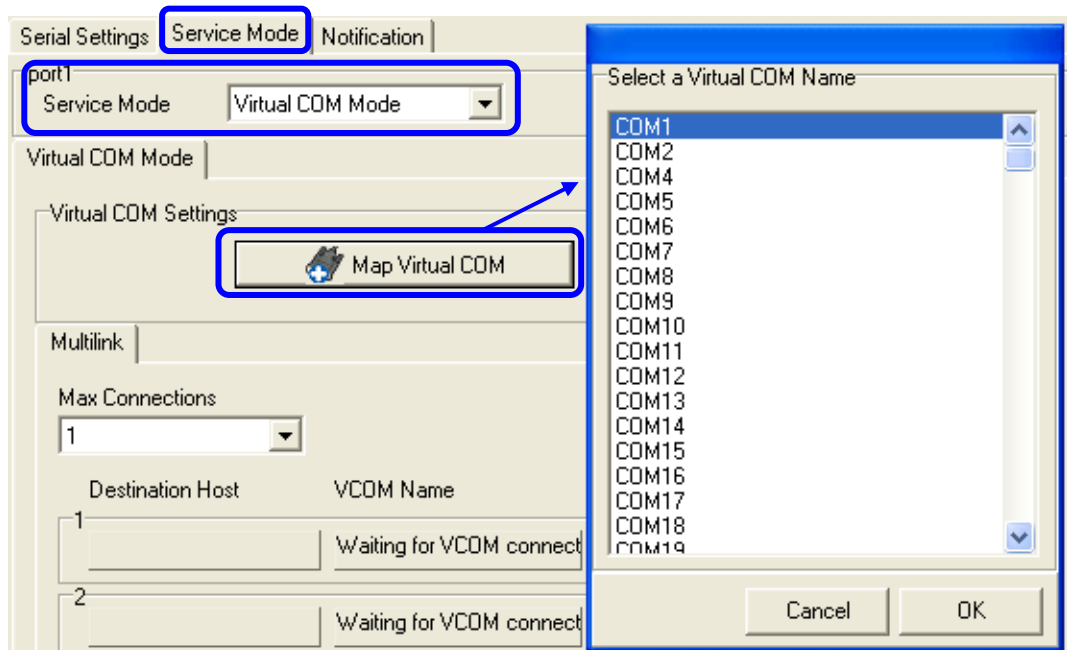
7. Unplug the LAN interface or power reboot the JetPort 5801 to activate the WLAN connection. Run step 3 to find the JetPort 5801 through the WLAN connection.

## 8. Configuring the serial port as COM port:

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



- 8.2 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.

# 4

## Web and Telnet Console

---

In addition to Windows utility, JetPort 5801 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 two non-trusted hosts.

This chapter describes:

### ■ **HTTPS Console**

- Server Configuration
- Port Configuration
- Management
- Save / Restart

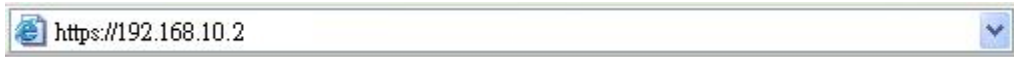
### ■ **SSH Console**

- SSH Client
- Configuration

## 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. You should type https://.)



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

|                |   |          |
|----------------|---|----------|
| Name           | JETPORT5801-DEFAULT   |          |
| <b>Time</b>    |   |          |
| SNTP           | <input type="radio"/> Enable <input checked="" type="radio"/> Disable |          |
| Time Zone      | (GMT+08:00)Taipei   |          |
| Local Time     | Thu Jan 1 08:00:48 1970   |          |
| Time Server    | pool.ntp.org  | Port 123 |
| <b>Console</b> |   |          |
| Telnet Console | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |          |

Submit

**Network Setting** configures the IP address, netmask, gateway, and DNS server for the JetPort's LAN and Wireless LAN. Auto IP report is for dynamic IP address reporting in defined intervals.

## Network Setting

|                         |               |  |
|-------------------------|---------------|--|
| Network Interface       | LAN           | <div style="border: 1px solid black; padding: 2px;">       LAN<br/>       LAN<br/>       Wireless     </div>         |
| IP Configuration        | Static        | <div style="border: 1px solid black; padding: 2px;">       Static<br/>       Static<br/>       DHCP/BOOTP     </div> |
| IP Address              | 192.168.10.2  |  |
| Netmask                 | 255.255.255.0 |  |
| Gateway                 | 192.168.10.1  |  |
| DNS Server 1            | 192.168.10.1  |  |
| DNS Server 2            |               |  |
| <b>Auto IP Report</b>   |               |  |
| Auto Report to IP       |               |  |
| Auto Report to TCP Port | 0             |  |
| Auto Report Interval    | 0 seconds     |  |

Submit

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

|  |   |           |
|--|---|-----------|
| Network Type                                   | Infra                                     | ▼         |
| SSID   | korenix4                                  | ▼         |
|  |   | SSID Scan |
| <b>Wireless Encryption</b>                     |   |           |
| <input checked="" type="radio"/> No Encryption |   |           |
| <input type="radio"/> WEP                      |   |           |
| WEP Encryption Key                             | Character Input : 13 characters(WEP128) ▼ |           |
| <input checked="" type="radio"/> 1:            | <input type="text"/>                      |           |
| <input type="radio"/> 2:                       | <input type="text"/>                      |           |
| <input type="radio"/> 3:                       | <input type="text"/>                      |           |
| <input type="radio"/> 4:                       | <input type="text"/>                      |           |
| <input type="radio"/> TKIP                     |   |           |
| <input type="radio"/> AES                      |   |           |
| WPA-PSK (Previously Shared Key):               |   |           |
| <input type="text"/>                           |   |           |
| Key Renewal Period :                           | <input type="text"/>                      | minutes   |

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

## Change Password

|                      |                      |
|----------------------|----------------------|
| Old Password         | <input type="text"/> |
| New Password         | <input type="text"/> |
| Confirm New Password | <input type="text"/> |

## Port Configuration- Serial Parameter

Port Configuration covers Serial Parameter settings, such as baud rate, data bits, stop bits, parity, and flow control.

**Port Alias:** Remark the port to hint the connected device.

**Baud rate:** from 110bps to 230.4kbps

**Parity:** No, Even, Odd, Mark, Space

**Data Bits:** 5, 6, 7, 8

**Stop Bits:** 1, 2 (1.5)  
**Flow Control:** No, XON/XOFF, RTS/CTS, DTR/DSR  
**Interface:** RS232 / RS422 / RS485(2-wires) / RS485(4-wires)  
**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 Ethernet to Serial data buffer" times out. Zero means disable(factory default).

### Serial Setting

| Port1                  |   |
|------------------------|---|
| Port Alias             | <input type="text" value="Port0"/>  |
| Interface              | <input type="text" value="RS232"/>  |
| Baud Rate              | <input type="text" value="RS232"/>  |
| Data Bits              | <input type="text" value="RS422"/>  |
| Stop Bits              | <input type="text" value="1"/>  |
| Parity                 | <input type="text" value="None"/>   |
| Flow Control           | <input type="text" value="None"/>   |
| Force TX Interval Time | <input type="text" value="0"/> ms   |
| Performance            | <input checked="" type="radio"/> Throughput <input type="radio"/> Latency |

### Port Profile

| Port1                   |   |
|-------------------------|---|
| Local TCP Port          | <input type="text" value="4000"/>   |
| Command Port            | <input type="text" value="4001"/>   |
| <b>Mode</b>             | <b>Serial to Ethernet</b>   |
| Flush Data Buffer After | <input type="text" value="0"/> ms   |
| Delimiter(Hex 0~ff)     | 1: <input type="text" value="00"/> 2: <input type="text" value="00"/> 3: <input type="text" value="00"/> 4: <input type="text" value="00"/> |
| <b>Mode</b>             | <b>Ethernet to Serial</b>   |
| Flush Data Buffer After | <input type="text" value="0"/> ms   |
| Delimiter(Hex 0~ff)     | 1: <input type="text" value="00"/> 2: <input type="text" value="00"/> 3: <input type="text" value="00"/> 4: <input type="text" value="00"/> |

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).

### Service Mode- Virtual COM

In Virtual COM mode, you need to define the available port number, Idle timeout, Alive check,

and Max. connections allowed from 1 to 5.

## Service Mode

|                | Port1                     |
|----------------|---------------------------|
| Service Mode   | Virtual COM Mode ▾        |
| Idle Timeout   | 0 (0~65535)seconds        |
| Alive Check    | 420 (0~65535)seconds      |
| Max Connection | 1 ▾ max. connection (1~5) |

**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).

## Service Mode- TCP Server

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

## Service Mode

|                 | Port1                    |
|-----------------|--------------------------|
| Service Mode    | TCP Server Mode ▾        |
| TCP Server Port | 4000                     |
| Idle Timeout    | 0 (0~65535)seconds       |
| Alive Check     | 420 (0~65535)seconds     |
| Max Connection  | 1 ▾ max. connection(1~5) |

**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).

## Service Mode- TCP Client

In TCP Client mode, you need to 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

|                         |  |                  |
|-------------------------|--|------------------|
|                         | <b>Port1</b>   |                  |
| <b>Service Mode</b>     | TCP Client Mode ▾  |                  |
| <b>Destination Host</b> | 0.0.0.0  | : 4000           |
| <b>Idle Timeout</b>     | 0  | (0~65535)seconds |
| <b>Alive Check</b>      | 420  | (0~65535)seconds |
| <b>Connect on</b>       | <input checked="" type="radio"/> Startup <input type="radio"/> Any Character |                  |
| <b>Destination Host</b> | <b>Port</b>  |                  |
| 1.                      | 0.0.0.0  | 65535            |
| 2.                      | 0.0.0.0  | 65535            |
| 3.                      | 0.0.0.0  | 65535            |
| 4.                      | 0.0.0.0  | 65535            |

**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 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

|                      |                    |                  |              |
|----------------------|--------------------|------------------|--------------|
|                      |                    |                  | <b>Port1</b> |
| <b>Service Mode</b>  | UDP Mode           |                  |              |
| <b>Listen Port</b>   | 4000               |                  |              |
| <b>Host start IP</b> | <b>Host end IP</b> | <b>Send Port</b> |              |
| 1. 0.0.0.0           | 0.0.0.0            | 65535            |              |
| 2. 0.0.0.0           | 0.0.0.0            | 65535            |              |
| 3. 0.0.0.0           | 0.0.0.0            | 65535            |              |
| 4. 0.0.0.0           | 0.0.0.0            | 65535            |              |

## Access IP Table

The Access IP Table specifies the IP address and subnet that can access to the device. The access is based on IP and netmask combination.

If the access is open to all hosts, do NOT enable this function.

## Access IP Setting

Enable IP Filtering (Not check this option will allow any IP to have assessibility)

| No. | Activate the IP          | IP Address | Netmask |
|-----|--------------------------|------------|---------|
| 1   | <input type="checkbox"/> |            |         |
| 2   | <input type="checkbox"/> |            |         |
| 3   | <input type="checkbox"/> |            |         |
| 4   | <input type="checkbox"/> |            |         |
| 5   | <input type="checkbox"/> |            |         |
| 6   | <input type="checkbox"/> |            |         |
| 7   | <input type="checkbox"/> |            |         |
| 8   | <input type="checkbox"/> |            |         |
| 9   | <input type="checkbox"/> |            |         |
| 10  | <input type="checkbox"/> |            |         |
| 11  | <input type="checkbox"/> |            |         |
| 12  | <input type="checkbox"/> |            |         |
| 13  | <input type="checkbox"/> |            |         |
| 14  | <input type="checkbox"/> |            |         |
| 15  | <input type="checkbox"/> |            |         |
| 16  | <input type="checkbox"/> |            |         |

## 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

### 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 events and the type 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.

| <b>E-mail Settings</b>                                     |  |
|--|--|
| SMTP Server  | <input type="text"/> Port <input type="text"/> |
| <input type="checkbox"/> My server requires authentication |  |
| User Name  | <input type="text"/>                           |
| Password   | <input type="text"/>                           |
| E-mail Address 1   | <input type="text"/>                           |
| E-mail Address 2   | <input type="text"/>                           |
| E-mail Address 3   | <input type="text"/>                           |
| E-mail Address 4   | <input type="text"/>                           |

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.

| <b>SNMP Trap Server</b> |                      |
|-------------------------|----------------------|
| SNMP Server 1           | <input type="text"/> |
| SNMP Server 2           | <input type="text"/> |
| SNMP Server 3           | <input type="text"/> |
| SNMP Server 4           | <input type="text"/> |
| Community               | <input type="text"/> |
| Location                | <input type="text"/> |
| Contact                 | <input type="text"/> |
| <b>Syslog Server</b>    |                      |
| Syslog Server IP        | <input type="text"/> |
| Syslog Server Port      | <input type="text"/> |

Submit

## Maintenance

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.



## SSH Console

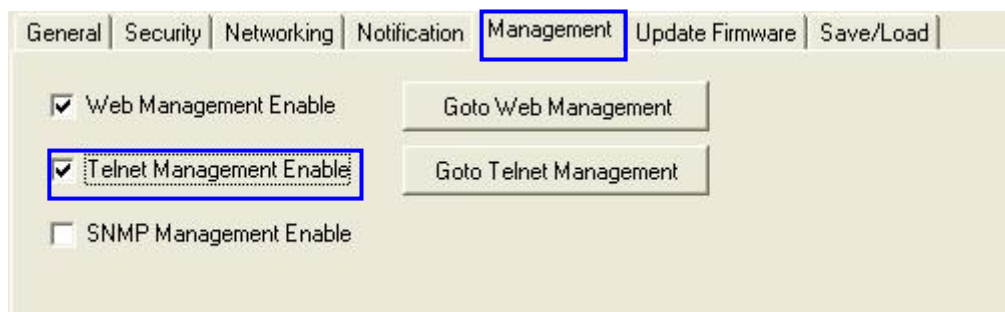
For using SSH, you should open the SSH Client, assign the IP of the JetPort you'd like to access and enter the correct Username/Password, then you can enter the SSH console menu.

### 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.*

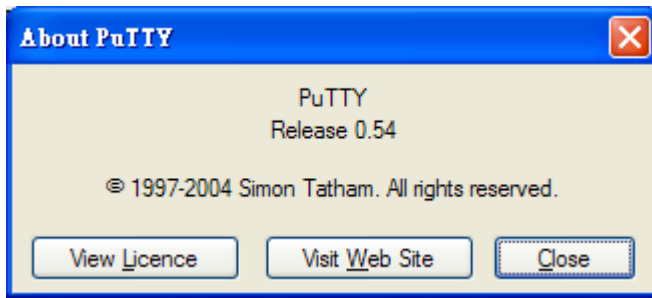
**Download PuTTY:** <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

**JetPort Settings:** Enable the "Telnet Management Enable" to enable the SSH feature of JetPort 5801/5801f. 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".

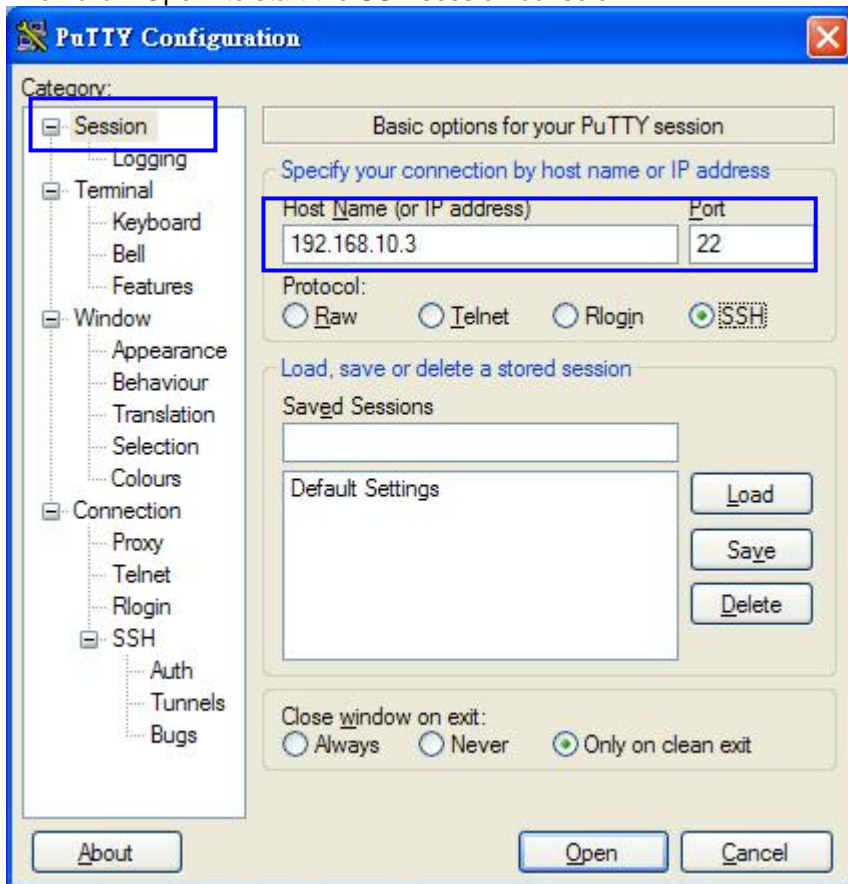
The copyright of PuTTY

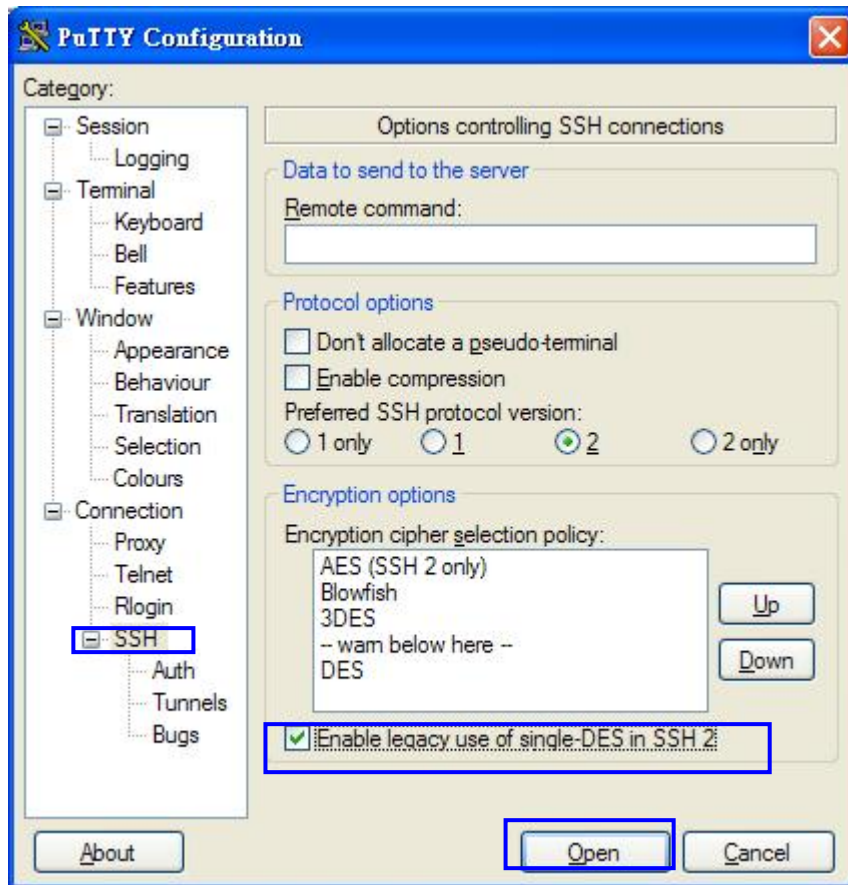


### Open the PuTTY

In the Session sub-tree, enter the Host Name (IP Address of your JetPort) and Port number (default = 22). Choose the “SSH” protocol.

In the SSH sub-tree, select the “Enable legacy use of single-DES in SSH2”. 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.

```
192.168.10.3 - PuTTY
login as: admin
admin@192.168.10.3's password:

*****
***      Korenix Jetport Commander      ***
*****

Input System Password: ****
Password confirmed. Starting Main Menu.
-----
[Korenix Jetport Commander]
1. Overview
2. General Settings
3. Network Settings
4. Ports settings
5. Security(Accessible IP) Settings
6. Notification(Auto Warning) Settings
C. Change Password
L. Load Factory Default
S. Save configuration
R. Reboot
Q. Exit & Logout

Select one function (1-6,C,L,S,R,Q): █
```

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.

# A

## SNMP MIB II and RS232 Like Support

---

Jetport **5801** 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 5801.

### 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       | ipNetToMediaIndex | 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   |                        |



# B

## RS232 Pin Assignment

---

| Pin No. | Name | Notes/Description       |
|---------|------|-------------------------|
| 1       | DCD  | Data Carrier Detect     |
| 2       | RD   | Receive Data (RxD, Rx)  |
| 3       | TD   | Transmit Data (TxD, Tx) |
| 4       | DTR  | Data Terminal Ready     |
| 5       | SGND | Ground                  |
| 6       | DSR  | Data Set Ready          |
| 7       | RTS  | Request To Send         |
| 8       | CTS  | Clear To Send           |
| 9       | RI   | Ring Indicator          |

**RS232 DB9 Male**





# C

## Revision History

---

| Version | Description   | Date         |
|---------|---|--------------|
| V0.1    | The first draft version.  | Dec. 2007    |
| V1.0    | The first formal version. Add wireless security, correct wording and description. | Jan. 2, 2008 |
| V1.1    | Correct WPA description<br>Correct Serial Port LED color                          | Oct. 2008    |