

sWiFi/all

User Manual

Version 1.0

2020.04.06



Revision History

Revision Date	Version	Pages	Description
04/06/2020	1.0	All	New

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1. OVERVIEW

sWiFi/all is an ultra-small Serial to WiFi Converter that connects various kinds of serial equipment to WiFi wireless network. It uses wireless 2.4Ghz Band and 5Ghz Band, supports IEEE 802.11 a/b/g/n communication standards.

1. PACKAGE

- sWiFi/all
- 5V DC Adaptor
- sWiFi/all User Manual

2. OPERATING ENVIRONMENT

- As the number of sWiFi/all increases, the more high-performance CPU and high-capacity memory is required.
- Recommended CPU Specification: Pentium 1GHz or higher
- Memory: 512MB or higher
- OS: Windows XP or above

3. TECHNICAL SUPPORT

- SystemBase provides technical support to customer in three ways.
- Technical support may be obtained through technical support or FAQ at our website <https://www.sysbas.com/en>. For faster response, please email technical support team at tech@sysbas.com or call 82-2-855-0501.

2. SPECIFICATION

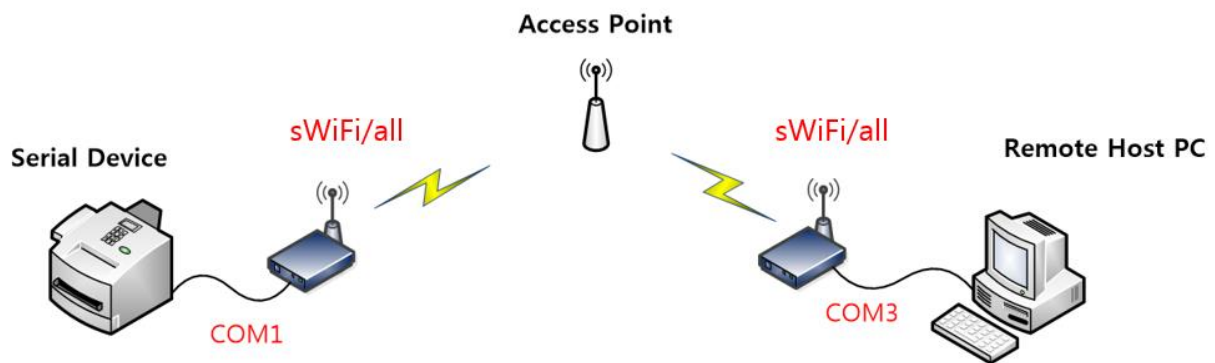
sWiFi/all is an ultra-small serial converter that provides WiFi wireless connectivity function to equipment supporting RS232, RS422, RS485. The communication specification supports 2.4GHz, 5GHz IEEE 802.11 a/b/g/n and supports standard serial communication.

sWiFi/all connects various kinds of serial equipment to the network, including remote control and monitoring of devices connected through the network.

sWiFi/all supports three modes: Station, COM Redirector, and can be connected via wireless network and used like a serial cable.

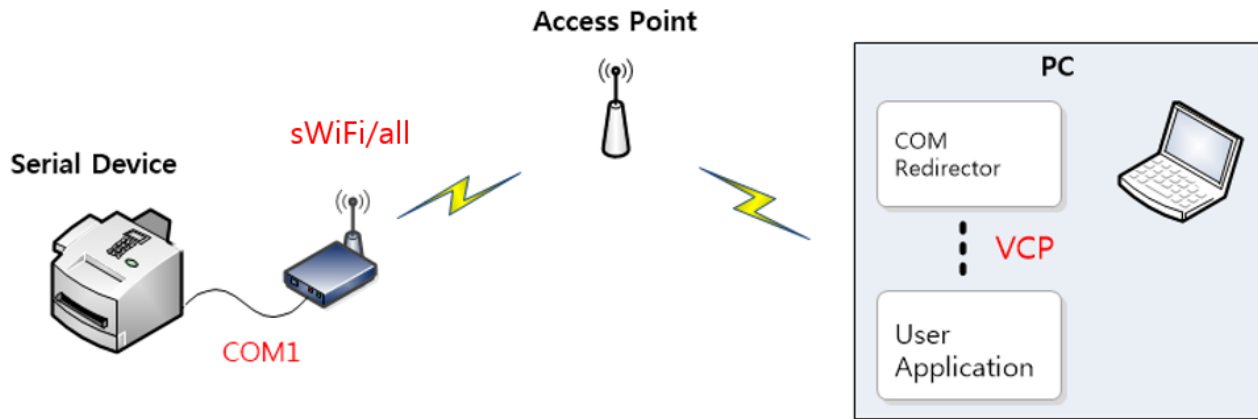
2.1 Station Mode

An IP of a router band can be dynamically allocated through DHCP or set to Static by the way sWiFi/all accesses to the AP(router).



2.2 COM Redirector Mode

The serial port of sWiFi/all connected to the network can be used as if were a serial port mounted on a PC.



3. HARDWARE CONFIGURATION

3.1 sWiFi/all Appearance

sWiFi/all is a DCE(Data Communications Equipment) type converter that connects directly to DTE equipment such as PCs.

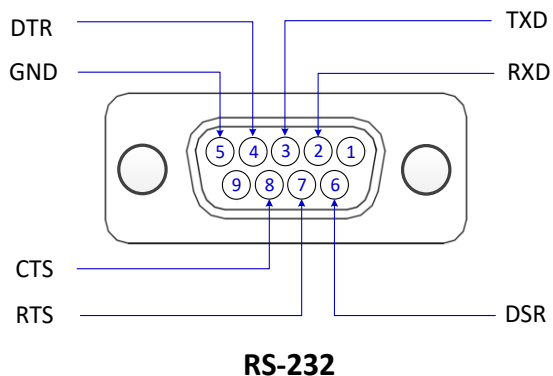


Pressing the factory reset button for more than 3 seconds will reset the sWiFi/all to the default state.



3.2 Serial Port (DE-9 FEMALE)

Pin No.	Signal	Description
2	RXD	Receive Data (Input)
3	TXD	Transmit Data (Output)
4	DTR	Data Terminal Ready (Output)
5	GND	Ground
6	DSR	Data Set Ready (input)
7	RTS	Request to Send (Output)
8	CTS	Clear to Send (Input)




3.3 LED Operating Status

	LED Name	State	Operation
1	RDY	Flash	Flashes green when the boot is completed after the power supply
2	SRL	Flash	Flashes green when serial data is sent or received
3	LINK	Light	When the wireless connection is completed, it lights

3.4 Power Connector

Power connector is a DC adapter which connects DC 5V adapter power cable.

Power	5V 1A DC Input, Power Consumption: 0.95w
Power Connector	Outer Diameter Φ 3.5mm, Internal Diameter Φ 1.35mm 
Operating Temperature	-40 ~ 85°C

4. HOW TO CONNECT

This chapter provides information necessary for sWiFi/all to connect and operate with the desired serial devices, such as wireless LAN and serial connection.

Procedure for connecting sWiFi/all to devices and networks is as follows.

4.1 Power Supply

Check that the input voltage supplied to sWiFi/all matches the model's specification and supply the voltage. sWiFi/all starts booting with power on only when power is normally supplied.

There are RDY, SRL/LINK LEDs for checking the status of operating status. Please refer to chapter 3 for information on the status of the LEDs.

4.2 Connection

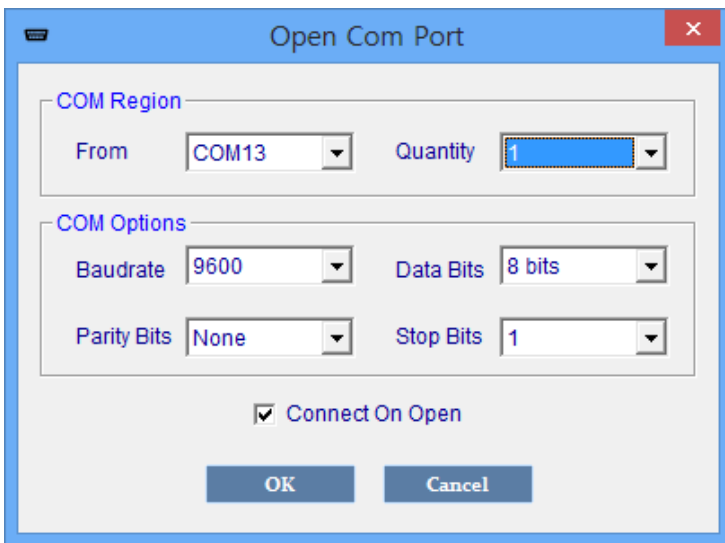
With PC and serial port connected and terminal running (9,600bps, 8bit, 1stop, no-parity), you can set up sWiFi/all by running a dedicated utility of sWiFi/all. Please refer to the next chapter for set ups.

5. SETTING IN UTILITY

sWiFi/all provides a setup method through sWiFiConfig.exe utility.

5.1 Mode Setting

The initial sWiFi/all serial port settings are 9,600bps, 8bit, 1stop, no parity.



5.2 Setting

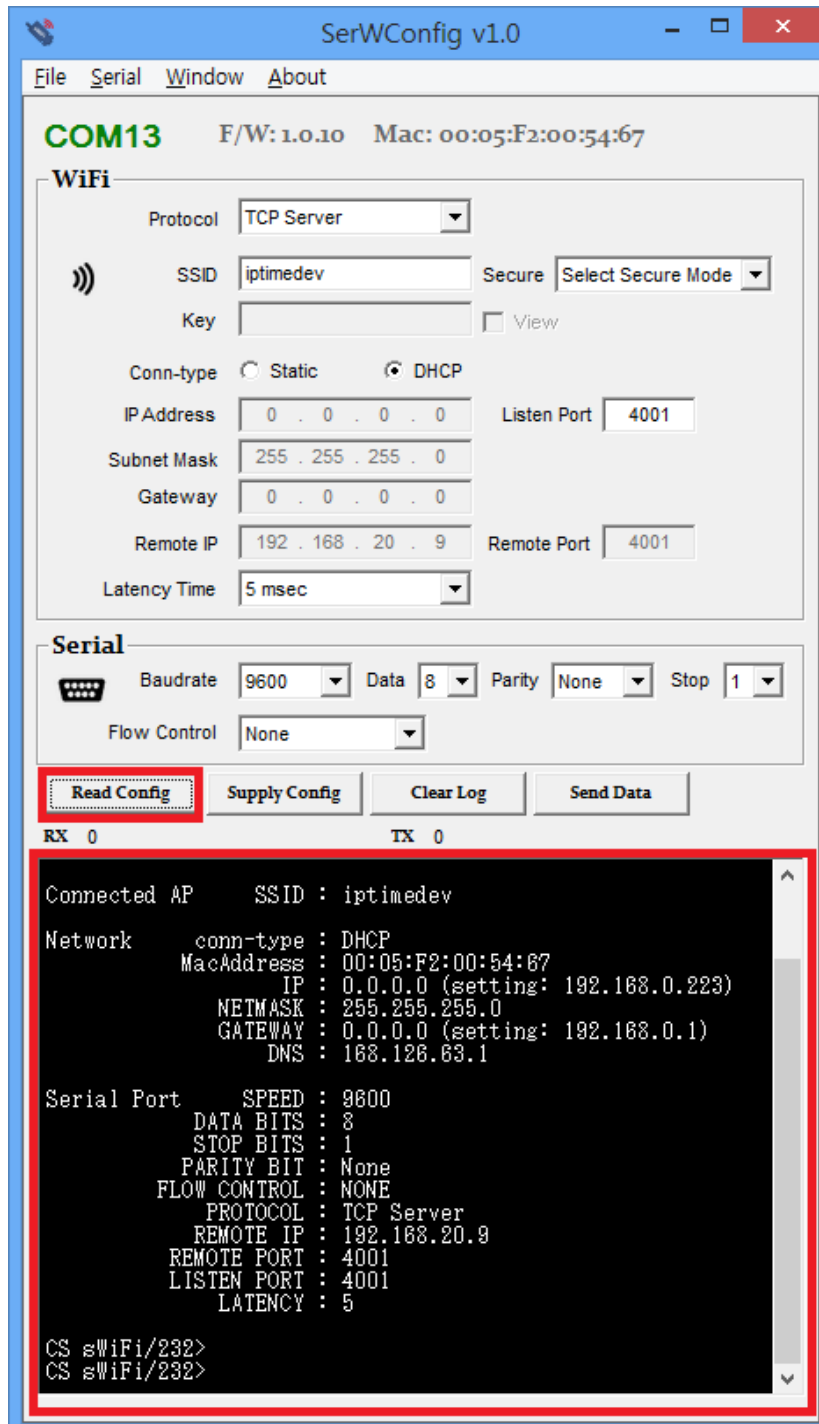
Click the Supply Config button to change the sWiFi/all settings. The data set at this time will be stored in sWiFi/all and with the reset of sWiFi/all, it will work in the changed settings.

5.3 Clearing Console Window Logs

Click the Clear Log button to initialize the console window.

5.4 View Settings

Click the ReadConfig button in the program to view the current setup status of sWiFi/all. You can view or execute console commands through the console window at the bottom of the program.



5.5 Setting Description

Sub command	Default	Description
protocol	tcp_server	<p>Set the operating protocol to be used on the serial port.</p> <p>com_redirector Make the serial port on CS sWiFi/all available as a virtual COM port on a PC in Windows 2000/XP/2003/Vista/7/8.1 environment. When this mode is selected, all settings in the serial will follow the virtual COM Port settings.</p> <p>tcp_server CS sWiFi/all acts as a socket server and waits for access from the client on the network. The socket number waiting for access is set in the [listen] sub command, and when the socket connection is completed, the data generated between the socket and the serial port is transmitted intactly.</p> <p>tcp_client When a particular server is waiting for access on the network, CS sWiFi/all acts as a client of the socket, attempting to connect with the IP address and socket number of the server set. When the socket connection is completed, the data that occurs between the socket and the serial port is transmitted. Set the IP and port number of the server to request access in [remote] subcommand.</p> <p>udp_server CS sWiFi/all acts as a UDP server and waits for UDP access from the client on the network. Set the socket number waiting for access in [listen] subcommand. When UDP packets are received in the socket number waiting for access, data is sent to the serial port, and data input from the serial port is made into UDP packets and sent to the Client.</p> <p>udp_client When data is entered to the serial port, UDP packets are sent to the IP and socket number of the server set up. Through [remote] sub command, IP and port number of the server to request access can be set.</p>
listen	4001	Specifies the socket number assigned to the port. Use this port to wait for network socket connections in TCP Server and UDP Server modes.
remote	0.0.0.0:4001	Specify the IP address and port of the destination to connect to in TCP Client and UDP Client modes.
latency	5	Set up if you want to send continuously-received data from the serial port to

Sub command	Default	Description
		<p>the socket at once.</p> <p>For example, if a serial device transmits 100 bytes of text from a serial device to a socket on the server via CS sWiFi/all, if the value is 0, the data entered in bytes at a time is immediately sent to the server through the socket, ensuring real time, but causing a lot of traffic to the network. This can lead to poor performance of the product, leading to loss of serial port data, so avoid setting to 0.</p> <p>If this value is not set to 0, it buffers the data received several bytes at a time, waits for amount of time set, re-buffers the data if it is read again, and if it is not, it sends all the data back to the socket, regarding that it has been received, so there is no traffic problem caused by many packets, but real time cannot be ensured.</p> <p>(Setting Range : 0 ~ 31)</p>
speed	9600 bps	<p>Set the communication speed of the serial port.</p> <p>(Option: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400, 460800, 921600 bps)</p>
data	8	<p>Set the number of bits which make up the byte.</p> <p>(Option: 5, 6,7,8)</p>
stop	1	<p>Set the number of stop bits.</p> <p>(Option: 1, 2)</p>
parity	No	<p>Set the parity checking method.</p> <p>(Option: No, Odd, Even)</p>
flow	0	<p>Set the flow control method.</p> <p>(Option: 0 - None, 1 - RTS/CTS)</p>

FCC Compliance Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Interference Statement

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

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

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radiation Exposure Statement

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

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