VANCO®
ADVANCING...CONNECTIVITY

RS-232 and IP Router

Vanco Part Number:
RS232-IP

Technical Support

www.vanco1.com • techsupport@vanco1.com • 800-626-6445

DEAR CUSTOMER

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product.
Please keep this manual for future reference.

This product is 100% inspected and tested in the United States to verify HDMI performance parameters.

WARNING

1. Do not expose this unit to water, moisture, or excessive humidity.
2. Do not install or place this unit in a built-in cabinet, or other confined space without adequate ventilation.
3. To prevent risk of electrical shock or fire hazard, due to overheating, do not obstruct unit's ventilation openings.
4. Do not install near any source of heat, including other units that may produce heat.
5. Do not place unit near flames.
6. Only clean unit with a dry cloth.
7. Unplug unit during lightening storms, or when not used for an extended period of time. A surge protector is strongly recommended.
8. Protect the power cord from being walked on or pinched, particularly at the plugs.
9. Use unit only with accessories specified by the manufacturer.
10. Refer all servicing to qualified personnel.

CAUTION

HDMI is a very complex technology requiring continuous authentication of the signal and the same video resolution and audio settings on all electronic equipment in the system. When there are multiple sources and displays, the video resolution and audio setting on all connected units must be adjusted to correspond with that of the display having the lowest video and audio capability.

FEATURES

The Vanco RS232-IP is a LAN/Wi-Fi to Serial adapter that allows for remote access, configuration, and the ability to control any serial device over an IP network. Based on the universal serial interface with built-in TCP/IP protocol, the RS232-IP enables seamless communication via serial port, Ethernet, or any wireless network interface. Works with any traditional serial devices and can send and receive data through a connected internet network. A great solution for devices that only has the ability of being controlled through a serial connection, this allows control through a PC or third party LAN or wifi network!

RS-232 and IP Router

Part # RS232-IP

- LAN/Wi-Fi to Serial adapter that allows for remote access, configuration, and the ability to control any serial device over an IP network
- Enables seamless communication via serial port, Ethernet, or any wireless network interface
- Wired/Wireless Router, and wireless access point capability
- Converts commands received over UDP or TCP/IP to Serial
- Supports RS232 and RS485 interfaces
- Extremely low latency
- DC 5-18V ultra wide voltage input, provides 2A current for increased reliability
- Suitable for use in battery powered systems
- Transparent Transmission Mode, RS232/RS485 to RJ45, RS232/RS485 to WIFI
- RJ45 to WIFI can be achieved simultaneously to ensure stable of data transmission
- Supports WEP/WAP-PSK/WAP2-PSK/WAPI
- Encipher Type: WEP64/WEP128/TKIP/AES
- Power Supply: 5V
- Dimensions: 1.1" W .3" H x 1.6" D

SPECIFICATIONS

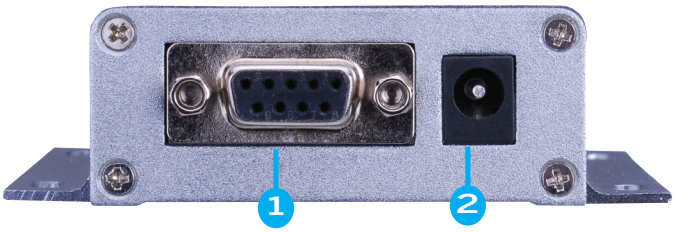
Network Standard	Wireless: IEEE 802.11n,IEEE 802.11g, IEEE 802.11b; Wired: IEEE 802.3, IEEE 802.3
Wireless Transmission Rate	11n: maximum up to 150Mbps; 11g: maximum up to 54Mbps; 11b: maximum up to 11Mbps
Tracks Number	1-14
Frequency Range	2.4-2.4835G
Emission Power	12-15DBM
Interface	Wi-Fi, WAN, LAN, RS232
Antenna Type	External Antenna 6DB
WIFI Work Mode	Client/AP/Router
WDS Function	Support WDS wireless bridge connection
Wireless Security	Wireless MAC address filtering; Wireless security function switch; 64/128/152 bit WEP encryption; WPA-PSK/WPA2-PSK, WPA/WPA2 security mechanism
Network Management	Remote Web management; Configuration file import and export; WEB software upgrade
Maximum Transmission Rate	500000bps
TCP Connection	Max connection number>20
UDP Connection	Max connection number>20
Serial Baud Rate	1200~500000bps
Status indicator	Status indicator
Operating Temperature	-20-70 Degrees C
Operating Humidity	10%-90%RH (noncondensing)
Storage Temperature	-40-80 Degrees C
Storage Humidity	5%-90%RH (noncondensing)
Dimensions	29mm x 40mm x 8.8mm
Frequency Bandwidth Optional	20MHz,40MHz, Automatic

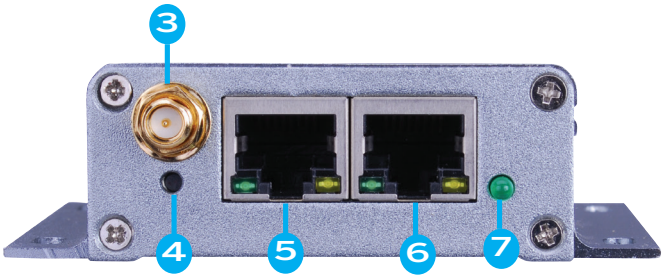
PACKAGE CONTENTS

Please check the packaging and make sure the following items are contained in the shipping carton:

- RS232-IP Unit
- 5V Power Supply
- Male-to-Female DB9 (RS232) Cable
- Cat5e Patch Cable
- Mounting Screws (the unit has 4 holes for mounting the product)
- Product Manual

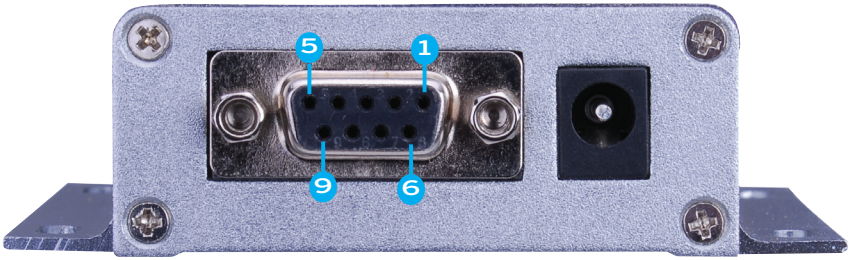
PANEL DESCRIPTIONS





1. RS232 (DB9 Female)
2. Power Supply Input
3. Antenna Screw Terminal
4. Reset (RST)
5. WAN RJ45
6. LAN RJ45
7. Wifi Status

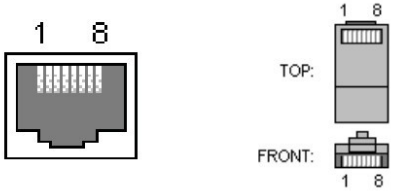
RS-232 Connection



Pinout Number	*Function*	*Input/ Output*	*Description*
1	N/A	N/A	N/A
2	RXD	Input	Data receiving input
3	TXD	Output	Data sending ouput
4	N/A	N/A	N/A
5	GND	Input	Ground
6	N/A	N/A	N/A
7	N/A	N/A	N/A
8	N/A	N/A	N/A

LAN Interface and WAN Connections

The RS232-IP utilizes two network interfaces with a WAN port and LAN port. The interface uses a standard RJ45 connector as shown below:



The following table shows the pin definitions of RJ-45:

Pinout Number	*Function*	*Direction*	*Description*
1	TX+	Output	Transmit Data +
2	TX-	Output	Transmit Data -
3	RX+	Input	Receive Data +
4	N/A	N/A	N/A
5	N/A	N/A	N/A
6	RX-	Input	Receive Data -
7	N/A	N/A	N/A
8	N/A	N/A	N/A

RST Button

The RST (reset) button is used to reset the RS232-IP to factory default settings. When the RS232-IP completes startup, press and hold the RST button for 10 seconds. All of the parameters and settings of the unit will be reset to default.

5V Power Input

Voltage range: 4.5 ~ 5.5V. The default configuration of RS232-IP for the power adapter is 5V/1A DC power supply.

Antenna Terminal

Standard SMA interface within the outer spiral needle.

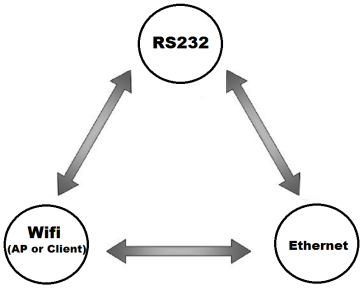
LED Indicator light

Wifi Status: LED light blinking: Connected to Wifi; LED light off: Not connected to Wifi

CONNECT AND OPERATE

There are 4 methods that can be used to connect to the RS232-IP:

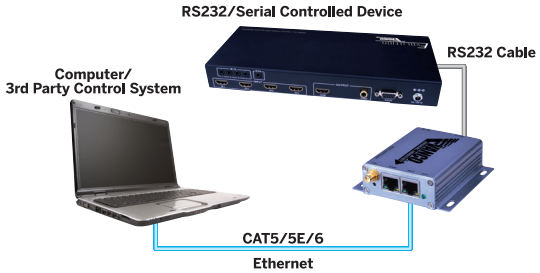
- Ethernet to Serial (RS232-IP connected directly to a network with a Cat5e/6 cable)
- Wifi (Client) to Serial
- Wifi (Access Point) to Serial
- Default (combination of any the above-mentioned modes)



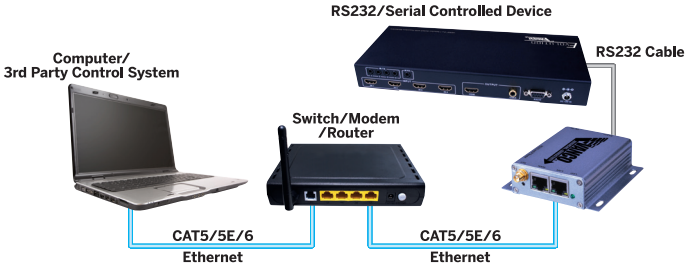
Connect and Operate - Ethernet to Serial:

In this mode, LAN is enabled and WIFI/WAN functions and ports are closed. Through the appropriate settings, the data between the computer and the LAN port on the RS232-IP can be achieved through the network through category cables. Ethernet can be configured as a dynamic IP address (DHCP) or can also be configured as a static IP address (STATIC).

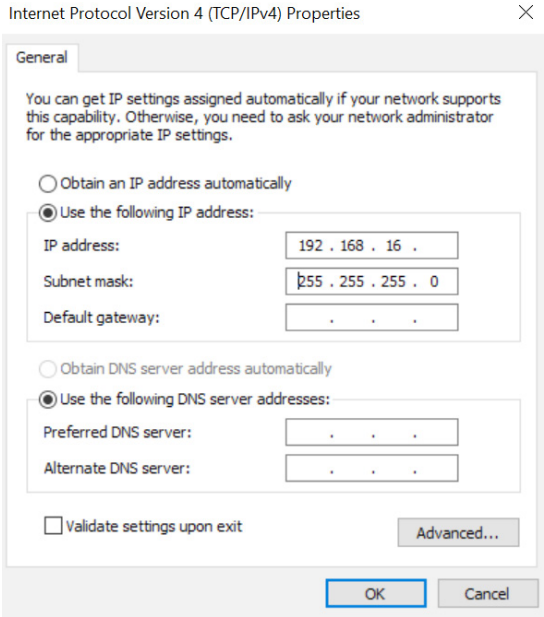
DIRECTLY CONNECTED



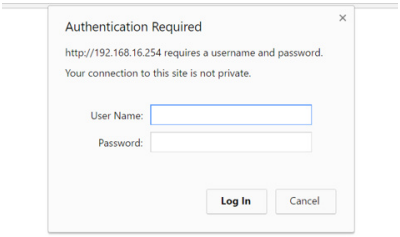
CONNECTED THROUGH NETWORK



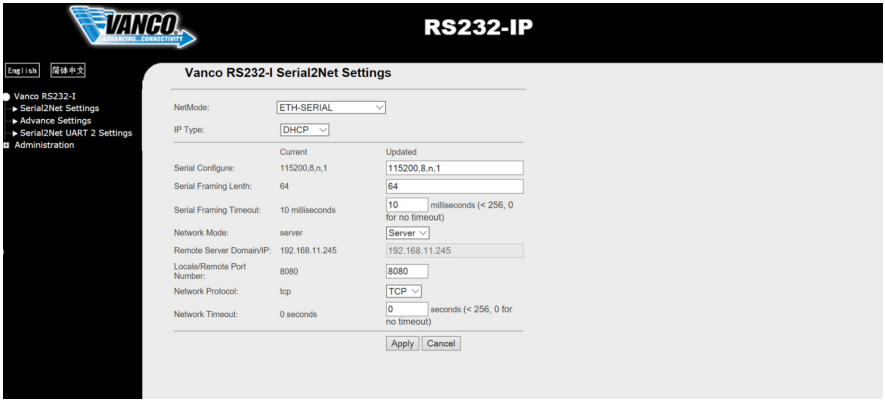
1. Power up the RS232-IP. The Link light will blink slowly after powering up.
2. Connect a single Cat5e/6 to the RJ45 jack on the RS232-IP
   - A PC and the RS232-IP can be connected to the same LAN via an ethernet switch or router
3. Connect a computer either directly to the RS232-IP LAN port or to the network the RS232-IP is connected to, and set the network segment to be the same as the RS232-IP's segment: 192.168.16.XX (Default: 192.168.16.254).



4. Enter the default IP address of 192.168.16.254 into any web browser to enter the user interface.
   - Username: admin
   - Password: admin



5. Under the NetMode drop-down menu, select ETH-SERIAL

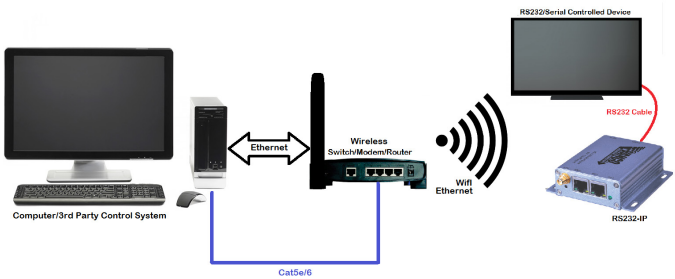


6. Here you can change the settings as needed for the RS232-IP to communicate through the network. Once changes are completed, select Apply for changes to take effect

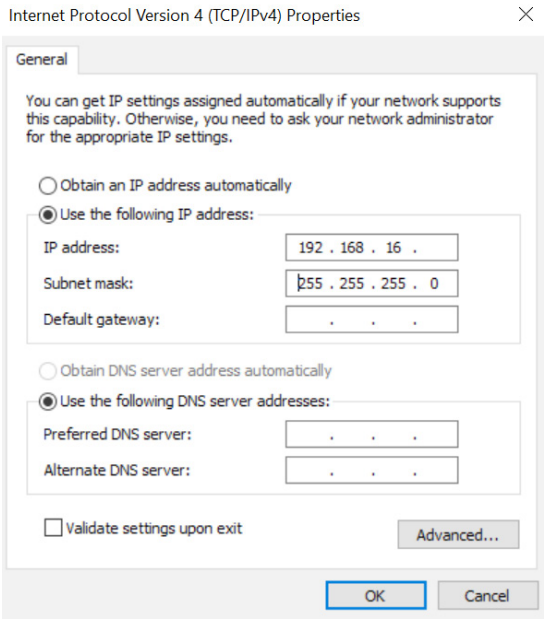
NOTE: After changes have been applied, you may need to sign back into the user interface using the new IP information and address.

Connect and Operate - Wifi (Client) to Serial:

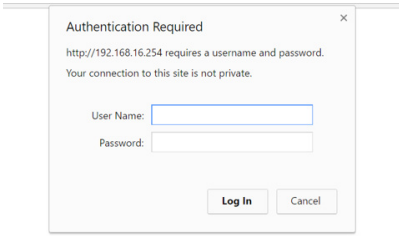
In this mode, WIFI is enabled with WAN and LAN ports closed. Through the appropriate settings, the data between a computer or 3rd party control system and the WIFI on the RS232-IP can be achieved through the network. WIFI CLIENT can be configured as a dynamic IP address (DHCP), or can also be configured as a static IP address (STATIC).



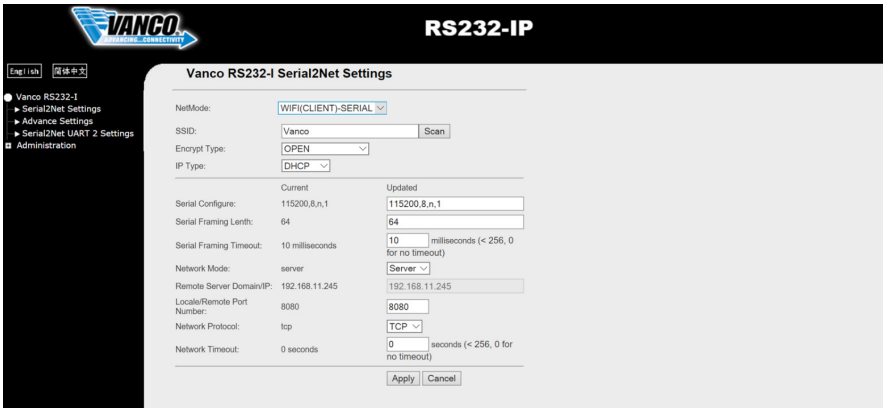
1. Power up the RS232-IP. The Link light will blink slowly after powering up.
2. Connect a computer either directly to the RS232-IP LAN port, or to the network the RS232-IP is going to be associated, and set its network segment to be the same as the RS232-IP 192.168.16.XX. (Default: 192.168.16.254).



3. Enter the default IP address of 192.168.16.254 into any web browser to enter the user interface.
   - Username: admin
   - Password: admin

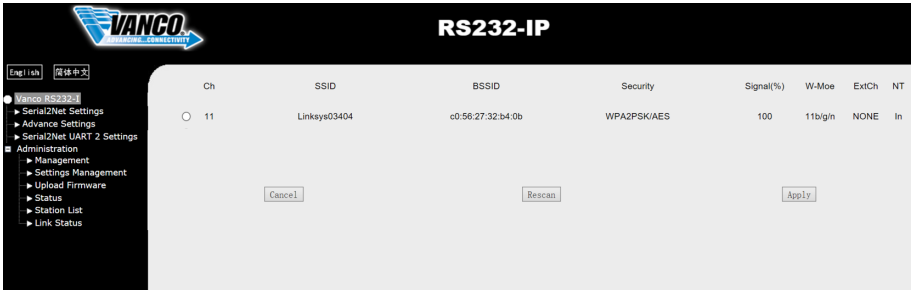


4. Under the NetMode drop-down menu, select WIFI(CLIENT)-SERIAL

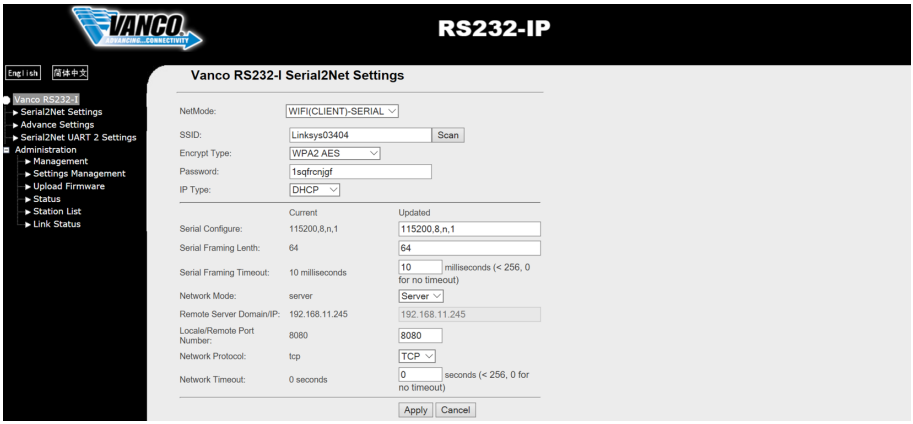


NOTE: After changes have been applied, you may need to sign back into the user interface using the new IP information and address.

5. Select the Scan button. This will take you to a page to locate your network by the SSID. Once you find and select your correct network, click Apply.

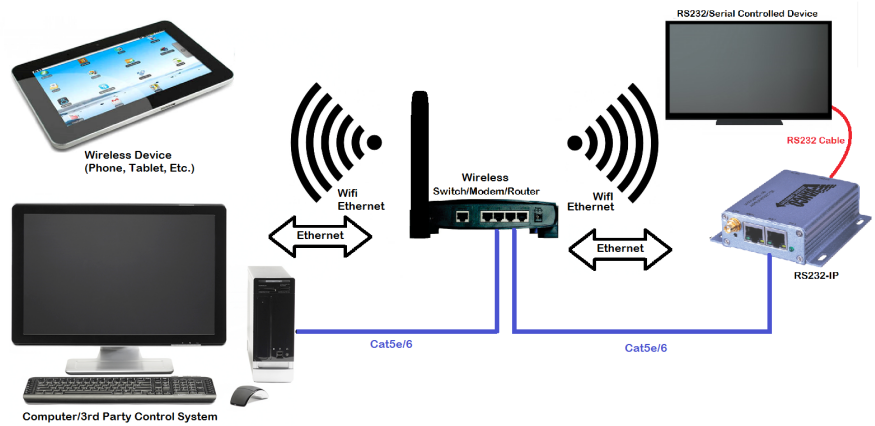


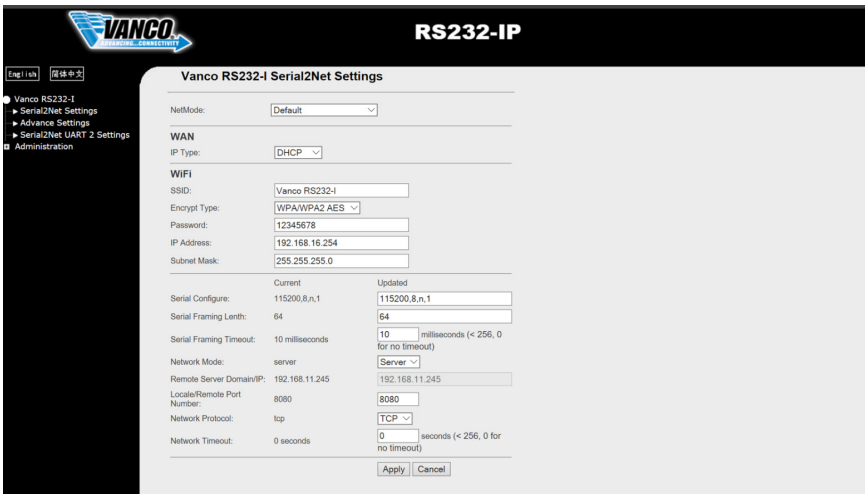
6. Once you are back on the settings page, you can add the password for network (if applicable), and change the settings as needed for the RS232-IP to communicate through the network. Once changes are complete select Apply for changes to take effect.



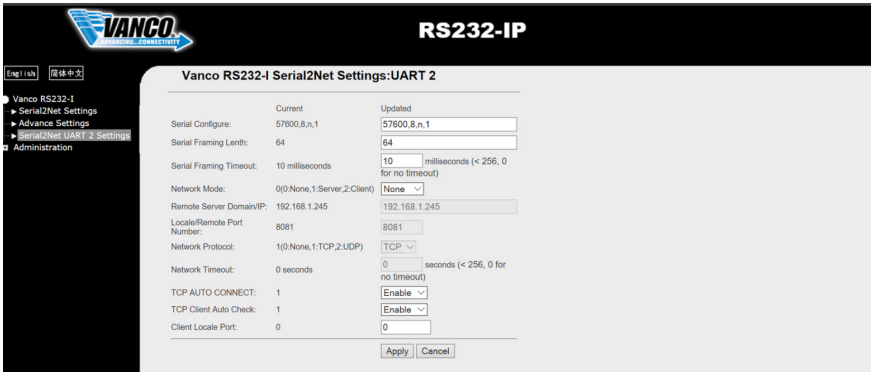
Default Mode

In this mode, WIFI is enabled as well as the WAN and LAN ports are enabled. The RS232-IP also can work in the AP (access point) mode. This setting allows elements from all the modes to be used and set up accordingly, and can even act as a wireless/wired Ethernet router. WIFI device(s) can connect with the RS232-IP, and become one device within the associated network. WAN default IP is dynamic IP address.





SYSTEMS SETTINGS



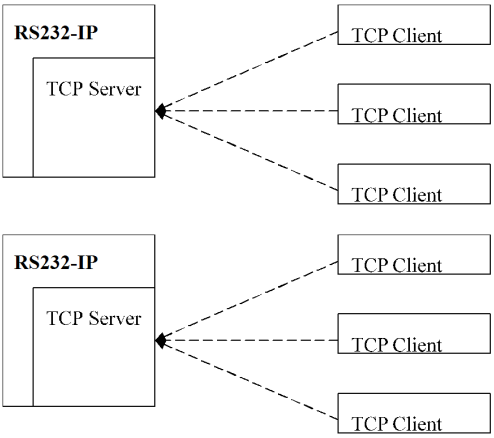
- Current: Shows current status
- Updated: Shows the current revision parameters
- Submit: Submits the revision
- Serial Configure: Serial configuration format - Baud rate, data bits, parity bit, stop bit.)For example: 15200,8,n,)
- Serial Framing Length: The Length of Serial Framing (typically remains unchanged)
- Serial Framing Timeout: The time of Serial Framing (typically remains unchanged)
- Network Mode: Choose Client, Server or none
- Remote Server Domain/IP: Remote Server Domain/IP address
- Locale/Remote Port Number: The specified parameter is not the same under the different network modes. Client specifies the port number on the remote. Server specified local port number.
- Network Protocol: Use TCP/IP or UDP Protocol
- Network Timeout: Under the server network mode, no data transmission within the
- time out period, the connection will be disconnected. (0 specifies never disconnected).

NETWORK SETTINGS AND ADVANCED SETTINGS

There are four modes for serial-network conversion:

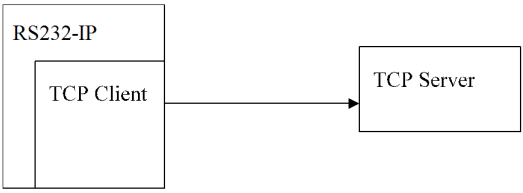
TCP Server

In this mode, the RS232-IP is on a specified port, waiting for a TCP/IP Client connection. When connected, all TCP/IP data is sent directly to the serial port end, and the data of the serial end is sent to TCP Client end.

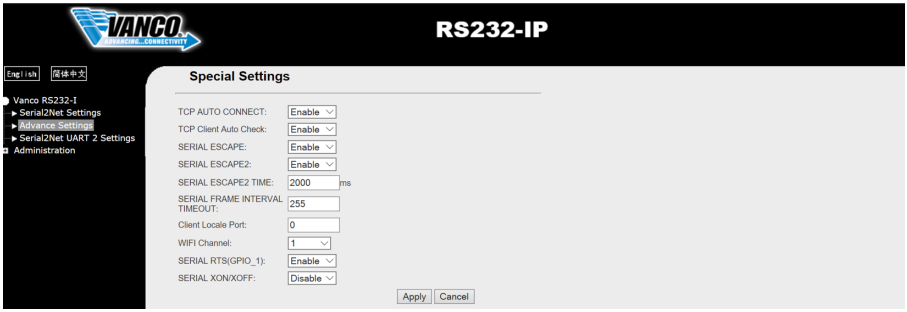


TCP Client

In this mode, the module is connected to a specified domain or IP port. All of the data sent from the TCP Server-side end will be sent directly to the serial port, and the data from the serial end will be sent to the TCP Server-side.

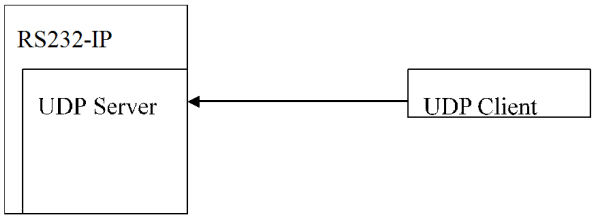


NOTE: When the TCP Active reconnection function is enabled, and the TCP Server initiative is disconnected, the module will immediately take the initiative to reconnect. Otherwise the module will not automatically reconnect. (See Advanced Settings).



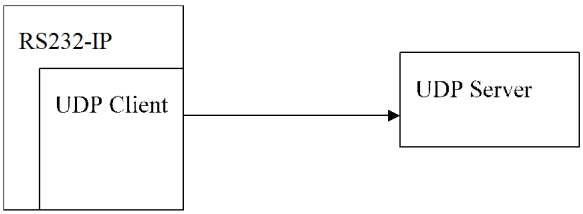
UDP Server

In this mode, the module opens the local designated port. Once received and the data sent to the port, the module will send the data to the serial port and record the remote IP, port. The module will only record the last information on the remote connection. Received serial data will be sent directly to the recorded remote IP port.

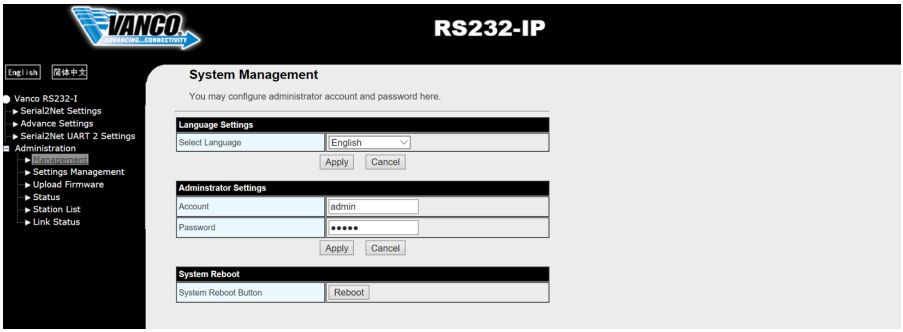


UDP Client

In this mode, the module directly sends the serial data to the specified IP, port. The serial data returned from the server-side will be distributed to serial port.

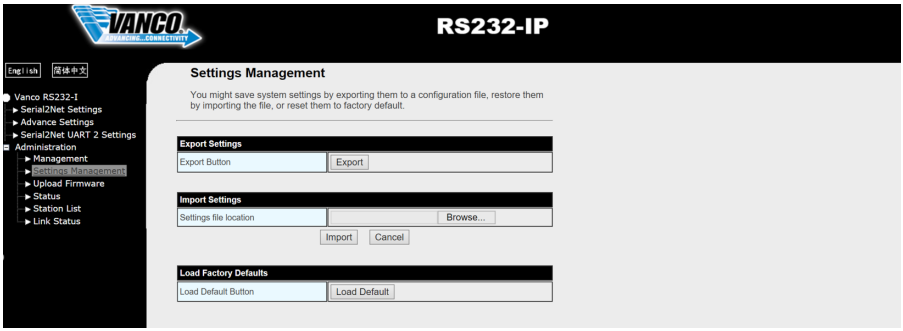


SYSTEM MANAGEMENT



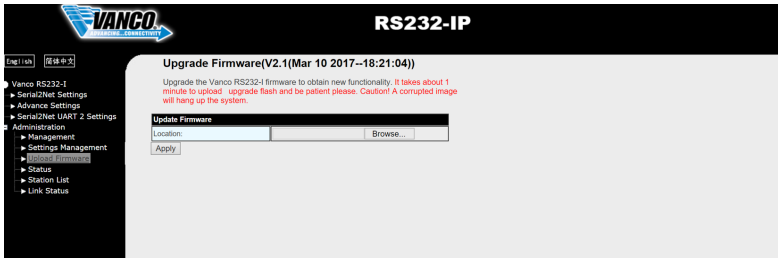
Language Settings: English, Chinese
Administrator Settings: Change username and password from default
System Reboot: Restore the RS232-IP to factory default settings

SETTINGS MANAGEMENT



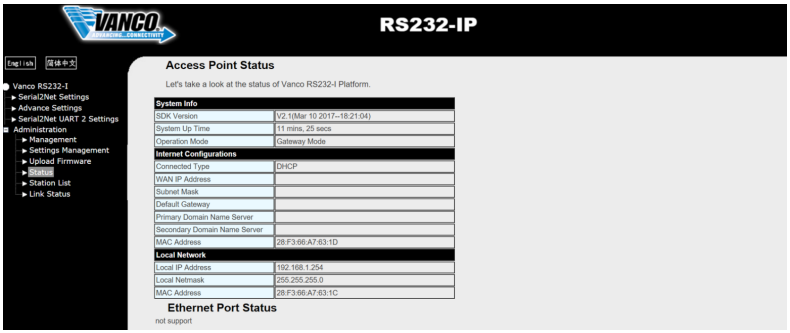
Export, Import, or load settings saved on a computer

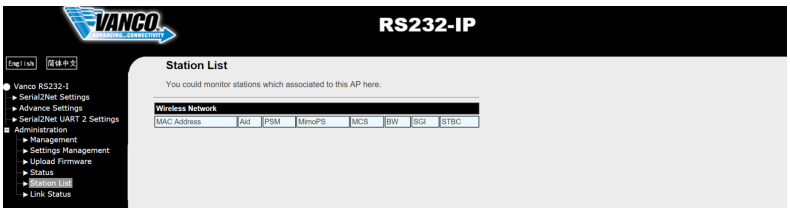
FIRMWARE UPDATE



1. Select Browse and locate the firmware (go to www.vanco1.com for the latest firmware)
2. Select Open
3. Select Apply

NOTE: DO NOT TURN OFF THE COMPUTER OR RS232-IP UNTIL THE UPDATE IS COMPLETED.





When in WIFI (AP)-SERIAL mode, allows the user to check the status of the RS232-IP as well as monitor the stations associated with the AP.

SAFETY PRECAUTIONS

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

SAFETY AND NOTICE

RS232-IP has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the RS232-IP should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit.
- Always unplug the power to the device before cleaning.

LIMITED WARRANTY

With the exceptions noted in the next paragraph, Vanco warrants to the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a period of two years from the date of purchase. Should this product, in Vanco's opinion, prove defective within this warranty period, Vanco, at its option, will repair or replace this product without charge. Any defective parts replaced become the property of Vanco. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not originally intended.

Items integrated into Vanco products that are made by other manufacturers, notably computer hard drives and liquid crystal display panels, are limited to the term of the warranty offered by the respective manufacturers. Such specific warranties are available upon request to Vanco. A surge protector, power conditioner unit, or an uninterruptible power supply must be installed in the electrical circuit to protect against power surges.

If repairs are needed during the warranty period the purchaser will be required to provide a sales receipt/sales invoice or other acceptable proof of purchase to the seller of this equipment. The seller will then contact Vanco regarding warranty repair or replacement.

LIABILITY STATEMENT

Every effort has been made to ensure that this product is free of defects. The manufacturer of this product cannot be held liable for the use of this hardware or any direct or indirect consequential damages arising from its use. It is the responsibility of the user and installer of the hardware to check that it is suitable for their requirements and that it is installed correctly.

Manufacturer reserves the right to revise any of its hardware and software following its policy to modify and/or improve its products where necessary or desirable. This statement does not affect the legal rights of the user in any way.

TECHNICAL SUPPORT

In case of problems, please contact Vanco Technical Support by dialing 1-800-626-6445. You can also email technical support issues to techsupport@vanco1.com.

When calling, please have the Model Number, Serial Number (affixed to the bottom of the unit) and Invoice available for reference during the call.

Please read this Instruction Manual prior to calling or installing this unit, since it will familiarize you with the capabilities of this product and its proper installation.

All active electronic products are 100% inspected and tested to insure highest product quality and trouble-free installation and operation. The testing process utilizes the types of high-definition sources and displays typically installed for entertainment and home theater applications.

For additional information, such as helpful installation videos, glossary of terms, etc. please visit vanco1.com

Vanco® International

506 Kingsland Drive
Batavia, Illinois 60510
call: 800.626.6445
fax: 630.879.9189
visit: www.vanco1.com