

1 Serial RS232 to Ethernet Adapter Installation Guide

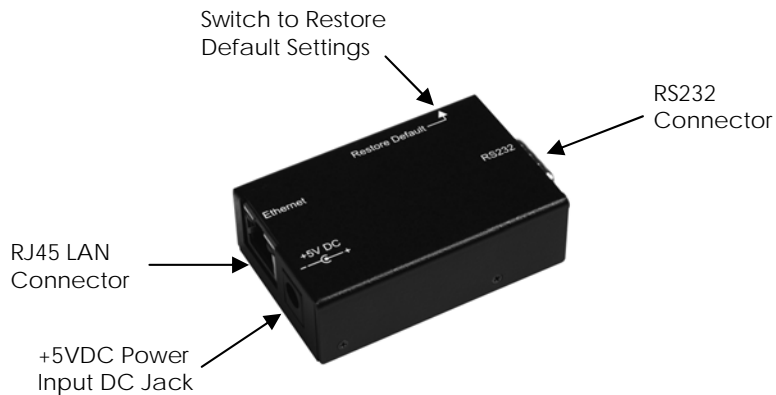
1. Introduction

Thank you for purchasing this 1-port RS232 to Ethernet Adapter (hereinafter referred to as “**Adapter**”). It provides an ideal solution to control RS232 serial devices over Internet instantly. It supports TCP Server Mode, TCP Client Mode and UDP Modes that compatible with the standard network API (Winsock or BSD Sockets). It provides a web browser console to change its settings by Internet Browser easily.

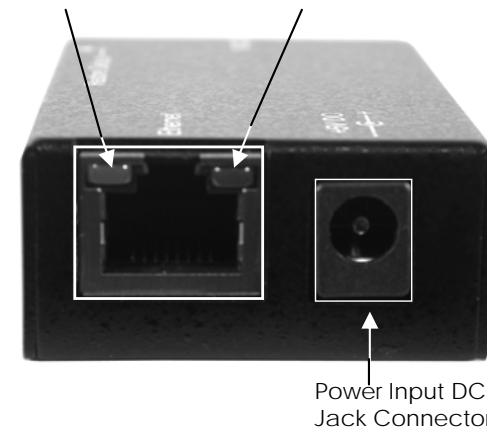
Features:

- ✓ Provides 1 RS232 Port over Ethernet
- ✓ Provides 1 DB9 RS232 Male Connector
- ✓ RS232 Baud Rate from 300bps to 115.2Kbps
- ✓ Provides one 10/100Mbps, RJ45 LAN Port
- ✓ Supports Auto Cross Over Feature for Ethernet Cable
- ✓ Supports Standard Windows Socket Protocol
- ✓ Provides TCP Server, TCP Client, and UDP
- ✓ Supports Wall and DIN RAIL Mounting Kit
- ✓ Flexible Power Source: +5VDC from DC Jack

2. Connector Layout



10/100 Mbps LED (amber color) Link/Activity LED (green color)



- **Switch to Restore Default Settings:** This switch can be used to reset the product to its factory default settings. Press the switch by either a pen or similar tool will restore the default settings immediately.
- **DC Jack Power Connector:** A 5V/2A AC adapter is supplied with this product.
- **RJ45 Ethernet Connector:** 10/100Mbps Ethernet port. It supports auto cross-over feature. You can use the same cable to connect to either a Hub/Switch or a host computer.
- **LED Indicators:** There are 2 LAN LEDs on the rear panel. They are described as the following table:

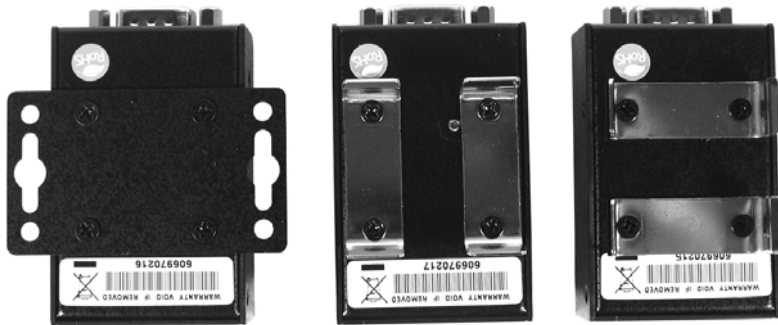
LED Name	Color	LED Function
Link/Activity	Green	Steady on: Linked. Blinking: Transferring data
10/100Mbps	Amber	Steady on: Linked in 100Mbps mode. Off: Linked in 10Mbps mode.

3. Hardware Installation

1. **Use static electricity discharge precautions.**
Remove possible static discharge potential from any objects that the Adpater may come in contact with before installation. This can

be accomplished by touching a bare metal chassis rail after you have turned off the power.

2. **Attached the power adapter.** For the PoE model, you don't have to connect any AC power adapter since the product will get the power from the Ethernet cable. In this case, please make sure your switching hub is PoE type that can act as a PSE(Power Source Equipment).
3. **Connecting LAN cable:** Use a standard straight-through Ethernet cable to connect to a Hub or Switch. If you connect the Adapter to your computer's Ethernet port instead, you don't need to change to a cross-over type cable since the Adapter provides auto cross-over feature.
4. **Connect the Adapter's serial port to your serial device.**
5. **Use the Wall or DIN RAIL mounting Kit (optional) if you want to place the product on the industrial DIN RAIL.**



Wall Mount

DINI RAIL Mount
(Vertical)DINI RAIL Mount
(Horizontal)

4. Configuring the Adapter

Setting IP Address

Please consult your Network Administrator to determine the appropriate IP address. The IP address can be set in any of the following ways:

- Automatically from a DHCP Server
- Web Browser

- Ethernet Managing utility (Em.exe supplied by this product)

The Adapter comes with factory installed IP address **192.168.1.254**. It is ready to accept a new IP address from a DHCP Server. If your network has a DHCP server, it will automatically assign an IP address to the Adapter the first time it is connected and powered up.

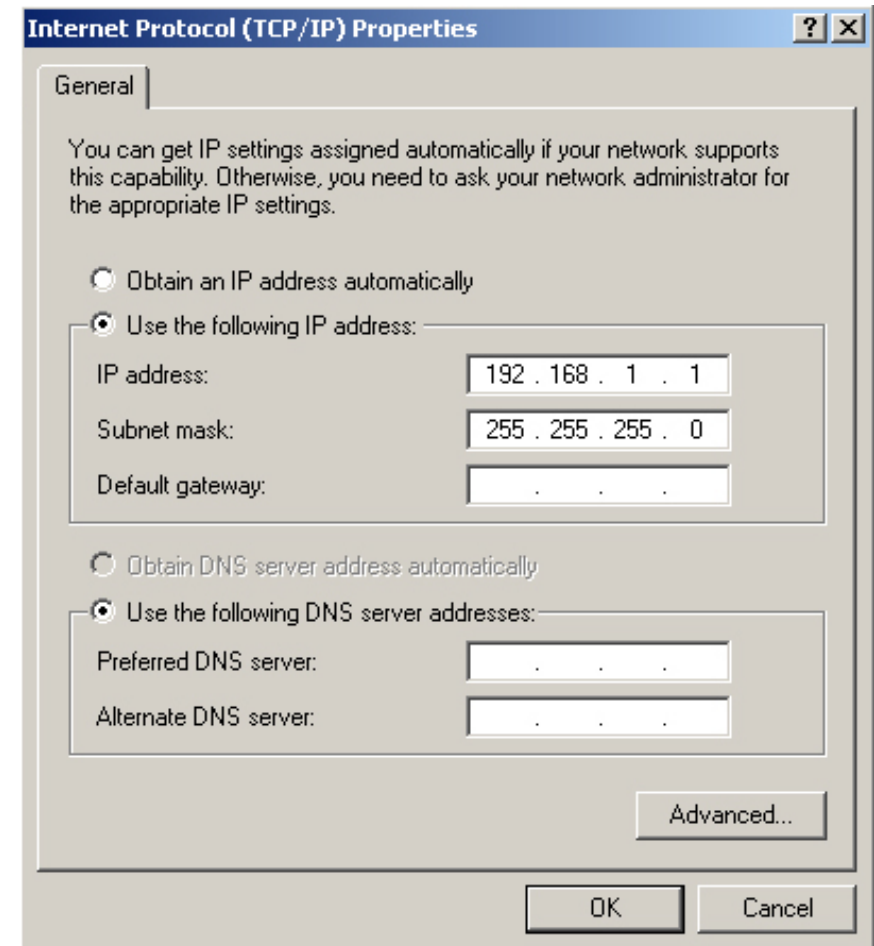
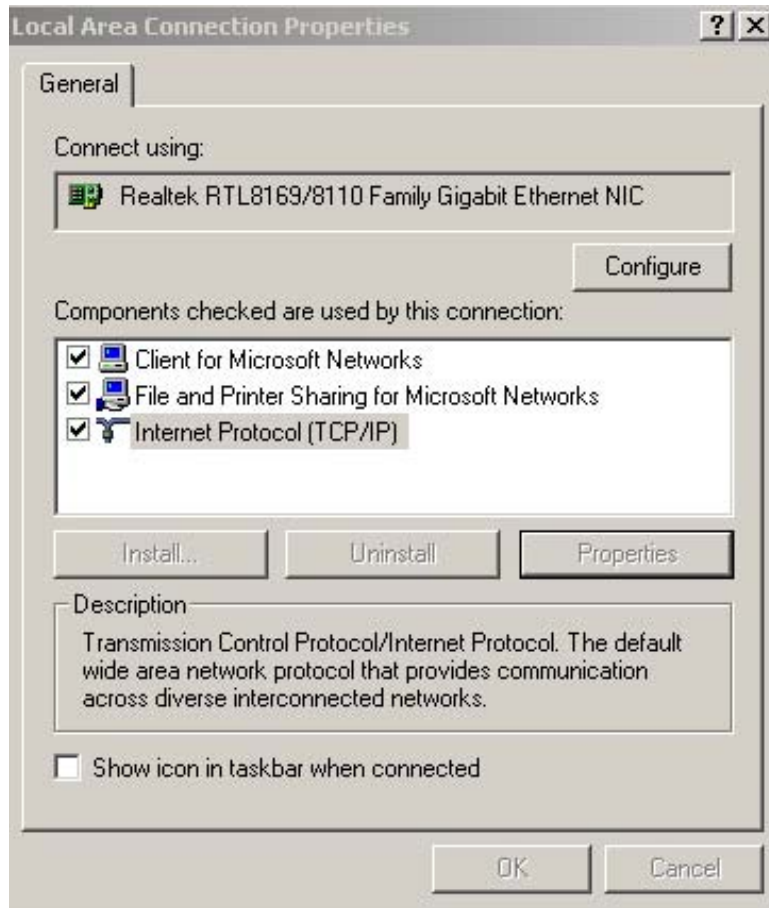
1. Setting the IP address from a DHCP Server

A DHCP server will automatically assign an IP address (dynamic address) as well as Subnet Mask and Gateway to this Adapter. If you power up the Adapter without a fixed (static) IP address, the DHCP server will be able to assign an IP address (Note: the default setting is **Disable** DHCP, if you want to support DHCP, please Enable it first.).

If you will set the IP address using another method, the address becomes static. This was done when you **Disable** the DHCP setting (default) in the Setup Menu of the Adapter.

2. Setting the IP address using Web Browser

Please make sure your PC's IP address is set at the same subnet of the Adapter. If not, you usually need to change your PC's IP address from "**Local Area Connection Properties**", here is an example to show you how to change your PC's IP address:



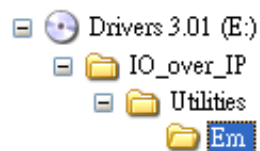
Run your browser and access the product by entering the default (**192.168.1.254**) or current IP address into your browser's address window. Enter the password (default has no password). Then go to change your IP address as well other parameters if required.

3. Setting the IP address using Em.exe Utility

The Em.exe is a Microsoft Windows based utility to find all the Adapters connected on the same subnet and network segment. To run the Em.exe utility, please insert the driver CD supplied with

the Adapter. Open (double click) the program at the following location (assume the CD-ROM drive is at E):

E:\IO_over_IP\Utilities\Em\Em.exe



4. The Adapter Settings

When you entered Setup Menu of the Adapter, the following page will be available for your access. Please click Update button after you changing your settings. Please also remember your password because you need it when you are going to enter this setup menu next time.

Controller Status

System time elapsed	00:00:18
Firmware version	Oct 24 2007 18:43
Serial number	N51F4-3D8101D9

Setup Login

Password

Controller Setup

IP address	192.168.1.254	
Subnet mask	255.255.255.0	
Gateway address	0.0.0.0	
Network link speed	Auto <input type="button" value="v"/>	
DHCP client	Disable <input type="button" value="v"/>	
Socket port of HTTP setup	80 <input type="button" value="v"/>	
Socket port of serial I/O	100	COM Port <input type="button" value="v"/>
Socket port of digital I/O	101	Disabled <input type="button" value="v"/>
Destination IP address / socket port (TCP client and UDP)	0.0.0.0	0
Connection	Manual <input type="button" value="v"/>	
TCP socket inactive timeout (minutes)	0	
Serial I/O settings (baud rate, parity, data bits, stop bits)	9600 <input type="button" value="v"/> N <input type="button" value="v"/> 8 <input type="button" value="v"/> 1 <input type="button" value="v"/>	
Interface of serial I/O	RS 232 <input type="button" value="v"/>	
Packet mode of serial input	Enable <input type="button" value="v"/>	
Device ID	1	
Report device ID when connected	Disable <input type="button" value="v"/>	
Setup password	<input type="text"/>	

Item	Description
IP address	4 numbers separated by dots, it can be assigned by the DHCP server if enabled.
Subnet mask	4 numbers separated by dots, can be assigned by the DCHP server if enabled.

Gateway address	4 numbers separated by dots, can be assigned by the DHCP server if enabled.
DHCP client	If disable, then IP address · Subnet mask and Gateway address must be assigned manually.
Socket port of HTTP setup	If disable, then IP address, Subnet masks and Gateway address must be assigned manually.
Socket port of serial I/O	Port Number : any number between 1 and 65536, except 80 and 81 (which have been designated as the web pages) Socket Type : TCP Server, uses TCP protocol, passively waits for Client. TCP Client, uses TCP protocol, actively connects to Server. UDP Client, uses UDP protocol, exchanges packets with Server without connection.
Socket port of digital I/O	Spared function for the future expansion. No function at this model.
Destination IP address/ Socket port (TCP client and UDP)	The Server IP address under TCP client or UDP client mode.
Serial I/O settings (baud rate, parity, data bits, stop bits)	Baud Rate : 300 – 115200 bps Parity Bits : No Parity, Even, Odd Data Bits : 5, 6, 7, 8 Stop Bit : 1 or 2
Interface of serial I/O	RS232
Packet mode of serial input	If packet mode is disabled, the data received from the serial port will be transmitted immediately with minimal delay. If packet mode is enable, the data will be saved in the buffer memory first, and transmitted when the entire packet is received or when the buffer memory is full
Packet mode inter-packet timeout	In packet mode, the time constant used to determine if the packet is finished, acceptable range is 10 to 1000 ms.
Device ID	User assigned device ID number, acceptable range is 0 to 65535.
Report device ID when connected	If this function is enabled, the device will report the device ID after the socket is connected. The format is :

	Serial I/O socket	nnnnnA[LF][CR]
	Digital I/O socket	nnnnnB[LF][CR]
	There are eight bytes : nnnnn is the 5-digit device ID, [LF] is decimal 10, and [CR] is decimal 13	
Setup password	The login password can be empty or 1 to 15 characters long. If the password is empty then no password is required for login.	

5. Product Specifications

Type	Specifications
LAN	10/100Mbps Ethernet
Connector	RJ45
Speed	10/100Mbps
RS232	
No. of Ports	1 RS232
Interface	RS232 signals: TXD,RXD,RTS,CTS,DTR,DSR,DCD,GND
Connector	DB9 male (RS232)
Watch Dog Timer	Built-in
Parity	None, Odd, Even
Data bits	6, 7, 8
Stop bit	1, 2
Speed	300 to 115.2Kbps

Power Requirements	
Power Input	5V DC (via DC Jack), or
Power Consumption	275mA @ 5V DC
Mechanical Specifications	
Material	Metal
Gross Weight	90 ± 5g (0.20lb)
Environmental	
Operating Temperature	0 to 55°C (32 to 131°F)
Storage Temperature	-20 to 85°C (-4 to 185°F)
Operating Humidity	5 to 95% RH