

# Rs232IP v2.0.4 User Manual

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# 1 Introduction

## 1.1 Contact Information

Developed by VestaTel

<https://vestatel.eu>

[info@vestatel.eu](mailto:info@vestatel.eu)

Product description on the web: <https://www.vestatel.eu/index.html#rs232ip>

## 1.2 About Rs232IP

Rs232IP is a communication application for Windows which allows forwarding / bridging of data between serial ports (RS232) represented as COM ports and TCP/IP connections or UDP/IP links. In the simplest scenario it is an RS232 to TCP/IP converter.

But Rs232IP can also be used to interconnect and bridge data as follows:

- Any COM port to any other COM port (total 32 COM ports are currently supported)
- COM port to TCP/IP (TCP client mode)
- COM port to TCP/IP (TCP server mode)
- COM port to UDP
- TCP/IP client to UDP
- TCP/IP server to UDP
- TCP/IP server to TCP/IP client
- TCP/IP server to TCP/IP server
- UDP to UDP
- Up to 32 links each interconnecting 2 ports in any combination shown above are able to operate concurrently.

Rs232IP supports a number of data forwarding (packetization) options:

- Forward instantly on data receive
- Forward on buffer full
- Forward on inter-character timeout
- Forward on frame end character

Rs232IP supports a number of diagnostic and statistics functions:

- Port status display
- Port receive and transmit byte counters
- Event log displayed on screen and saved to disk file
- Data traffic trace in ASCII or HEX format displayed and saved to disk file
- Data traffic echo function (port loopback)
- Data traffic generation function (a specified buffer is sent periodically on a timer)
- Send specified single buffer function

Rs232IP supports an option to automatically re-connect disconnected or failed ports.

## 2 Licensing

### 2.1 Evaluation Mode and Full Mode

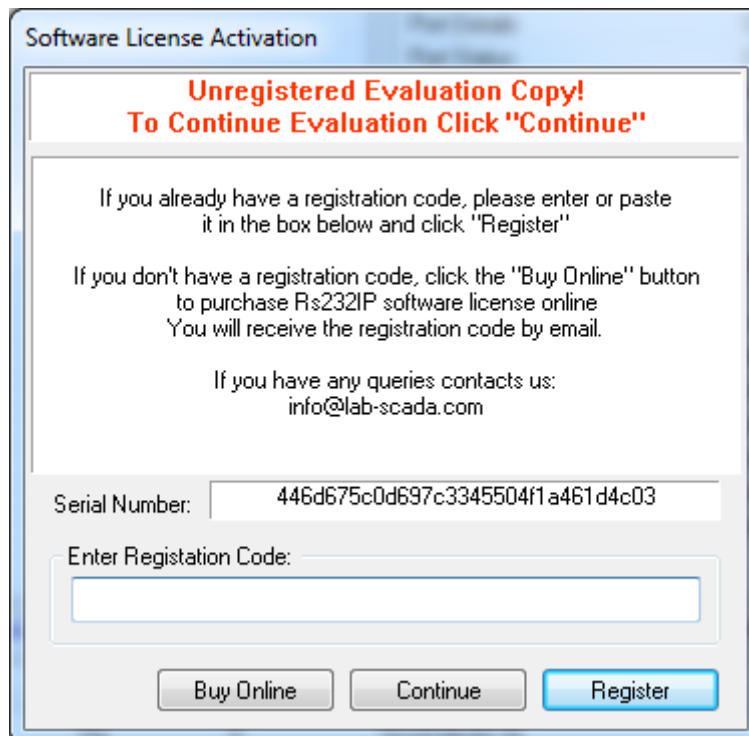
If you have not yet purchased the software, the Rs232IP runs in evaluation mode with the following restrictions:

- Reminder screen on startup
- Reminder screen every 30 minutes
- Reminder screen requires user input to continue
- Evaluation is time limited to 5 days

You can enter the registration code and switch into full mode at any time as explained in the following section.

### 2.2 Setting Registration Code

On startup the software license activation dialog is shown automatically (and every 30 minutes) It is also shown when you click Main menu → Register



If you have not purchased the software, click "Buy Online" (make sure you are connected to the Internet), the serial number that is unique for the PC on which the Rs232IP is

installed will be set automatically in the web order form. Please fill in the other fields, such as you name, company name, country and email address., then click “Send Order”

VestaTel will issue you a payment link by email. After we received the payment we shall send you the registration code which you can then entry in the above dialog and click “Register”.

If the registration code is correct, the registration succesfully completes and from now on you run the full version.

## **2.3 Software License Agreement**

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9. This Agreement sets forth the entire agreement between you and VestaTel pertaining to the licensing of the Software and supersedes in its entirety any and all written or oral agreements previously existing between the parties with respect to such subject matter. If any provision of this Agreement is held invalid or unenforceable, such provision shall be revised to the extent necessary to cure the invalidity or unenforceability, and the remainder of this

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conflict and permit compliance with such law and as so modified this Agreement shall continue in full force and effect.

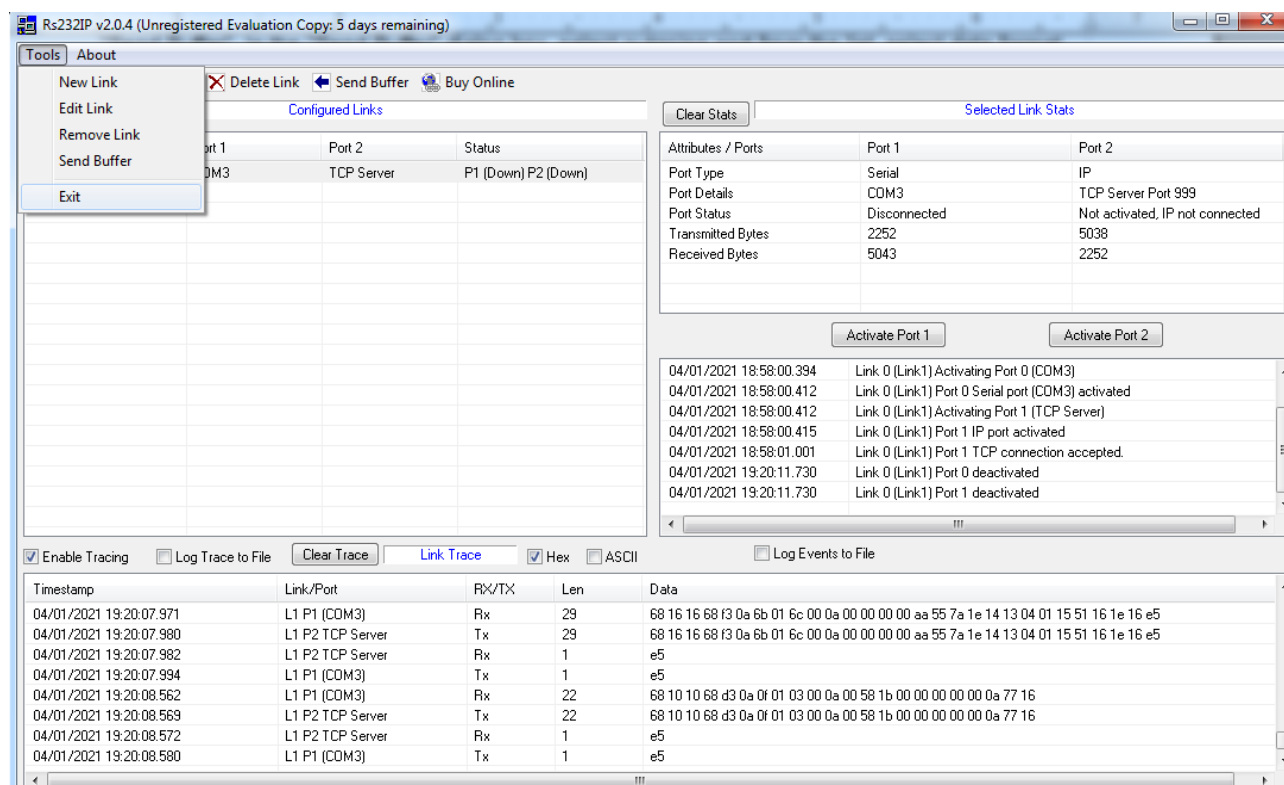
This Agreement may not be assigned without the consent of VestaTel.

### 3 Installing and Running Rs232IP Software

If during the installation you tick the checkbox "Start with windows", Rs232IP will be started everytime the PC boots up and a user logs in.

Rs232IP creates an icon in the windows taskbar. When you click the system menu close button, the application continues running hidden. When you click on the icon in the windows taskbar, Rs232IP control window is shown again.

To fully quit Rs232IP application, go to Rs232IP program's menu -> Tools -> Exit.



### 4 Creating New Links

To create a new link click "New Link" button or via main menu: Tools -> New Link. "Add New Link" dialog box will appear. An Rs232IP link consists of 2 ports (IP or serial) which will be interconnected. The configuration for these two ports is presented in the "Add New Link" dialog box.

You can give a link your descriptive string name in the edit box "Descriptive Link Name".

### 5 Editing Existing Links

To edit an existing link, select the required link in the "Configured Links" list in the main program screen and click "Edit Link" or via the main menu: Tools -> Edit Link, or double-click the selected link entry in the listview. If the ports of the link are active, they are automatically de-activated.



**Edit Link**

Descriptive Link Name: Link1

**PORT 1 Configuration**

Activate on save

Port Type: Serial/COM

COM Port: COM3    Baud Rate: 9600    Data Bits: 8

Parity: NONE    Stop Bits: 1

Hardware Flow Control (RTS/CTS)

IP Protocol Type: TCP

Client or Server: Client

IP Port Number: 1000

Remote IP Address or Domain Name: 192.168.1.1

**Forward to PORT 2 on these conditions:**

Forward instantly on data receive

On Buffer Full, Buf Size: 1400

Interchar Timeout (ms): 10

Frame End Character: 02

**Automatic Port Re-connect Options**

Auto Reconnect in (secs): 10

**Diagnostics Options**

Port Loopback (Echo Received Data)

Generate Traffic (Send buffer)

Hex

Ascii

Send buffer every \_\_\_\_\_ milliseconds

**PORT 2 Configuration**

Activate on save

Port Type: TCP/UDP

COM Port: COM2    Baud Rate: 9600    Data Bits: 8

Parity: NONE    Stop Bits: 1

Hardware Flow Control (RTS/CTS)

IP Protocol Type: TCP

Client or Server: Server

IP Port Number: 999

Remote IP Address or Domain Name: 0.0.0.0

**Forward to PORT 1 on these conditions:**

Forward instantly on data receive

On Buffer Full, Buf Size: 1400

Interchar Timeout (ms): 10

Frame End Character: 02

**Automatic Port Re-connect Options**

Auto Reconnect in (secs): 10

**Diagnostics Options**

Port Loopback (Echo Received Data)

Generate Traffic (Send buffer)

Hex

Ascii

Send buffer every \_\_\_\_\_ milliseconds

Cancel    Save

## 6 Port Configuration Options

Port configuration options presented in New Link and Edit Link dialog boxes are explained here:

- "Activate on Save" - check to apply port settings on clicking "Save" button. Port shall be disconnected and reconnected with the new settings. If these button is

unchecked, some of the options will be saved but will not take effect until the port is manually disconnected and re-connected (with "Activate Port x", "Deactivate Port x" buttons).

- "Port Type" - select port type from the list "Serial/COM" or "TCP/UDP"
- "COM Port" - select COM port number from the list (from COM1 to COM32), applicable and displayed only if Port Type is "Serial/COM"
- "Baud Rate" - select COM port speed from the list (110 to 256000 baud), applicable and displayed only if Port Type is "Serial/COM"
- "Data Bits" - select COM port data bits from the list (5,6,7 or 8), applicable and displayed only if Port Type is "Serial/COM"
- "Parity" - select COM port parity from the list (even, mark, none, odd, space), applicable and displayed only if Port Type is "Serial/COM"
- "Stop Bits" - select COM port stop bits from the list (1, 1.5, 2), applicable and displayed only if Port Type is "Serial/COM"
- "IP Protocol Type" - select IP protocol from the list (TCP or UDP), applicable if port type is TCP/UDP
- "Client or Server" - select client or server mode, applicable if port type is TCP/UDP and protocol is TCP.
- "IP Port Number" - TCP or UDP port number. The meaning of this parameter depends on the setting of the port type, IP Protocol and client / server mode. For Port type : Serial / COM this setting is not applicable. For port type TCP/UDP and IP protocol TCP: if client mode is selected, IP port Number is the remote port number to connect to. If the server mode is selected, IP port number is the port to listen incoming TCP connection. If IP protocol is UDP, the IP Port Number is used for both outgoing and incoming traffic.
- "Remote IP address or domain name" - remote IP address or DNS name string for TCP client mode, or for UDP, applicable if port type is TCP/UDP and protocol
- "Forward instantly on data receive" - data received on this port will be immediately forwarded to another interconnected port on the same link
- "On Buffer Full, Buf Size" - if checked, the data received in this port shall be stored in a forwarding buffer until it becomes full. When the buffer is full the contents of the buffer is forwarded to interconnected port on the same link. Specify buffer size for the forwarding buffer
- "Interchar Timeout (ms)" - if checked, data received on this port will be forwarded to another interconnected port on the same link if inter-character timer specified in milliseconds has expired, in other words no characters have been received since the last character for the specified amount of time. This option can be used together with "On Buffer Full" option.
- "On frame end character" - if checked the data received on this port is continuously monitored for the frame end character selected from the list. If the frame end

character not detected, the data is stored into the forwarding buffer. If forwarding buffer is full the buffer is sent to interconnected port. If the frame end character is detected, the content of the buffer accumulated so far is sent to interconnected port. This option can be used together with "On Buffer Full" and "Interchar Timeout" options.

- "Auto Re-connect in secs" - if checked, the port will periodically attempt to auto reconnect if it becomes disconnected. Specify time in seconds between auto-reconnect attempts.
- "Port Loopback (Echo Received Data)" - if checked, the data received on this port will be sent back out immediately.
- "Generate Traffic (Send Buffer)" - if checked, a data buffer will be sent out on this port periodically. Check "Hex" or "Ascii" radio button to select preferred entry format and then enter data to be sent in the data box. Enter traffic generation interval in milliseconds in the edit box below.

## 7 Removing Links

To remove an existing link, select the required link in the "Configured Links" list in the main program screen and click "Remove Link" or via the main menu: Tools -> Remove Link

## 8 Activating and De-activating Ports

To manually activate or deactivate port, first select a link in the links list in the main program screen, then click "Activate Port x" or "Deactivate Port x" to perform the necessary action. The ports of a link are automatically de-activated when invoking the link edit function.

## 9 Status and Statistics

Link and port status are shown in the configured links list in the "Status" column and in the "Selected Link Stats" list box when a link is selected.

## 10 Diagnostics

- Sending Buffers Manually: To send a buffer over any configured port, first select a link and then click "Send Buffer". In the "Send Buffer" dialog box, select outgoing port from the list, select data format (Ascii or HEX), enter data in the edit box, if necessary click "Append CR" to add carriage return character 0x0d to the end of buffer and click "Send".
- Event Log: all important events are shown in the event log list view together with corresponding timestamps. If you check the checkbox "Log Events to File" the same events are also appended to the end of disk file named "event.log" in the program's working directory
- Data Trace: if enabled by checking checkbox "Enable Tracing", all incoming and outgoing data is logged in the trace window along with timestamp Port information,

direction (receive or transmit) length of data and first several bytes of data in ASCII or HEX format. ASCII or HEX format is selected with the corresponding check boxes "Hex" and "Ascii". The contents of the trace window can be cleared by clicking "Clear Trace" button. The trace is also saved to disk file "trace.log" if the checkbox "Log Trace to File" is checked.