Application Note

Telnet COM Port Control Option

Version 1.3

2009-07-20

- Caution -

1. The functions described in this document would be changed without notice.

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Contents

1 Introduction

1.1 RS232

1.1.1 RS232 Port

The RSR232 is a de-facto standard that is widely used for industrial communication. The COM ports of PC are the most typical application of the RS232.

1.1.2 COM Port Specification of PC

The specification of the COM Port is followed.

Table 1-1 COM Port Specification

Number	Name	Direction
1	DCD (Data Carrier Detect)	Input
2	RX (Receive Data)	Input
3	TX (Transmit Data)	Output
4	DTR (Data Terminal Ready)	Output
5	GND (Signal Ground)	-
6	DSR (Data Set Ready)	Input
7	RTS (Request To Send)	Output
8	CTS (Clear To Send)	Input
9	RI (Ring Indicator)	Input

The RX is for receiving data, and the TX is for transmitting data. The RTS is for informing that it is ready to receive and the CTS is for getting the counter-part's RTS signal. The DSR is for checking if the counter-part is connected, and the DTR is for informing it is connected. In addition, there is DCD for checking the carrier and the RI for getting the RING signal.

The general pin connection between a PC and a serial device is followed.

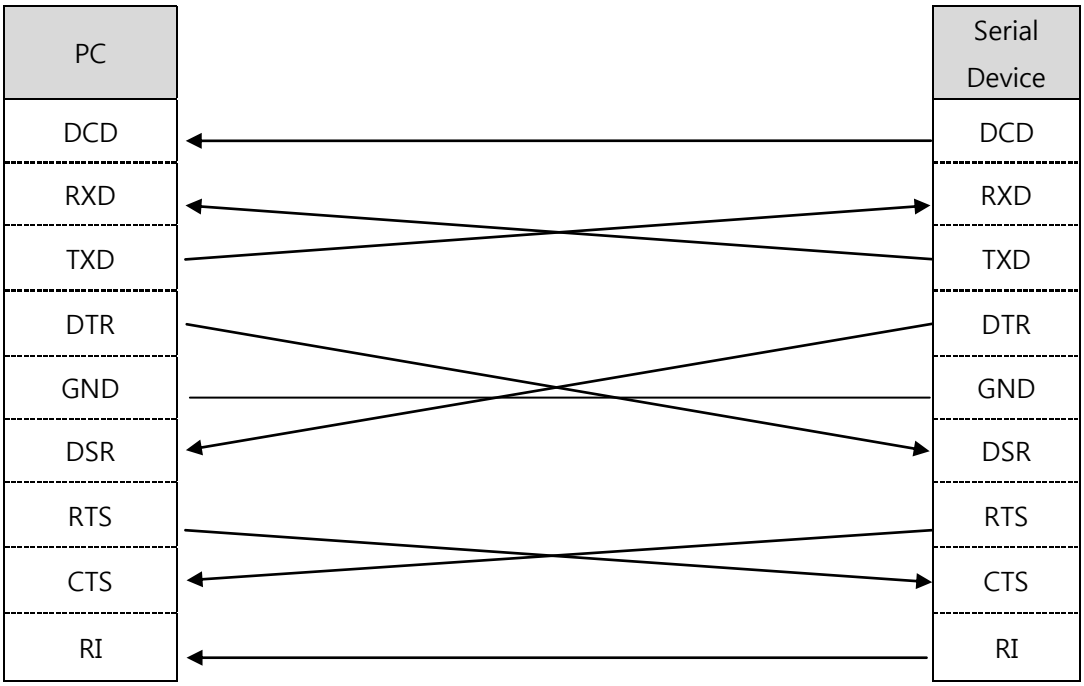

Figure 1-1 General connections between a PC and a serial device

1.1.3 Configuration parameters of COM port

Users have to configure the following parameters for RS232 communication.

Table 1-2 RS232 Configuration Parameters

Parameters	Description	Examples
Baudrate	The speed of RS232 in bps	9600bps, 19200bps
Data bits	The length of data bits	5, 6, 7, 8
Stop bit	The length of stop bit	1, 1.5, 2
Parity bit	Parity	NONE, EVEN, ODD, Mark, Space
Flow control	Flow control	NONE, Hardware, Xon/Xoff

The Baudrate is communication rate of RX and TX in bps(bit per second). The data bits are the number of bit of each field. The stop bit is the length of the stop information of each octet. The parity bit is for checking parity error and the flow control is a configuration field for flow control method.

1.2 Connecting RS232 Device to a TCP/IP network

1.2.1 Basic Connection

The ezTCP series of Sollae Systems are devices that connect user serial device to TCP/IP networks(Ethernet, wireless LAN). If a user device sends data to ezTCP via the RS232, ezTCP sends the data to the network after processing TCP/IP. And if the ezTCP gets TCP/IP data from the network, it sends the data to the user device after processing TCP/IP.

The following figures are general illustrations,

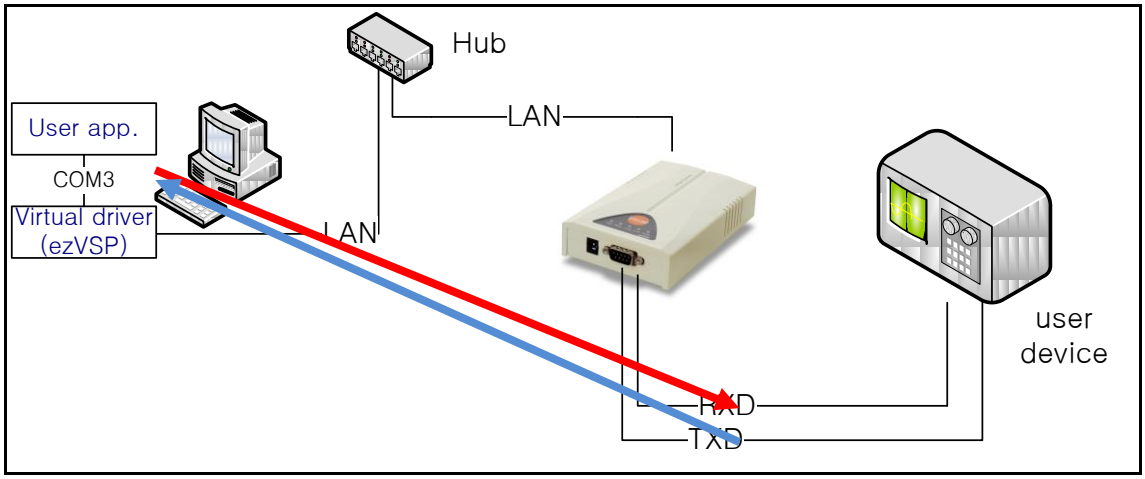

Figure 1-2 Basic Connection between PC and user device

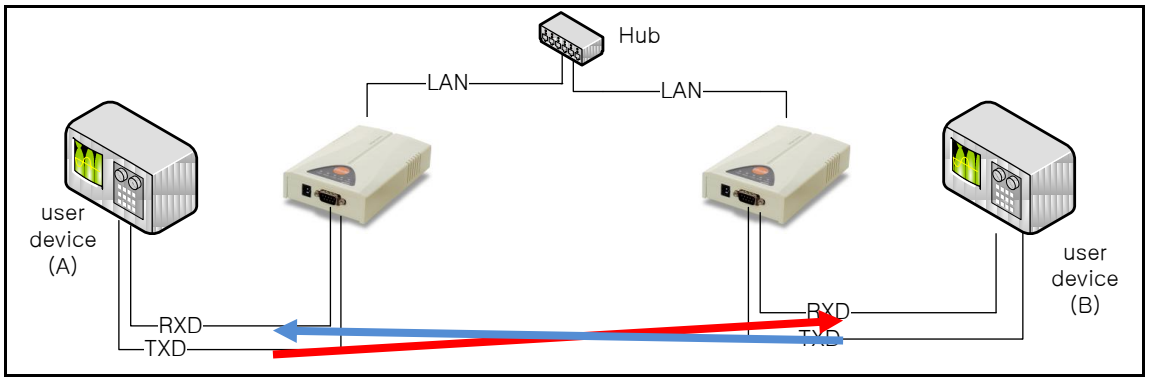

Figure 1-3 Basic Connection between user devices

1.2.2 Problems of Basic Connection

In this case, the ezTCP doesn't process other signals except RX and TX. If a user device uses RTS, CTS, DTR, DSR as well as RX and TX, the communication would be failed.

1.3 Telnet COM Port Control Option

The Telnet COM Port Control Option is defined in the RFC2217. The RS232 information (baudrate, data bit, parity bit, stop bit, RTS, CTS, DTR, DSR) is transmitted to TCP/IP network with this protocol.

User can transmit and receive the RS232 information as well as RX and TX data through TCP/IP network.

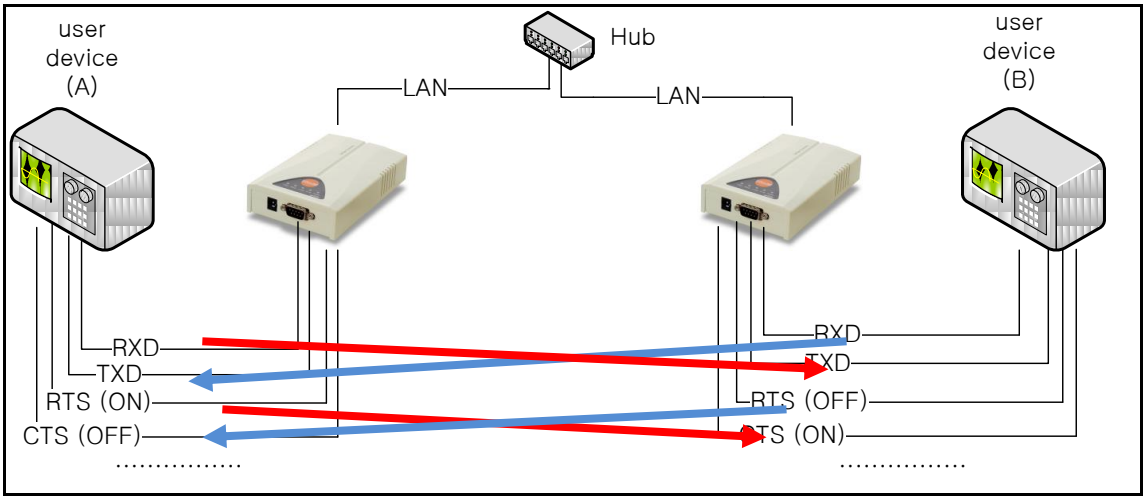

Figure 1-4 Connection with Telnet COM Port Control Option

2 Operation

2.1 Products List

The following products support the Telnet COM Port Control Option.

- EZL-200F
- EZL-300S
- CSE-M32
- CSE-M73
- CSE-H20
- CSE-H21
- CIE-H10

The list might be changed without notice.

2.2 Operation of ezTCP

2.2.1 Baudrate / Data bit / Stop bit / Parity bit

The parameters of Baudrate, Data bit, Stop bit, Parity that is set to ezTCP are not transmitted to peer host. But if ezTCP receives the parameters from the peer host, it sets its serial port with those values.

2.2.2 RTS / CTS / DTR / DSR

ezTCP transmits its CTS, DSR information to the peer host. And if ezTCP receives the parameters from the peer host, it sets its serial port with those value.

2.3 Operation of the ezVSP

The ezVSP is a virtual driver that is operates on MS Windows. It relays Windows application programs that use COM ports to TCP/IP network.

2.3.1 Baudrate / Data bit / Stop bit / Parity bit

The ezVSP transmits its Baudrate, Data bit, Stop bit and Parity bit information to the peer host or ezTCP. And it ignores those parameters from the peer host or ezTCP.

2.3.2 RTS / CTS / DTR / DSR

ezVSP transmits its CTS, DSR information to the peer host or ezTCP. And if ezVSP receives the parameters from the peer host or ezTCP, it sets its serial port with those value.

3 Revision History

Date	Version	Comments
Nov. 12. 2008	1.2	Initial Release
Jul. 20. 2009	1.3	Replace Korean with English