VScom Serial Device Servers: Can I use NetCom 123 WLAN with my Smartphone App?

This question is very often targeted to navigation / map display applications, especially those installed on iPhone/iPad or Android systems. Of course the answer depends on the requirements of said App, but in most situations the answer is a definitive Yes.

This is now explained using navigation software, which shall receive GPS data on a Wireless LAN connection. But the example provides information to judge, if a different purpose App may also use the NetCom 123 WLAN.

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Many GPS receivers on board of boats or yachts use a serial port to output the position data. This port may use a RS232, or a RS422/485 interface. The NetCom 123 WLAN will serially connect to that interface, there is no problem in matching the configuration to receive the data. In many situations the data will arrive with 4800 bps, 8 data bits, one stop bit and no parity. But other options are available as well.

The NetCom 123 WLAN can forward the received data either to Ethernet or to WLAN as of IEEE 802.11b/g. The latter is typically required.

The data shall be received on the smartphone, there is no concept of serial ports in such devices. Further there is no driver to install a virtual serial port on the operating systems. So the data is received directly via socket functions. It depends on the certain application how this must be configured.

Many Apps use TCP/IP to get the data. They have to establish a TCP connection to the NetCom, and read the GPS data via that connection. This is possible with NetCom. The serial port of the NetCom is configured for "TCP Raw Server" Mode. This way it can accept one or more connections at the same time, providing the GPS data to TCP/IP. Since no Ethernet connection exists, received serial data is forwarded on the WLAN. Even if the App does not allow to configure the TCP port to operate on, the NetCom may use any TCP port to accept the connection.

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Some Apps may use UDP data transmission instead of TCP connections. This is not a problem either. The maximum data packet size on a WLAN is roughly 1400 bytes, while typical GPS data sets only use one line of text.

Using UDP there is no connection for a stream of data. Instead received serial data shall be bundled to a package, and sent in one UDP data frame. The NetCom 123 WLAN allows several methods to define when a package is ready. With GPS data in NMEA format the serial data is typically terminated with a CR/LF sequence. NetCom can use this as a trigger to send the received data.

The UDP data frame may be sent to one predefined target, or sent via broadcast to all interested devices on the WLAN. So also in this configuration multiple stations may use the GPS positional data.

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Unique solution ID: #1091
Author: Support
Last update: 2012-04-16 15:02