FALCOM
WIRELESS COMMUNICATIONS GMBH

Connecting a bar code scanner to a STEPPII device

Application Notes

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1 INTRODUCTION

This document describes how to connect a bar code scanner to a STEPPII device and store or transmit the scanned data. This example should give an idea on how to connect serial devices on a STEPPII and process the incoming data in general.

1.1 Firmware configuration

Default operation of the RS232 port on the STEPPII AMP connector is the command mode. In this mode the protocols and debug information are send to the serial port and it listens for commands which the user can send to the device.

In order to get data from a bar code scanner via the RS232 port of the STEPPII, it has to be set into data mode. In data mode the STEPPII can not receive PFAL commands anymore.

In this example one input will be programmed to be able to switch between command and data mode.

1.2 Bar code scanner settings

The bar code scanner used for this application note is a **Firescan D131**. It uses a 38400 baud RS232 connection and sends a carriage return/line feed after sending its scanned data.

By default, the serial port of the STEPPII runs at 57600 baud. In order **to make** both devices talk to each other you will need **to change** its **baud** rate to 34800 baud using the following command:

```
$PFAL,CNF.Set,DEVICE.SERIAL.BAUDRATE=38400
```

1.3 Configuring STEPPII for data mode

As mentioned above, one of the inputs of the STEPPII will be used to switch between **Command** and **Data** mode:

- When **input 4** is **switched on**, the STEPPII is set into the **Data** mode:

```
$PFAL,CNF.Set,AL5=IO.IN.e3=redge:CNF.Set,DEVICE.COMM.SERIAL=data=0,1,F
```

Parameters for data= 0,1,F

0: received data is not transferred immediately but can be used to execute alarms.

1: enables events when the system detects a carriage return / linefeed.

F: all system status have to be transmitted.

- When input 4 is **switched off,** the STEPPII is set into the **Command** mode:

```
$PFAL,CNF.Set,AL6=IO.IN.e3=fedge:CNF.Set,DEVICE.COMM.SERIAL=cmd,F
```

1.4 Sending received serial data to a server

The STEPPII device gets configured to send the received serial data together with the actual date, time and position to a internet server:

```
$PFAL,CNF.Set,AL7=Sys.eSerialData:TCP.Client.Send,8,"TrackingNumber: &(SerialData)"
```

- *The event **Sys.eSerialData** occurs every time when the system detects a carriage return/line feed on the serial port (as configured before).*
- ***TCP.Client.Send,8," Test"** command sends the GPRMC protocol and the user defined text **"Test"** to a remote server.*
- *The dynamic entry **&(SerialData)** contains the received serial data from the RS232 port.*

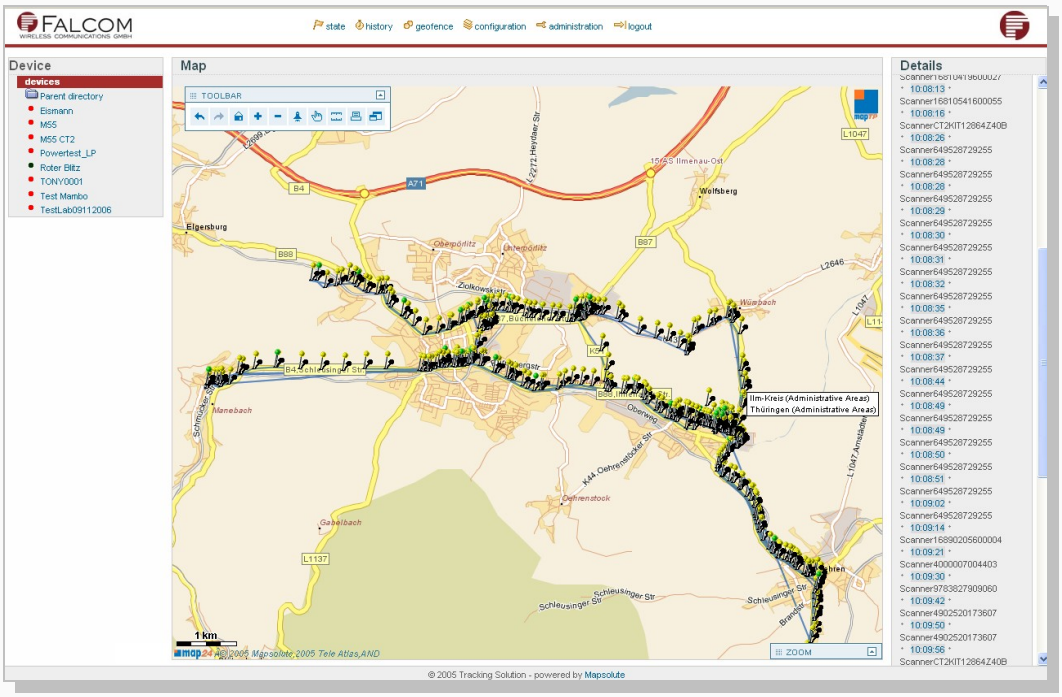

Figure 1: Screenshot from the FALCOM Online Tracking Solution including a STEPPII history with scanned barcode data.

1.5 Writing serial data to history

Besides sending the received serial data to a server, it is also possible to store the data in the device history and read it out later.

If the data should only be stored in history change, the alarm can be defined as follow:

```
$PFAL,CNF.Set,AL7=Sys.eSerialData:GPS.History.Write,8,"Tracking Number: &(SerialData)"
```