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REV 1.0

USER MANUAL

Fastrax EV322 Evaluation Board

The EV322 Evaluation Board is intended for the Fastrax UC322 OEM GPS receiver module evaluation. This document describes the UART to USB specific driver installation and usage of the EV322 Evaluation Board.

November 1, 2007

Fastrax Ltd.

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 **Fastrax**

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CHANGE LOG

Rev.	Notes	Date
1.0	First Release	2007-11-01

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COMPLEMENTARY READING

The following Fastrax reference documents are complementary reading for this document.

To download specific evaluation software for SiRF chip set, please contact support@fastrax.fi.

Ref. #	File name	Document name

1. GENERAL DESCRIPTION

The Fastrax EV322 Evaluation Board provides easy evaluation of the Fastrax UC322 module, which is a tiny OEM GPS receiver module with embedded GPS antenna. The EV322 Evaluation Board provides a single chip USB to UART Bridge, a regulated +3.3V power supply for UC322 and three push buttons for reset, ON_OFF (Normal/Hibernate) and re-programming mode control.

The ground plane size of the EV322 board is 100x70mm, which reflects the size of a typical mother board. The ground plane of the board acts a vital part of the embedded GPS antenna operation.

Please install the USB driver before you connect the Fastrax Evaluation Kit to your computer.

2. INSTALLATION

Please install the USB driver before you connect the Fastrax EV322 Evaluation Board to your computer.

This Driver support Windows 2000 and Windows XP. **DO NOT install this driver on Windows Vista!**

Insert the driver CD to your computer and run **PreInstaller.exe** from the root directory.

Click Install to the question below:

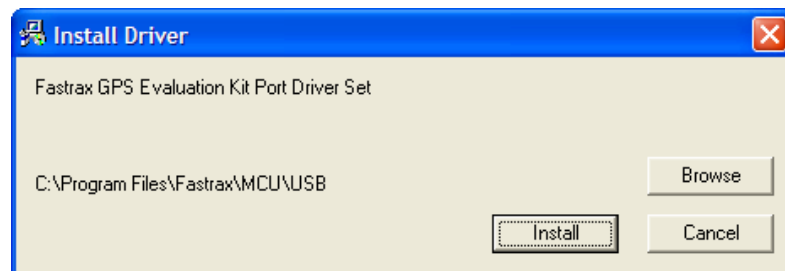


Figure 1 Install driver.

You should get the same kind of figure in you're display as in figure1.

Click "Continue anyway":



Figure 2 Continue anyway.

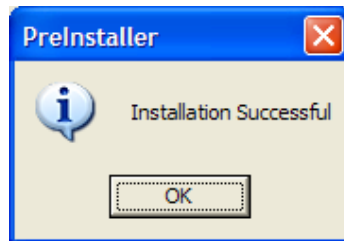


Figure 3 Installation Successful.

After the 'Installation Successful' message, you can now connect the EV322 Evaluation Board to your PC with the USB cable supplied.

3. DEVICES

Preinstaller installs the following devices into your system (use Windows Device Manager):

- **COM Device Name:** Fastrax GPS Evaluation Kit Port (alternative name CP210x USB to UART Bridge Controller)
 - This name appears in Device Manager under the Ports tab and in the Add/Remove Programs listing. Please check the installed port number to use it with your evaluation software.
- **USB Device Name:** Fastrax USB Composite Device (alternative name CP210x USB Composite Device)
 - This name appears in Device Manager under the USB tab

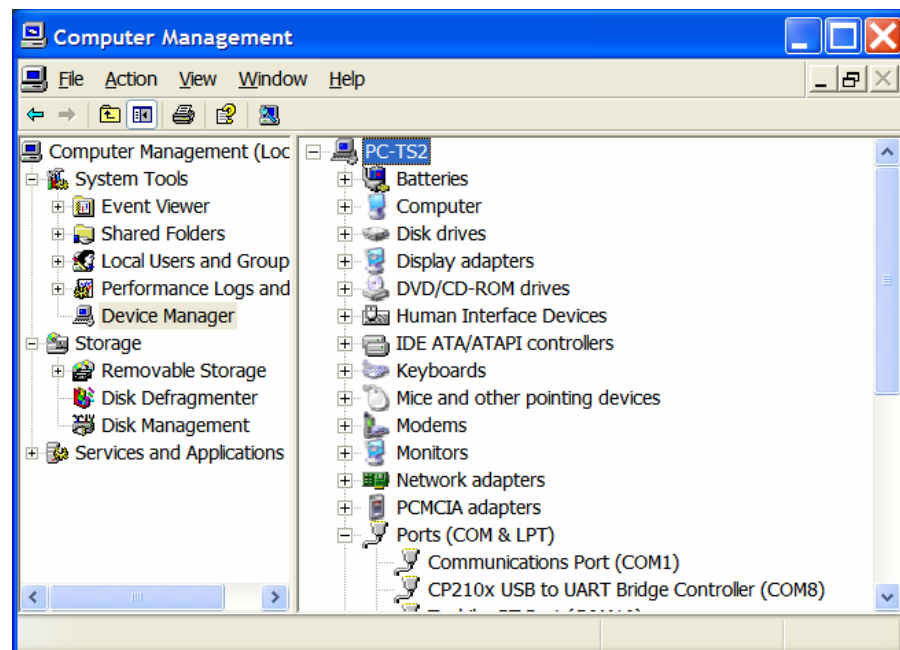


Figure 4 Device Manager, Ports tab (COM8 in this case).

4. EVALUATION SOFTWARE

The UC322 module is configured to NMEA protocol 4800 baud by default. You may use any evaluation software suitable for NMEA messages. First connect the USB cable and then use the virtual serial port COM number as described in previous chapter.

Note that if you remove the USB cable connection and plug it back again, you may need to restart the evaluation software since it may occupy the virtual COM port in use and the USB Bridge may not operate properly.

Specific software tools for SiRF chip sets are available from support@fastrax.fi

5. EV322 EVALUATION BOARD USAGE

After USB cable connection the data from the UC322 module should be available at the virtual COM port on your PC.

For evaluation purposes there are the following interfaces available:

- **Reset** button: press once to switch the +3.3V power supply off, which forces internal Power-on-Reset after power up.
- **Prog** button: option for UC322 flash version; press once to boot for flash re-programming. Not supported with UC322 ROM version.
- **Sleep** button: press once for ON_OFF interrupt (switches between Normal and Hibernate modes). Not supported with ROM code GSWLT3.0.0 version.
- **Current** pin header: normally populated with a jumper. Provides access for UC322 current measurement.
- **PPS** pin header: UC322 PPS timing pulse output (level 3.3V compatible)
- **GPIO6** switch: sets UC322 GPIO6 to high or low state (UC322 protocol configuration, normally low state). Not supported with ROM code GSWLT3.0.0 version.
- **GPIO13** switch: sets UC322 GPIO13 to high or low state (UC322 protocol configuration, normally low state). Not supported with ROM code GSWLT3.0.0 version.
- **Fix valid** led indicator: connected to UC322 GPIO1 output. Not supported with ROM code GSWLT3.0.0 version.
- **Power led** indicator: indicates USB +5V power supply

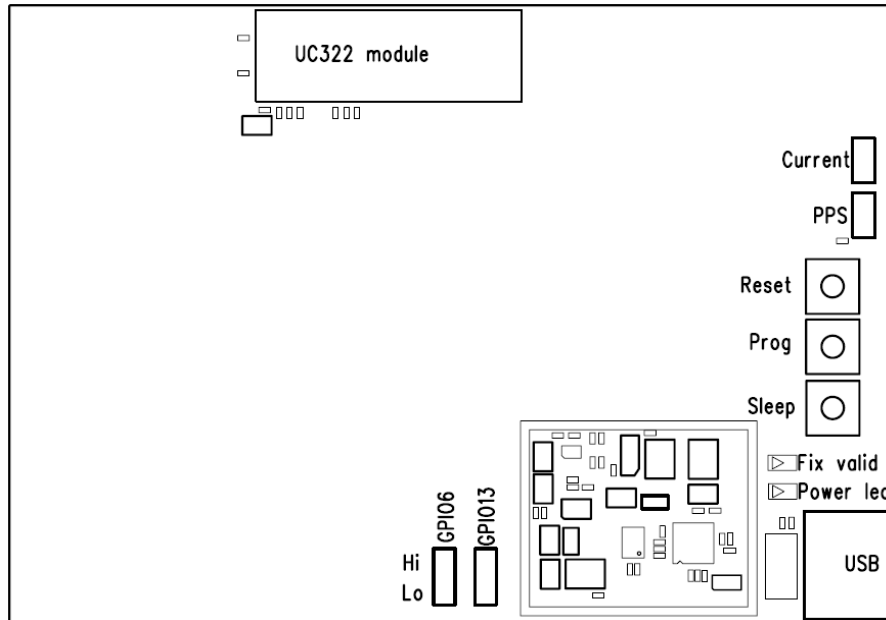


Figure 5 EV322 user interfaces.

The main radiation beam of the embedded GPS antenna is along the plane of the EV322 board. For optimum GPS antenna performance place the EV322 Evaluation Board vertically so that the UC322 module is on the top side.