Using an X90-OPUS Receiver as an RTK Base

By: Mark Silver, ms@igage.com, +1-801-412-0022 x16

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Thesis: The X90-OPUS receiver (Part Number 1190403026, distributed by iGage Mapping Corporation) can be used as a L1/L2 (Dual Frequency) RTK Base. The base position is determined on startup from an average of the uncorrected initial position. It is not possible to key in a Lat/Lon, only a 'Get GPS' style coordinate can be used.

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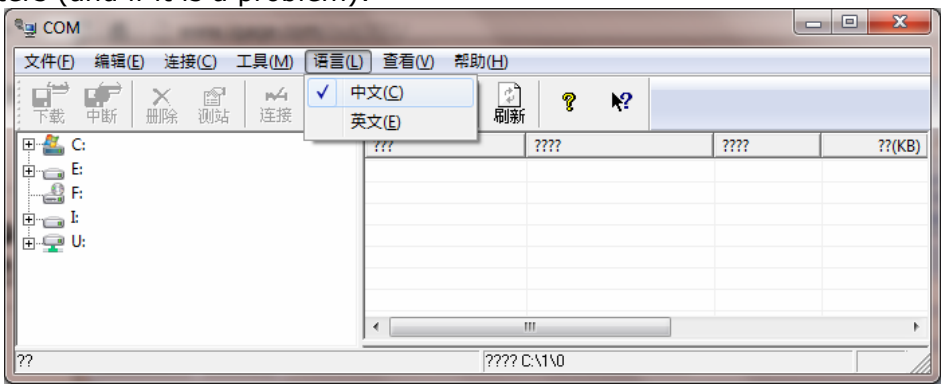
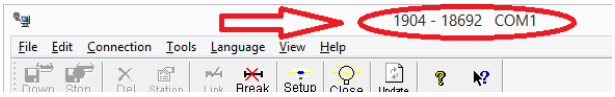
1. Download the HCLoader tool
   http://x90gps.com/out/hcloader/HcLoader.exe
   and place it in an empty folder.
2. Connect the GPS receiever to the computer with the serial port (DB-9) connector on the interface cable supplied with the GPS receiver. Turn ON the GPS receiver.
3. Start the HCLoader program.

   If you start the HCLoader.exe program and you see Mandarin Chinese characters (and if it is a problem):

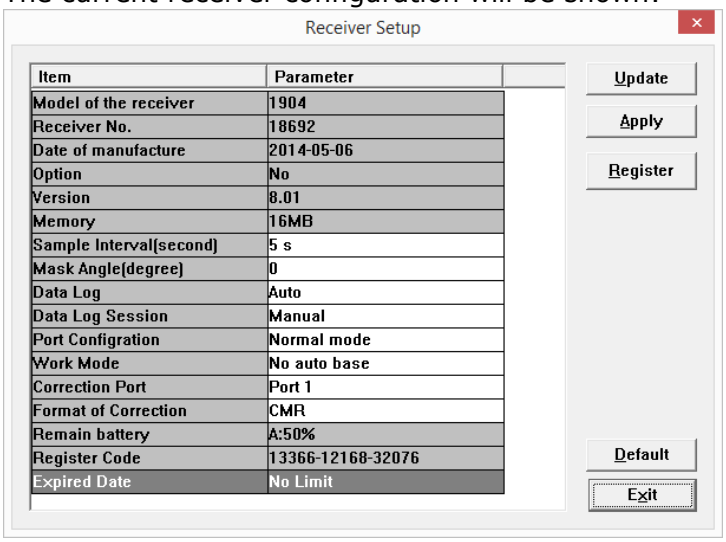
   

   you can switch to English by clicking on the menu option 'L' and then 'E'.

4. The Loader program assumes that the GPS is connected on your PC's COM Port 1. If the GPS is not connected on COM1, click on 'Close', then 'Connection: Setup' and choose the correct PC COM port, then click on 'Link'.
5. Click on the 'Update' button, the top bar of HCLoader should display the GPS receiver serial number:

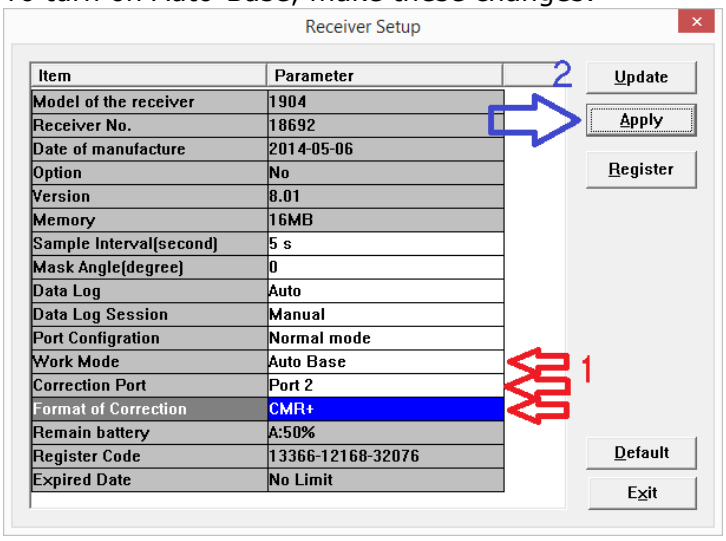
   

6. The current receiver configuration will be shown:



This is the default X90-OPUS configuration. 5 second intervals, automatic data logging on boot, no Sessioning (automatic ending of recording.) Note: The memory total is not shown correctly.

7. To turn on Auto-Base, make these changes:



Then press the 'Apply' button.

8. Click the 'Exit' button, then close the HCLoader program.
9. The X90-OPUS receiver will now automatically begin recording an observation file and sending CMR+ corrections out the hardware COM port at 9600 baud after the GPS receiver is powered on and a 'solid' position is detected.

Note: The use of the X90-OPUS receiver as a base is marginally supported. iGage recommends that you consider an X900+ or X91+ receiver as a base. They both support GNSS signals, which will provide for much better performance under canopy and with low SV counts. Additional details can be found here:

http://x9gps.com