

These notes relate to the modification of a Kobo ebook reader by fitting a GPS or GPS/GLONASS module for navigation only. The notes are my best shot at the time of writing. I cannot guarantee they are correct or represent ideal solutions but I will correct and update them when I can. Please inform me of any errors or better solutions you may find. The index for other Kobo/XCSoar notes can be found at:

http://www.50k-or-bust.com/Kobo_XCSoar/Kobo_XCSoar.htm

Running XCSoar On A Kobo Without Physically Modifying It

I was aware of this method of running XCSoar (or LK8000) on a Kobo for some time but did not understand how to set it up until Richard Chambers posted a link about it.

<https://dukeofted.wordpress.com/2016/06/21/lk8000-and-xcsoar-on-an-unmodified-kobo-mini/>

Unlike other methods, this method does not require opening the Kobo or soldering. However the XCSoar software has to be put on the Kobo micro SD card so you might want to back up the micro SD card as described in the software notes.

http://www.50k-or-bust.com/Kobo_XCSoar/Kobo_XCSoar_Software_Installation_Notes_01.pdf

The main weakness of this method is that connection to the Kobo is made using the micro-USB connector which is quite fragile by paragliding standards. If the connector is bent at all while it is plugged in the socket is likely to be damaged, writing off the Kobo. Having said that, this method may be OK for use in a sailplane or if carefully fitted into a protective instrument pod. A “Y” lead with a straight micro USB connector is shown. A right angled micro USB connector might be more robust.

To make this work the female USB connector of a USB OTG “Y” splitter lead is used to connect a USB GPS “dongle” to the micro USB port of the Kobo. The male USB connector plugs into a USB “powerbank” which supplies power to both the Kobo and the GPS dongle.



Setup

- 1) Set up the Kobo files the same as for the normal Kobo/XCSoar configuration as described in the link shown earlier.
- 2) Plug the units together as shown in the picture.
- 3) Switch on the powerbank. This will power up both the GPS dongle and the Kobo. It will keep the Kobo battery fully charged.
- 4) On the Kobo start screen select “System”.
- 5) Select “Enable USB-OTG”. The Kobo will re-boot.
- 6) Select “System” again. Where it previously said “Enable USB-OTG” it should now say “Disable USB-OTG”. This confirms the USB-OTG interface is activated. Select “Close” to return to the start screen.
- 7) Select “Fly” and open XCSoar.
- 8) Select “M” for menu, Config 1, Devices.
- 9) Select device A and “Edit”.

Set the following:

Port – ttyACM0

Baud Rate – 115200

Driver – Generic

Select “OK” and “Close”. The map screen should now have a sign “GPS waiting for fix” and after a while the GPS should lock and the unit will display its' location.

To turn the unit off both the Kobo and the powerbank must be switched off. Once set up the settings will be stored in the unit and it only needs turning on and off in the usual way.

This system also seems to work OK with the Kobo Touch. However when selecting “USB-OTG” a warning comes up stating that it is not designed for the purpose and may not function correctly.

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