

Ruwai microSD Card Exchange

- Please bring a mid-size cross screw driver for the card exchange.
- Open Pelicase (Fig. 1) and check LCD display on front panel (Fig. 2). LCD messages during normal operation are described in the appendix.



Figure 1: Pelicase in 'portrait'-mounting orientation. Red encircled plug with orange keying feature is the sensor plug. Power plug (cyan keying feature) is on top of the Pelicase.

- If LCD display doesn't show any status information please note. Also if LCD display is dead, please exchange the card and power it up again.

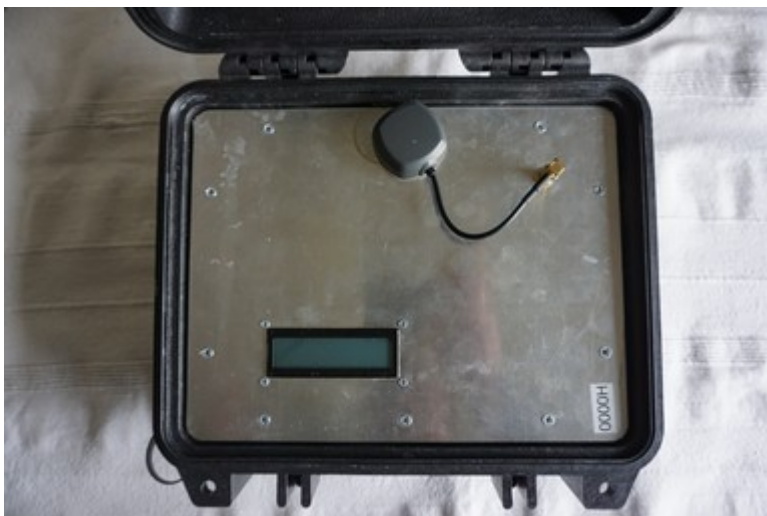


Figure 2: Front panel of the open Pelicase. The LCD display is in the lower left corner. The GPS Antenna is magnetically attached to an iron disk.

→ Pull the power plug by rotating the plug ring counter-clockwise. The card exchange is generally a bit 'laborious'. To make the handling a bit more convenient also pull the sensor cable and slide the Pelicase out of the mast mount, so that you can move the Pelicase freely for the card exchange.

→ Remove the front panel by unscrewing all the cross-headed screws – don't forget to also unscrew the one holding the iron disk below the GPS Antenna.



Figure 3: Unscrew all the cross-headed screws in the front panel. Don't forget to also unscrew the one holding the iron disk.

→ Carefully remove the front panel. The front panel is connected to the inside electronic components by some wires.



Figure 4: Open Ruwai with all the inside electronic components connected to the front panel by a couple of wires.

→ The microSD card slot is located in the upper left corner, at the lower shield. Figure 5 shows a blow-up of the upper left corner with an arrow pointing at the microSD card slot.

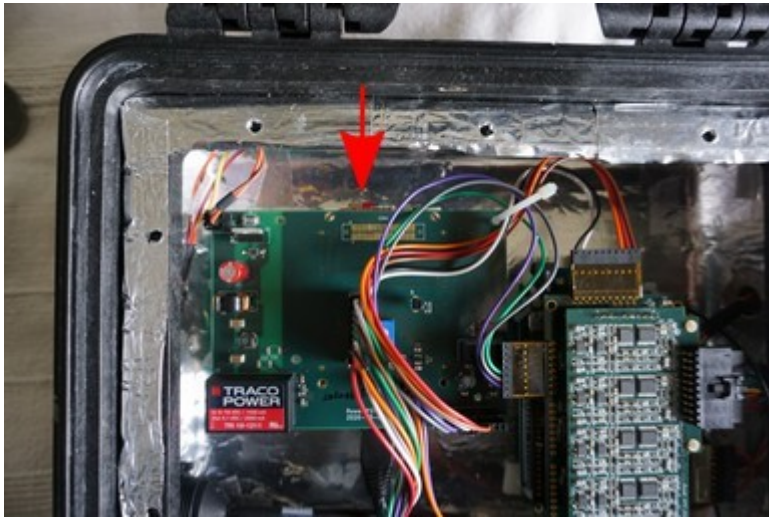


Figure 5: Blow-up of the upper left corner of the open Ruwai datalogger. The red arrow points to the microSD card inside the card slot located at the lower red shield.

→ Push the microSD card inside which will eject the card. Figure 6 shows the ejected microSD card.



Figure 6: The ejected microSD card.

→ Exchange the microSD cards. Please note the labels of the ejected and inserted card.

→ Inserting the card is laborious due to the limited space which makes it impossible to see the card slot. However, once the card is inside the slot you will feel a little resistance while pushing in. When you hear/feel a 'click' the card is properly inserted and stays in place.

→ Put back the front panel and fix the screws. Pay attention that none of the wires is squeezed in between the front panel and the Pelicase frame. Don't forget about the iron disk fixed with one of the screws and re-attach the GPS antenna. The iron disc and the GPS antenna should be placed at the same spot.

→ Close the Pelicase and slide it back into the mast mount so that the sensor plug points downwards. Tip for an easy sliding in of the Pelicase: Place the two left teeth of the mounting frame over the two little steps on the Pelicase and then slide in the right side. Push a bit central on the Pelicase and it should be properly in.

→ Connect the sensor plug and power up the Ruwai datalogger by connecting the power plug on top of the Pelicase.

→ Give it a bit of time (~1 min) for the software to start and to synchronize with the GPS time. Open the Pelicase and check the status informations on the LCD. Check the GPS fix status and that the file size of the recorded files increases between the status display loops. The whole LCD sequence after powering up is described in the appendix.

→ If the Ruwai datalogger gets stuck after start-up message 'Hello, ruwai is speaking.', check if the microSD card is inserted properly.

→ If status informations are displayed, close the Pelicase properly and tighten the strap. Close the tarp with the velcro and tighten the string.

→ In the case that the LCD display doesn't show any status informations after a few (~5) 'powering up'-attempts, remove the datalogger and take it home with you. If you bring home the datalogger, please be sure to seal the open sensor and power plug.

Appendix:**LCD Sequence after power up**

After powering the system, the operating system is booted and the ruwai software starts to initialize. If there are problems during the initialization, the Ruwai software restarts itself and re-runs the initialization. It is normal, that the handshaking with the digitizer Hardware needs some attempts.

- Black rectangles – The operating system is booting.
- Hello, Ruwai is speaking. - The Ruwai Software has been initialized.
- Starting... - The Ruwai Software is starting.
- Handshaking... - The Ruwai software communicates with the digitizer hardware.
- Configuring... - The Ruwai software configures the digitizer hardware.
- Recording... - The Ruwai software starts recording.

LCD loop in normal operation

Each message is displayed for ca. 5 seconds.

- The UTC time of the Ruwai.
→ If GPS is locked, the current UTC time should be displayed. If no initial GPS lock is available, a date with the year 1980 is displayed.
- The GPS fix status.
→ Example display for normal operation: *GPS F: 3 OK: 1
SLTS: 0*

→ Description of the numbers: *F: A number between 0 and 5. A number above 0 is ok. For a proper 3D fix 3 is shown.
OK: 0 – GPS fix is no ok
1 – GPS fix is ok
SLTS: Seconds since last timestamp. 0 or 1 for normal operation.*
- The number of files which are recorded. For each active channel one file is recorded.
→ Example display for normal operation with 3 channels: *Recording
3 files*
- The file size of the recorded files. Shows each file size in kB for 2 seconds.
→ Example display for normal operation with 3 channels: *Size file 1
1290 kB

Size file 2
1180 kB

Size file 3
1312 kB*