



TeleRein C IT has provision for a micro SD card, which allows the data from the left and right rein tension load cells to be saved for subsequent analysis on a PC. The data is in grams, with a resolution of around 10grams, and is acquired at a rate of 10 samples/second on both the left and right sides.

**Items you will need:** (1 and 2 available from most computer or electrical goods retailers)

1. A USB micro SD card reader/writer if you are using a desktop PC, laptops often have provision for reading and writing these cards built in.
2. Preferably a new micro SD card, formatted with FAT32. This includes any card capacity from 4GBytes to 32GBytes. Cards of 64GBytes and above have a different format which is NOT supported by Telerein.
3. Older used cards may be used, but be aware that SD cards wear out, and will become unreliable. Furthermore, cards less than 4Gb may be formatted in FAT16, these will also work on Telerein.
4. A PC that is able to read FAT16 or FAT32 formatted files.

Described below are the methods for setting up and using the card, and some of the limitations.

**Setting up the micro SD card (a windows-based PC is assumed):**

1. Plug the card into the computer, via a card reader if needed.
2. If this is the first time this specific micro SD card is plugged into your PC, a message may appear to the effect that a driver is being installed, this is normal. Wait until this action completes if it occurs. When complete, remove the card, and plug it back in again.
3. A dialogue box should open, within the box an "Open folder to view files" icon should appear. Left click on it and the contents of the card are displayed. If the micro SD card has previously been used and there are files present, they must all be deleted, leaving a blank card.
4. If you wish to verify how the card is formatted this may be discerned by clicking on START, COMPUTER, then right clicking on the SD card icon in the "Devices with removable storage" area, left click on properties, and the format will show in the properties dialogue box.
5. One empty file, a "seed" file, must be created on the card, with a **character name no longer than six**, and with a **.txt** extension, anything other than .txt will be rejected. For example, **myfile.txt**
6. To create the file, open a text editor and without entering any text, save the file with the name you have chosen, making sure to choose ".txt" in the "save as type" drop down list, and close the editor. This file is not used, it just becomes the "seed" file, from which all of the new files are created on Telerein C IT.
7. Any file with a name longer than six characters will be truncated to the first six characters by Telerein (e.g. playingwithfire.txt will become playin.txt).
8. The card is now ready for use, and may be removed from the PC.

## Use:

1. Take the micro SD card with the seed file name on it, and while Telerein is turned off, plug the card into the SD card slot. It only fits one way, so do not force it. Once in place, gently push the card towards the case, and release. The locking mechanism will hold it in place, nearly flush with the case.
2. When Telerein is turned on, the card will automatically be initialised, ready for recording. The card wont initialise if you plug it in while Telerein is running, if you wish to record some time into a riding session, turn Telerein off first, then plug the card in and power up again.
3. WARNING, if you turn Telerein off, and turn it on again with the card in place, it will re-initialized the card, and your files from the previous session will be lost. Remove the card every time Telerein is turned off to avoid this problem, and use a freshly set up card if you wish to continue recording data.
4. Whenever you wish to record data, gently momentarily push the white power on/off button (note that a continuous 5 second push on the power on/off button is needed to turn Telerein on or off, so momentarily pushes will not sequence the power). The small green LED should turn on. If it turns on, but starts blinking, this indicates one of two errors.
  - No card is present
  - The card did not initialise properly (wrong formatting or faulty card)
5. If the green LED stays on, then data is being recorded.
6. To stop recording at any time, gently momentarily push the white power on/off button and release. The green LED will extinguish, and recording stops.
7. The process of turning the recording on and off may be repeated 99 times, giving a file limit of 99. The green LED will start blinking if you attempt to save files beyond the 99 limit, and no further files may be saved.
8. When finished with recording, gently push the card in towards the case, and release. It will pop out just far enough for the card to be easily removed.

## Storage and analysis:

1. Put the micro SD card into a reader/writer and connect to a PC. A pop up window should appear with a folder "open folder to view files". Left click on it, and a file explorer window should open, showing the list of files created.
2. These will appear with numbers after the file suffix you created, e.g.
  - myfile.txt (original "seed" file)
  - myfile1.txt,
  - myfile2.txt,
  - ....up to....
  - myfile99.txt

The files will all have the same date as the "seed" file. However, the creation time of each new file is based on Telerein system time, i.e. hours, minutes, and seconds elapsed since Telerein was turned on. This comes about because there is no Real Time Clock in Telerein. This in itself should not be a problem, since all you need be aware of is the actual time that Telerein was turned on if it is important for record keeping.
3. Creating a new folder on the PC, and copy the contents of the micro SD card into it before doing anything else. Check all of the files are in the new folder first, then delete the contents of the SD card ready for the next session. It is probably best to create your new "seed" file on the day you next use Telerein, thus making sure that the date on the files tallies with the day it is used.
4. The data is in ASCII (i.e. it is human readable) in two columns, in grams, with comma separation, making it simple to read the data directly into many analysis programs, the simplest perhaps being Excel, a program that many people are familiar with.
5. When removing the card, remember to close it properly, using the "safely remove hardware and eject media" icon in the icon tray. If you don't do that, the next time you plug the card into a PC, it may report an error. If it requests that the card needs to be repaired, click on the appropriate box to allow the action to take place.