

TeleRein C IT

**SD card use, a
pictorial guide for
beginners using
Windows 7, 8, or 10.**

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NOTE:

To gain familiarity with the procedures outlined in this manual, I would suggest that you set up along side your PC at home and run through the whole process until you understand it. There is no need to have TeleRein on a horse to test it. During the time that TeleRein is logging and saving data to the Micro SD card, you may simulate changes in rein tension by simultaneously pulling on the two aluminium rectangular loops on either side of the TeleRein Load Cells, the components on the far end of each cable attached to the TeleRein unit.

The resulting data can be processed just as you would with data from a horse riding session



Getting data to change by pulling on the Load Cell rings.

If this is the first time you are working through this manual, then you need to complete sections 2, 3, 4, 5.1, 7, and Install the TeleRein software.

The first time you wish to get data, you need to complete sections, 3, 6, 7, 8, 9, and 10.

Subsequent sessions are the same, but you need to start with section 5.2.

1. Introduction.

Before we get started on the tutorial, please understand that it can't be exhaustive, there are just too many ways of achieving the same thing in Windows. It may be necessary to use a search engine on the Internet to find some details I have missed, or have not covered in sufficient detail.

Windows appearance.

If you have used Win 7 previously, and have switched to Win 8 or 10, you will be aware of the big changes in the appearance of the user interface. Additional issues may also affect the appearance:

1. Default settings in any version of the operating system are highly customisable.
2. Some application programs, not supplied by Microsoft.
3. Laptop PC's often have additional layers of software installed by the manufacturer.

In an attempt to circumvent this issue, I am going to present a common starting point for the process of setting up the Micro SD card. This entails having "File Explorer" and "Notepad" both in the "Taskbar", see the bottom of this page for images of the Taskbar.

Both File Explorer and Notepad have common roots in earlier versions of Windows, and all have a similar appearance. The biggest difference has occurred in File Explorer, but it is still recognizable across all versions of Windows. In any case, the name of both applications appears at the top left of their respective "Dialogue boxes", the window that opens on your screen when they are running.

For those of you using a Laptop computer, some may find the Track pad awkward to use when moving the pointer and clicking on objects. If that is the case, I would suggest that you purchase a mouse that will run with your Laptop, these may be cordless if you prefer.

Now for a little Housekeeping:

1. If I ask you to click on something, then the mouse pointer needs to be on that object.
2. If I ask you to type something, DO NOT include the "" quote marks.
3. Instructions are worked through from the top to bottom of the page, and each event appears in an enclosed box.
4. Where some ACTION is required by you it is in **BLUE**.
The RESPONSES are in **BLACK**.

NOTE. I have used screen shots from my PC to illustrate this manual. I am using windows 10 with an application called "Classic shell", which has allowed me to set up Win 10 to look and behave more like Win 7. This is available from <http://www.classicshell.net/>. I highly recommend it if you prefer the Win 7 appearance. Don't expect your screen or Taskbar to look the same.

The Taskbar.

The task bar is the long thin stripe at the bottom (or sometimes the side) of the screen. It may not always be visible, sometimes the mouse pointer may have to be dragged to the bottom edge of the screen for it to appear. The images below may differ markedly from what you see on your PC, but this should give you the general idea. Both always have the Windows Logo at the far left.



Win 7



Win 8 or 10

2. Putting Notepad and File Explorer on the Taskbar.

The Windows term for doing this is “Pinning”

It only needs to be done once, once on the Taskbar they will remain there unless “unpinned”.

Firstly, are the following icons on your Taskbar

The icon for File Explorer will look something like this.



The icon for Notepad will look something like this.



If one or both are not on the Taskbar, then we need to put them there, a process called “Pinning”. In that case goto “Finding Notepad and File Explorer” below.

If both are on the Taskbar, proceed to the section on “Plugging your Micro SD card into a PC”.

Finding Notepad and File Explorer.

The appearance and method depends on the version of windows, and the way it is set up.

In win 8 or 10, [Left click on the Win 8 or 10 “Windows” icon at the far left of the taskbar.](#)

In Win 7 it will look like this

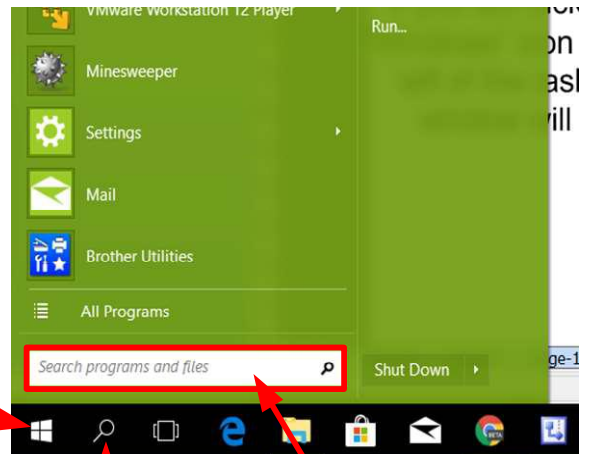


OR

If you have the “Search” icon visible on the Taskbar, [left click on the “Search” icon.](#)



In either case, a window opens, it will have this icon  somewhere in it, and text, which will include the word “search”



The appearance is dependant on which version of windows you are using and configuration settings. On the next page I have shown two of a number of possible options.

For those of you using “Cortana”, you may type your search request directly into the Cortana search bar.

If both "Notepad" and "File Explorer" are missing from the Taskbar, do the first search and pin, then go back and do the second.

These screen shots are for "Notepad", they will look the same if "File Explorer" is being pinned, with the obvious exception that the text "File Explorer" will appear where "Notepad" appears at present.

In the search window, type in the name of the application you wish to "Pin". This will be "Notepad" or "File Explorer".

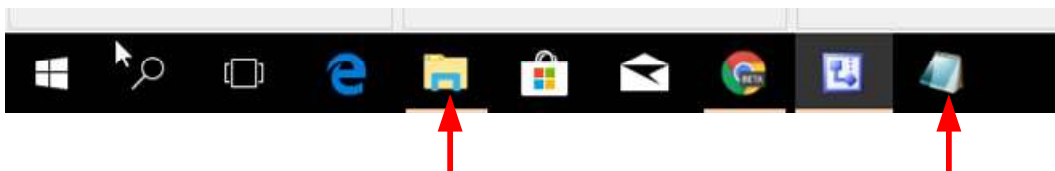
At the top of the panels, we have the search result for "Notepad"
Right click on Notepad

Right clicking on "Notepad" opens another window.

Locate "Pin to taskbar" in the window,
Left click on it.
If "Unpin from taskbar" appears, then it is on the Taskbar already, and you somehow missed it.

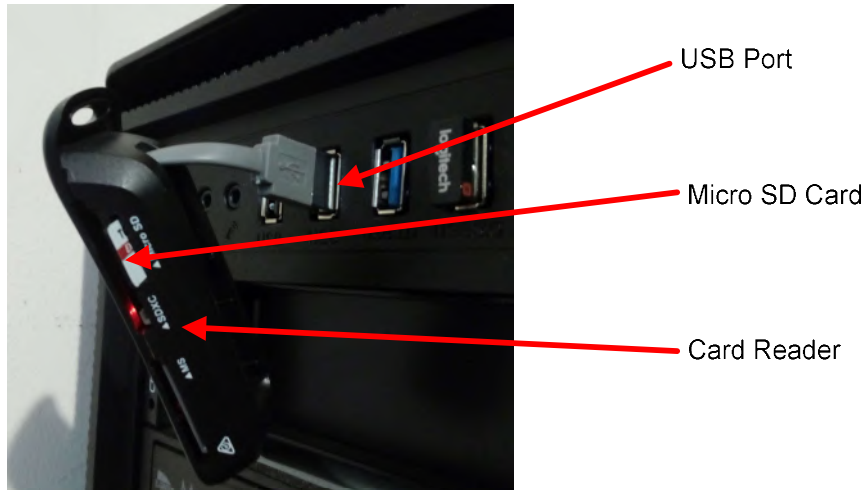
OR

After Left clicking on "Pin to taskbar", the Notepad icon will appear in the taskbar. The taskbar image below shows both the File Explorer and Notepad icons in the taskbar, they are likely to be in different locations on your PC.



3. Plugging your Micro SD card into your PC.

You will need a USB card reader that accepts Micro SD cards. There are many different styles of reader available, the image below shows but one of many options.



When the card reader with the SD card in it is plugged into a USB port, the PC response will vary depending on the operating system, the way "Autoplay" is configured on the PC, and other application software that may be running on your PC.

These are some typical responses:

1. Nothing apparently happens, [proceed to the next section](#)
2. A small dialogue box may open offering options on what to do with the SD card. It may offer access to "File Explorer", however we will use another method. [Close the dialogue box by Left clicking on the "X" at the Top Right. Proceed to the next section](#)
3. "File Explorer" opens. We are going to use File Explorer, but for now close it. [Close it by Left clicking on the "X" at the top right of the File Explorer window. Proceed to the next section](#)
4. A message appears asking how you want to handle the USB drive [Ignore it and it will disappear. Proceed to the next section](#)
5. A message appears warning of a problem with the drive, and a request to scan it. Old cards do wear out, or a card that had been removed without "Ejecting" it may cause this error. [Run the scan. Proceed to the next section](#)
6. Your antivirus software warns of possible dangers, and may request that you scan the drive. If the card has been used on a PC other than your own, [run the virus scan, otherwise close the virus scanner. Proceed to the next section](#)

Once the most likely responses have been dealt with, we are ready to proceed to the section on "Checking the Micro SD card"


The name and drive letter assigned to the Micro SD card when it is plugged into your PC can vary according to the PC's hardware configuration. The Name may appear as "USB Drive" or "Mass storage device". The drive letter may be E:, typically F:, or higher

4. Checking the Micro SD card if you have not used it before.


NOTE: This procedure is only required if you have newly acquired the Micro SD card, either by purchasing it, or by some other means. If you have used the card on TeleRein previously, this check is unnecessary and you may proceed onto “Copying files from the Micro SD card to a PC if it has been used on TeleRein”

Plug your Micro SD card into a Micro SD card reader, the gold fingers go in front first. If it won't go in properly, flip it edge for edge (to keep the gold fingers pointing in) and try again. Once done, plug the card reader into any PC USB port.

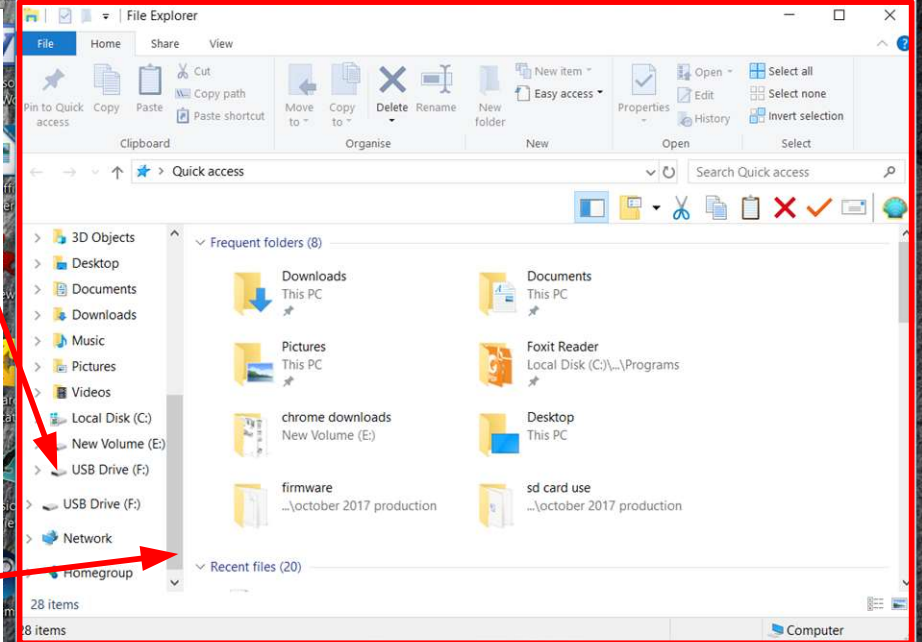
TeleRein expects the card to be formatted to the FAT32 standard. The following check shows how the card is formatted, and its capacity. With the possible responses to the Micro SD card being plugged into your PC having been dealt with, we now use “File Explorer” to investigate the card.



Left click on “File Explorer”
Look for the icon in the taskbar, the location may not be the same as in the image shown here




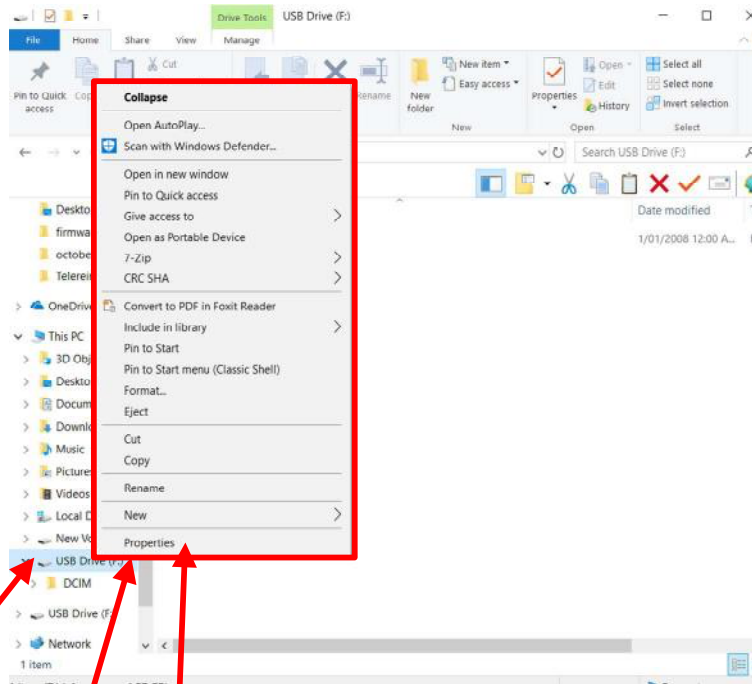
A “File Explorer” dialogue box appears



The USB port that the SD card was plugged into should appear, in this instance it is called “USB Drive (F:)”
It may have a different name (“External” may appear as part of the name) and drive letter assigned, this depends on a number of factors

You may have to slide the scroll bar down to bring the Drive into view.
To scroll, place the mouse pointer on the scroll bar, and while holding the left mouse button down, drag the scroll bar down until the drive comes into view. When done, release the mouse button

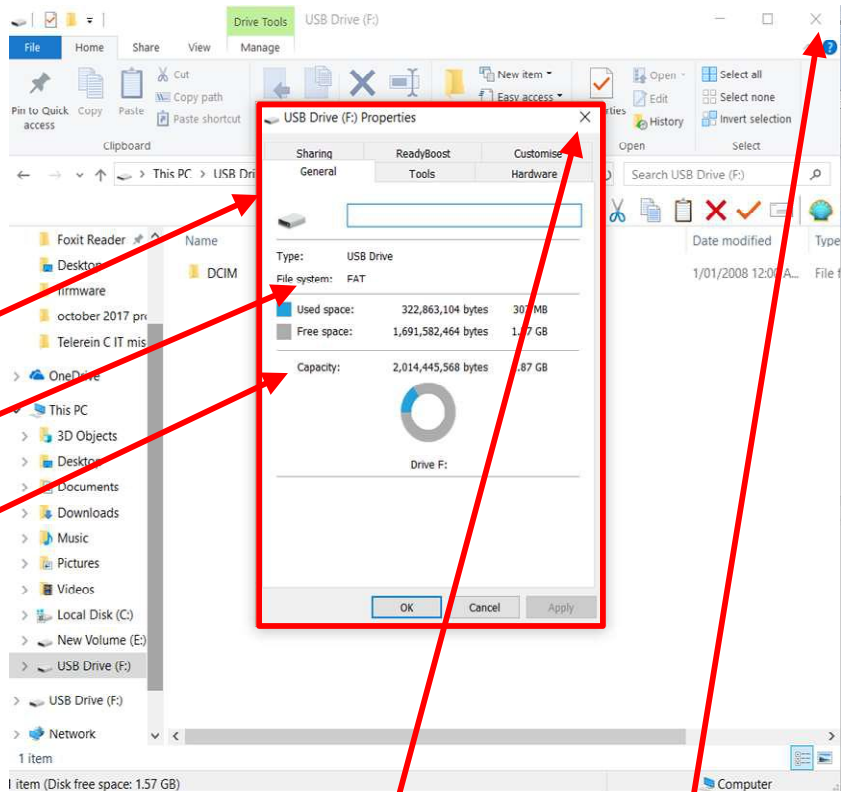




Right click on the USB drive

A dialog box opens

Left click on "Properties"



A "Properties" Dialogue box opens, showing:

The card File system(format) This should be FAT16 or FAT32

and the card capacity

Left click on the "X" in the Properties dialogue box, closing it

Left click on the "X" in the File Explorer dialogue box, closing it

If the file format is shown as FAT, or FAT32, then the card is OK.
 If the card has existing files on it, we need to either delete or move them from the card.
 We will now proceed to the section on "Creating a seed file"

5. Copying files from the Micro SD card to your PC.

You have had an afternoon out with your horse, and have saved some data on your SD card, what to do with it?

If you are not familiar with PCs, then a spreadsheet like Excel is probably not for you (although I would add that it isn't difficult to learn, and offers many useful features for processing and charting data)

The other option is to use the TeleRein application, which will chart the data for you. I have given instructions on how to use it in section 10. Using the TeleRein software application to display your data.

The TeleRein software has to be installed on your PC, and it requires a Folder be established on the C: drive called TeleRein, information on how to do that is given below in 5.1 Creating the TeleRein folder in C: Information on downloading and installing TeleRein is in a document that may be downloaded from the TeleRein web site

I will now take you through the process of creating the TeleRein folder in C:, and copying the data from the Micro SD card into it.

5.1 Creating the TeleRein folder in C:

This obviously only needs to be done once, once created it remains there for future use. If you need to create further Folders with different names, go through this process and give the "New Folder" a different name.

If the "TeleRein" folder already exists, continue on to section 5.2, Copying files into C:\ TeleRein.

Open File Explorer by [Left clicking on the File Explorer icon](#) in the Taskbar on

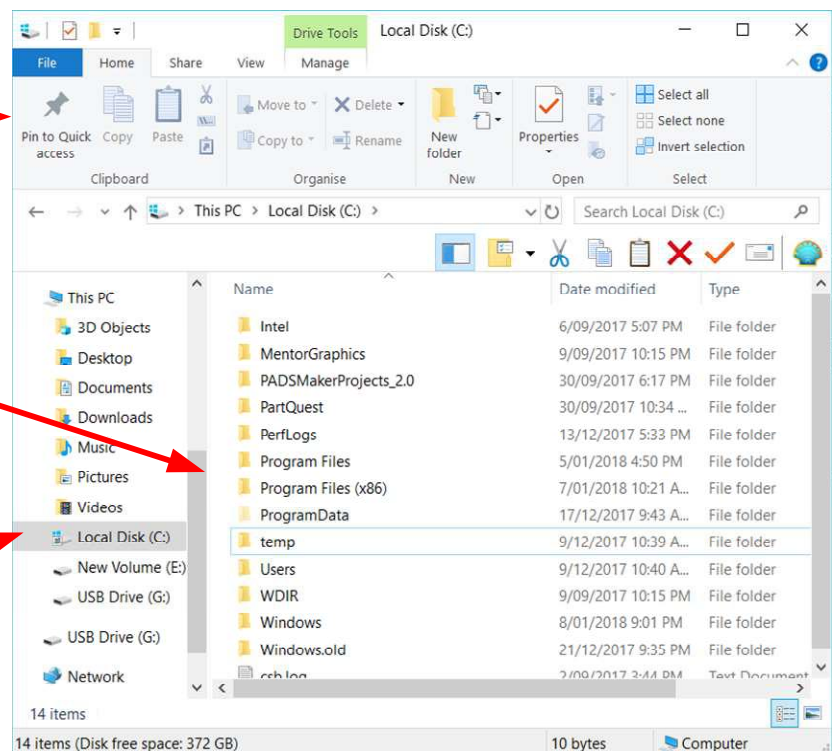


File Explorer opens. This is in win 10, win 7 is different in appearance, but all the essentials are still there

You may have to [scroll down using the scroll bar](#). While holding the Left mouse button down, drag the scroll bar down the screen until you see the "Local Disk (C:)". Release the left mouse button.

[Right click on the Local Disk \(C: \)](#)

Another Dialogue window opens (see next page)



A new dialogue window opens

Hover the mouse pointer over "New"

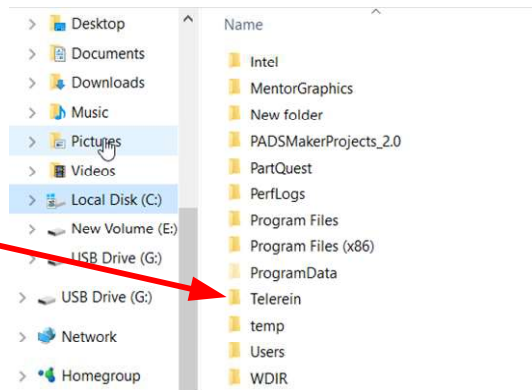
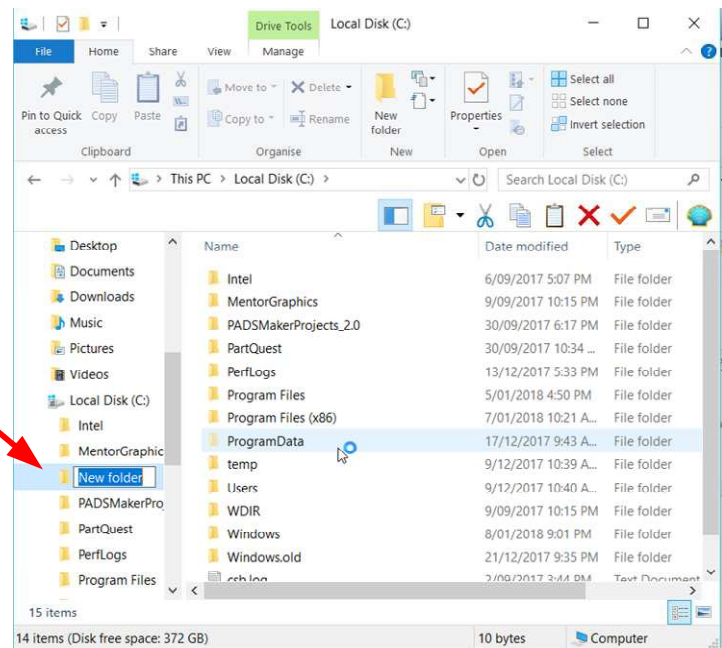
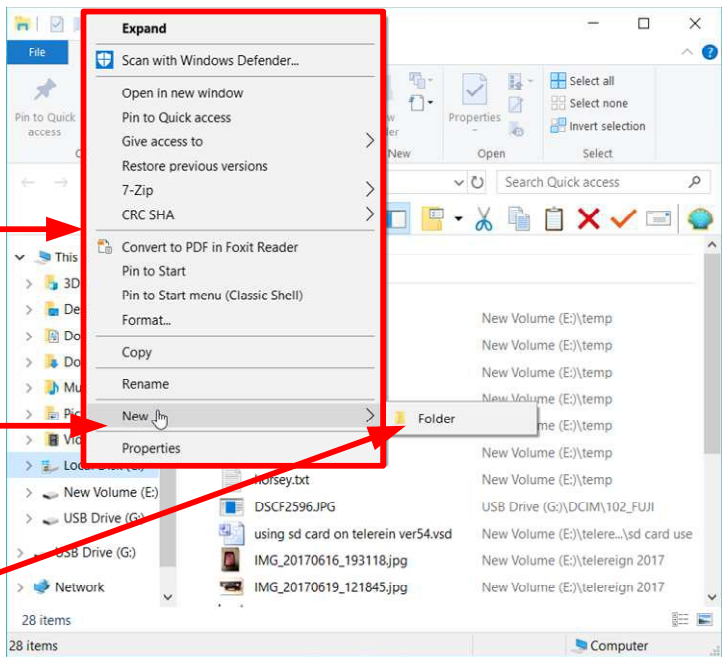
A new window opens with "Folder" in it

Left click on "Folder"

"New Folder" appears in the C: Drive.

Go to your keyboard and type in "TeleRein" (without the quote marks), and hit the Enter (or Return key) on your keyboard.


You now have a Folder in C: called TeleRein

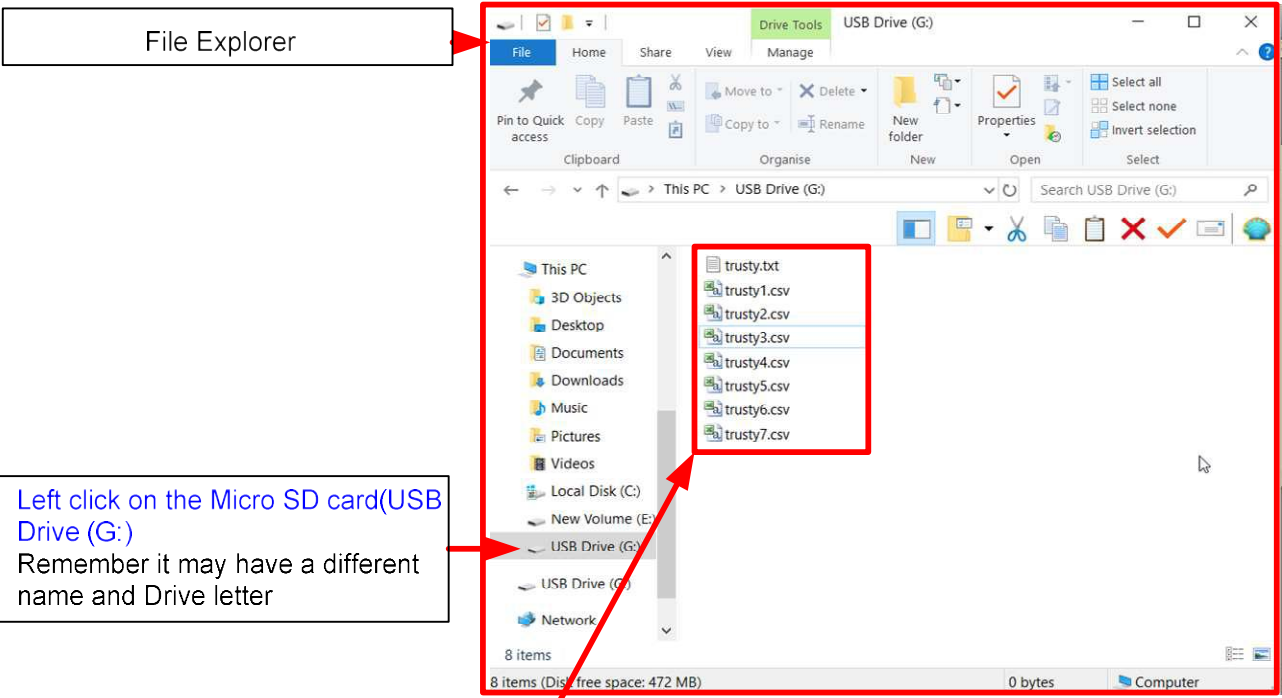


You are now ready to move the files from your Micro SD card to C: \TeleRein

5.2 Copying files into C:\ TeleRein.

Plug the Micro SD card containing the TeleRein files into your PC

Open File Explorer by [Left clicking on the File Explorer icon](#) in the Taskbar on 



The files on the Micr SD card show up here

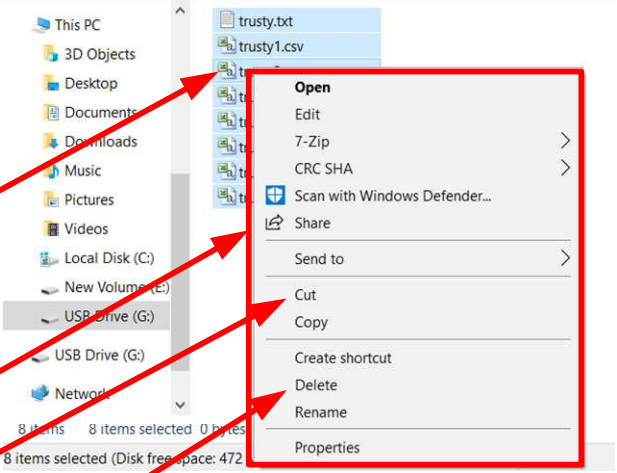
Hold down the "CTRL" key on the keyboard, strike the "A" key, then release both keys.

This highlights all of your files.

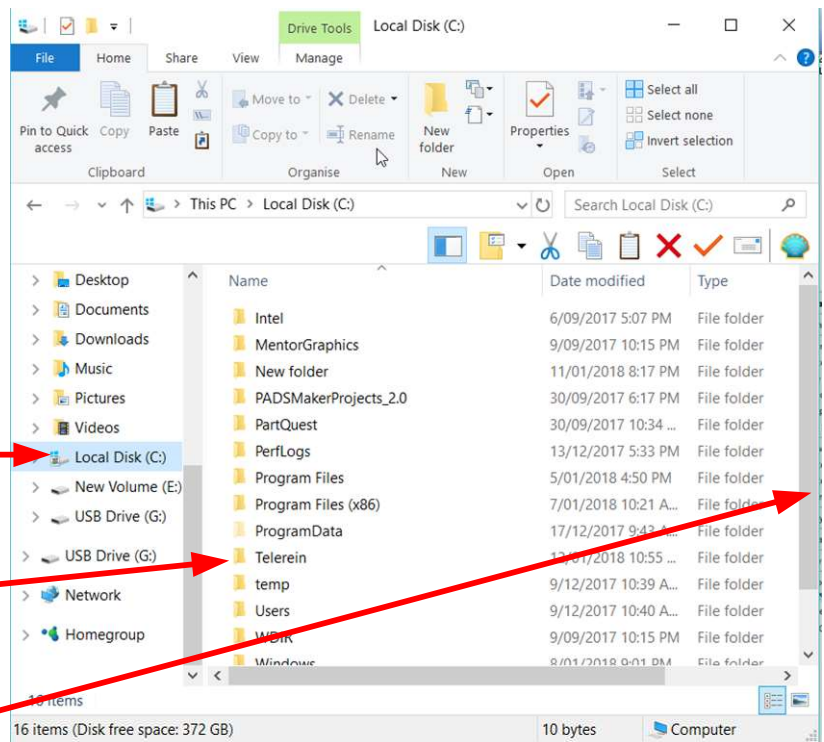
Put the mouse pointer anywhere in the highlight area and right click the mouse.

This opens a new window

Right click on "Cut" to save the files
OR
If you don't need the files, you may delete them.
Go down to "Delete" in the same window, and Left click on "Delete"



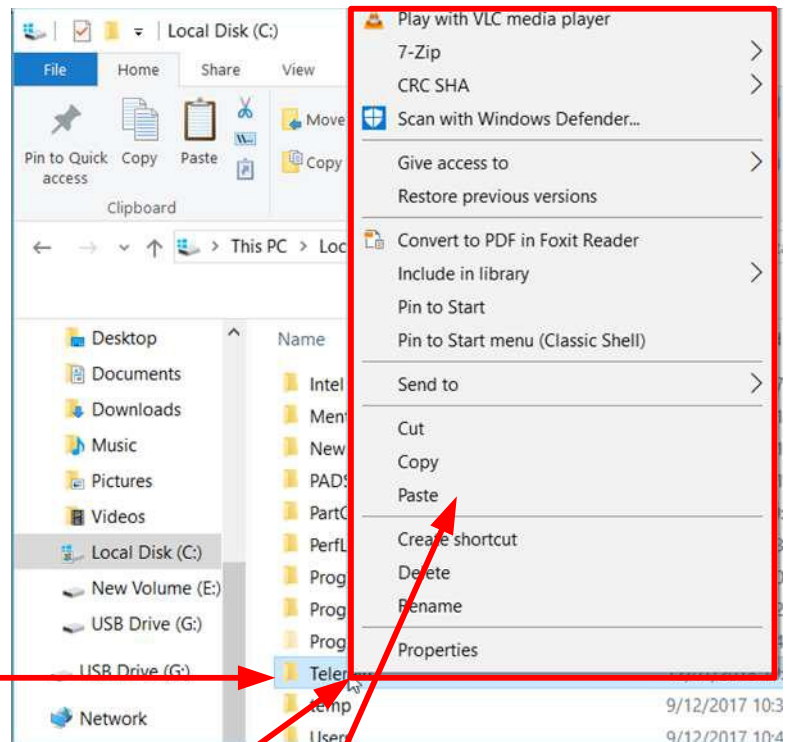
You are now ready to move your files into C:\ TeleRein



Left click on "Local Disk" (C:)"

The TeleRein Folder that you have previously created is here.

You may have to use the scroll bar to find "TeleRein" in the file panel



Right click on the "TeleRein" Folder

A new window opens

Left click on "Paste"

Your files should now be in the TeleRein Folder

You may verify that by Double Left clicking on "TeleRein"

6. Creating a “Seed” file on the Micro SD card.

NOTE: If the card has been used to record data on TeleRein, and you have not saved the data on your PC and deleted the data off the Micro SD card, please go back to the section “Copying files from the Micro SD card to your PC”

The “seed” file is used by the TeleRein unit to build new file names each time a file is to be saved. It is up to six characters long, give it a meaningful name if possible. It will become clearer when you look at the files created what is happening.

I am assuming that your Micro SD card is still plugged into your PC, if not plug it in now.

Left Click on “Notepad”

A new Window opens

You may type some text in here about the days riding session etc. if you wish

Left click on “File”

A window opens

Left click on “Save As...”

A “Save As” dialogue box opens (see next page)

Untitled - Notepad

File Edit Format View Help

Type information in here if you wish

File Edit Format View Help

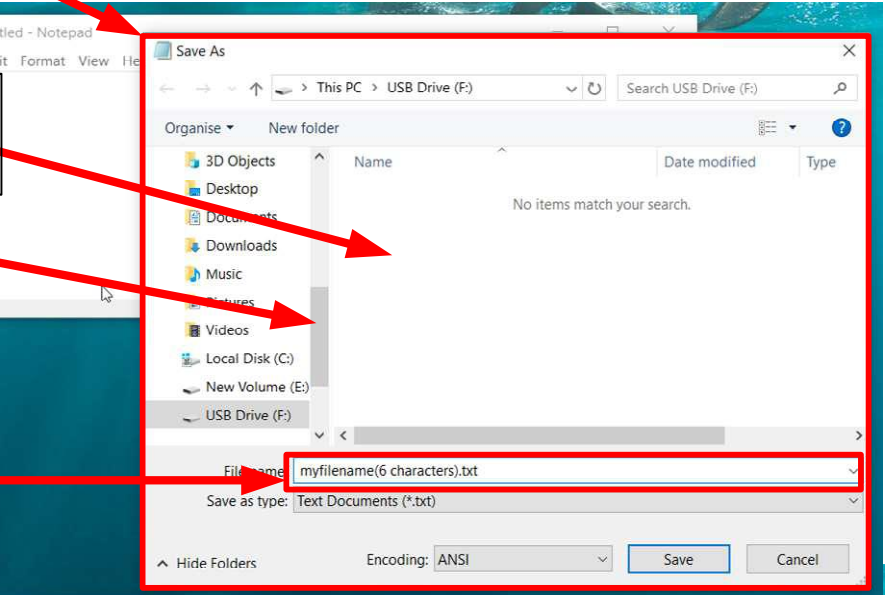
New	Ctrl+N
Open...	Ctrl+O
Save	Ctrl+S
Save As...	
Page Setup...	
Print...	Ctrl+P
Exit	

“Save As” dialogue box opens (from previous page)
You may have to scroll down to find the USB drive (SD card)

There should be NO files here, you should have previously moved or deleted them

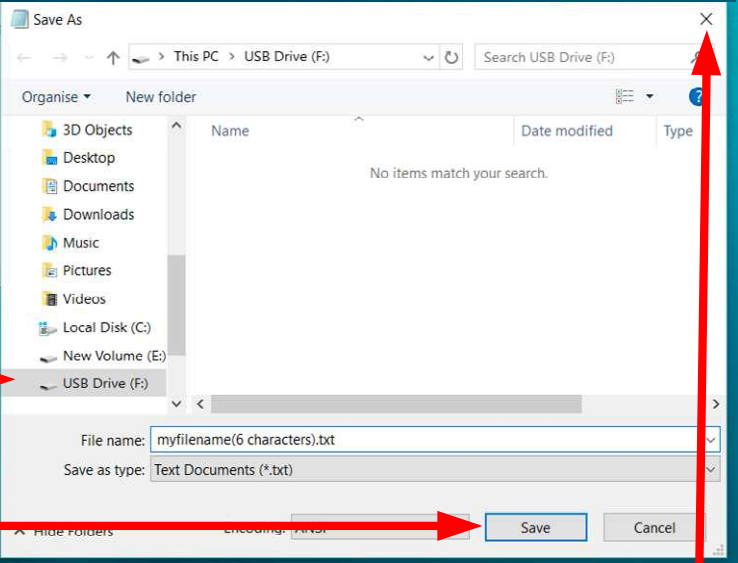
Scroll bar

Type in your seed file name
“myfilename(6 characters max)”
E.g. Trusty
test
trial
horse1
etc.
The file extension may remain as the default “.txt”



Left click on your USB drive

Left click on “Save”



Left click on “X” at the top right of the “Save As” dialogue box to close it

Left click on “X” at the top right of “Note Pad” to close it

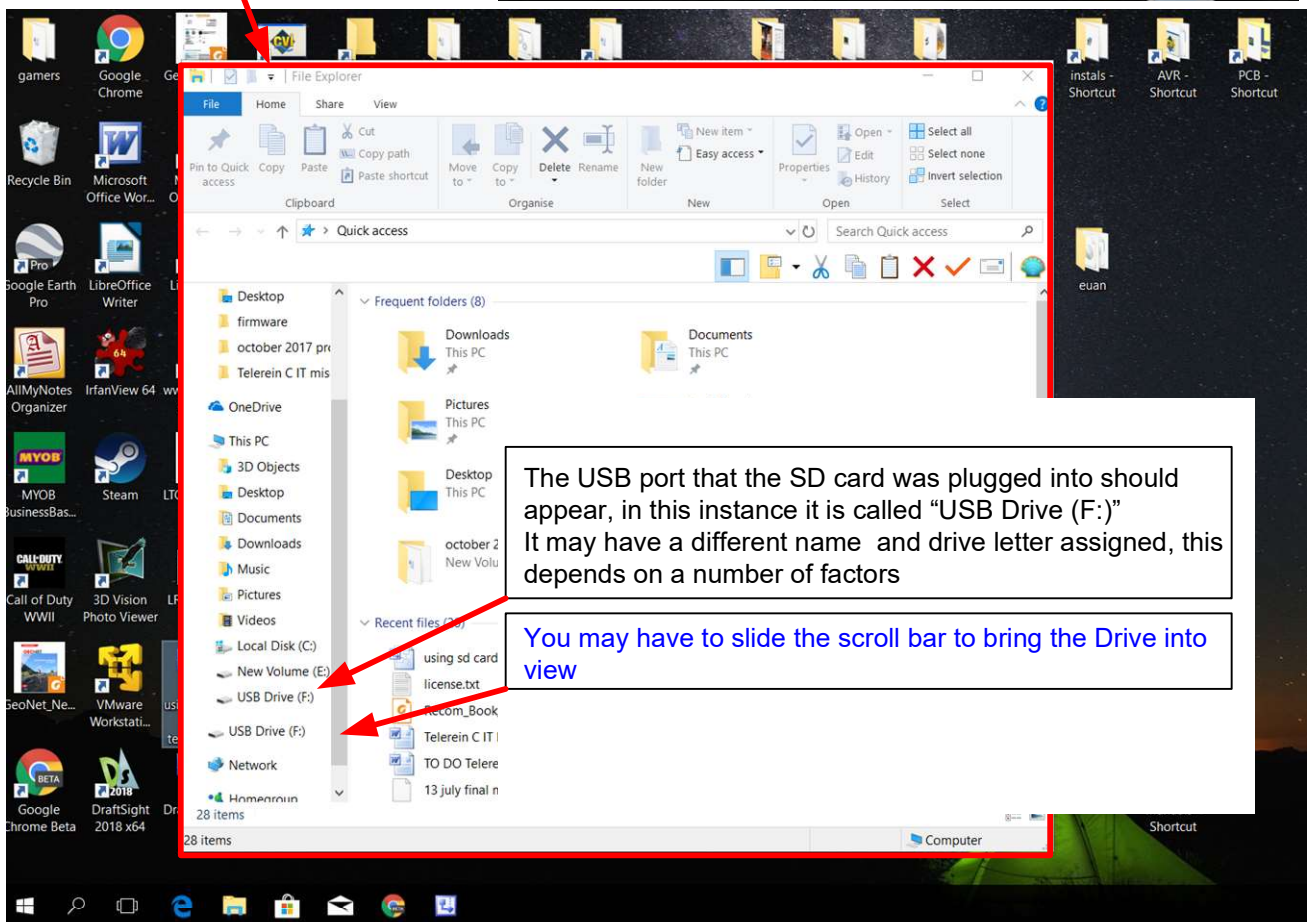
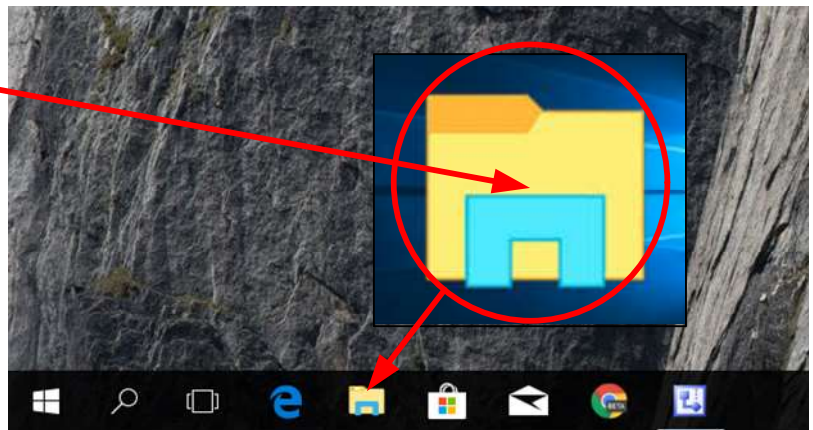
You now have a “seed” file on the Micr SD card.
Now move on to “Closing and Ejecting the Micro SD card”

7. Closing and ejecting the Micro SD card

Now remove the Micro SD card from your PC. It is not just a matter of physically removing it, Windows has a process to go through which closes the Micro SD card, logically removing or “ejecting” it prior to the physical process of doing so.

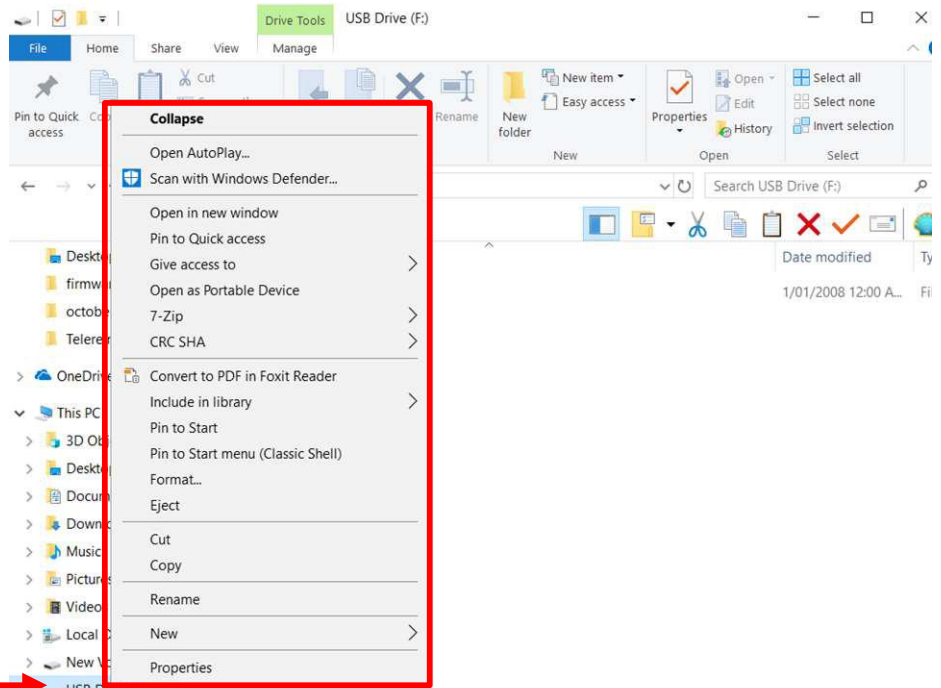
Left click on “File Explorer”
Look for the icon, the location may not be the same as in the image shown here

A “File Explorer” dialogue box appears



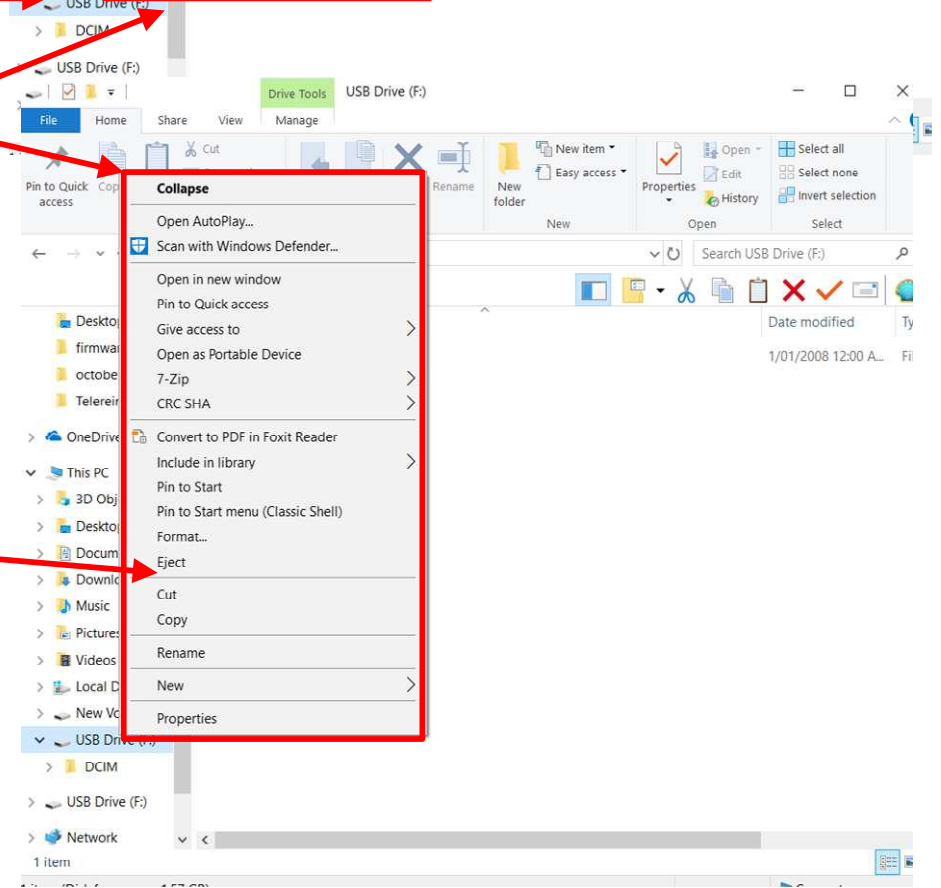
The USB port that the SD card was plugged into should appear, in this instance it is called “USB Drive (F:)”
It may have a different name and drive letter assigned, this depends on a number of factors

You may have to slide the scroll bar to bring the Drive into view



Right click on the USB drive

A dialog box opens



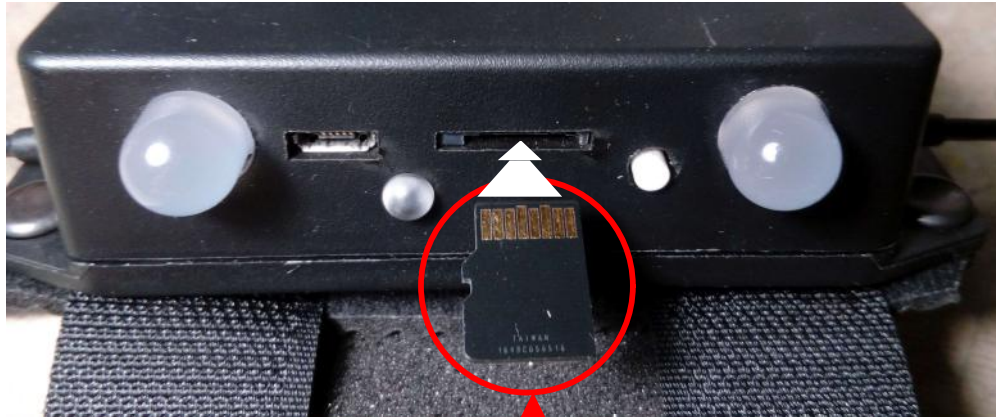
Left click on "Eject"

If a warning appears, click on "continue"
A dialogue box should appear indicating that it is safe to remove your hardware

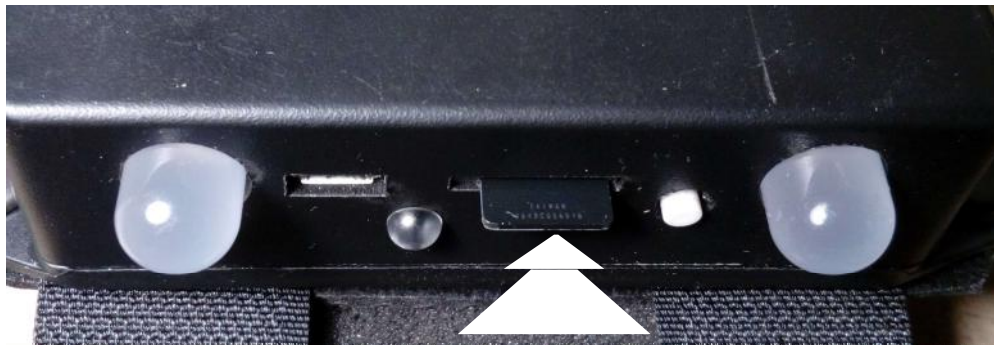
Remove your SD card from the USB port
It is now ready to record data on

8. Installing the SD card in TeleRein.

The card should be inserted into TeleRein prior to putting the unit on the horse, preferably at home. It has a push/push mechanism which locks it firmly in place if installed correctly, nearly flush with the case. See last image.



Micro Sd card, contact fingers upmost



Micro SD card, initial seating, not locked, gently push the card in flush with the case and release.



Micro SD card, in place (note that it is nearly flush with the case)

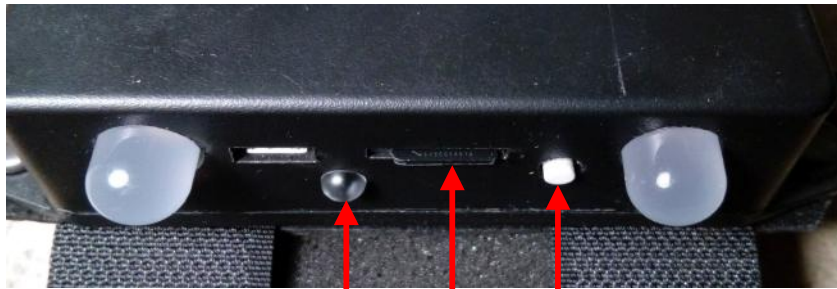
To remove the Micro SD card, gently push and release, and the card should pop out to a position as shown in the second image. From there it can be gripped with your fingers and removed.

9. Using the Micro SD card on TeleRein

TeleRein initialises the card on power up. For that reason, **don't cycle the power** on the unit on and off during a riding session, or it will overwrite existing file names, and data will be lost.

Don't try and record data until TeleRein has initialised, that is once it has gone through a sequence of displaying a colour spectrum on the two large LEDs.

1. When wishing to record data, momentarily press the small round white Push Button (Power switch), and the small LED should light up. It should be green, although it could be yellow if the red light indicating a low battery is also on.



LED SD card Push Button

- NOTE: A short push of the white Push Button Power ON/OFF switch will not turn the power off.
2. If on pushing the white button, the small LED blinks, then there is an error (one of three) that will not allow data to be recorded. These could be,
 1. SD card not inserted, or inserted incorrectly
 2. SD initialisation faulty, the card will be faulty in some way
 3. more than 99 files recordedIf the small LED stays on, then rein tension data is being recorded.
 3. To stop recording, momentarily press the small round white push button again, and the small green LED will go out.
 4. Repeat the process above each time you wish to record data, a new data file is created each time you go through the sequence starting at 1. above.

When the riding session is finished, power TeleRein down. Don't remove the card until you are back home, they are small and easily lost.

10. Using the TeleRein software application to display your data.

Before you can display data, you have to have installed the TeleRein software on your PC. The software must be downloaded from the TeleRein web site, together with its manual. A section at the rear of the manual describes the setup procedure. YOU DO NOT NEED TO INSTALL THE FTDI USB DRIVERS.

Additionally, your TeleRein data must be on C:, your primary drive, in a folder called TeleRein. Details on how to do that are in "5.1 Creating the TeleRein folder in C:"

On starting TeleRein, the following screen should be visible.

The image shows two screenshots of the TeleRein software interface. The top screenshot shows the main window with a sidebar on the left containing buttons for 'Start Logging', 'Stop Logging', 'Load Session', 'Print Session', 'Settings', and 'Exit'. A 'Chart maximum' dropdown is set to 5. A version number '1.2.0.0' is displayed in the top right. A warning dialog box is open in the center, stating 'Comport COM14 is no longer valid. Please check and reset the Comport'. A red arrow points from the 'Settings' button in the sidebar to the 'Settings' dialog box in the bottom screenshot. The 'Settings' dialog box has a blue background and contains sections for 'Available Com Ports' (with a dropdown and 'Select Com Port' button), 'Current Com Port' (set to 'COM14' with a 'Refresh Com Port List' button), 'Chart interval' (set to '120' with a 'Set Interval' button), and radio buttons for 'Metric Units' (selected), 'Imperial Units', and 'TeleRein Units'. There are also checkboxes for 'Older TeleRein firmware files' and 'Logarithmic Axis', and an 'Exit' button at the bottom. Red arrows point from text boxes to various elements: 'Version number 1.2.0.0' points to the top right; 'Click on "OK" to shut down the warning panel' points to the 'OK' button in the warning dialog; 'Left click on "Settings"' points to the 'Settings' button in the sidebar; '"Settings" dialog box opens' points to the top of the 'Settings' dialog; 'Type a value in here (see TeleRein software manual)' points to the 'Chart interval' input field; 'Left click to accept Chart Interval above' points to the 'Set Interval' button; 'Click on "Exit"' points to the 'Exit' button in the 'Settings' dialog.

Version number 1.2.0.0

Click on "OK" to shut down the warning panel

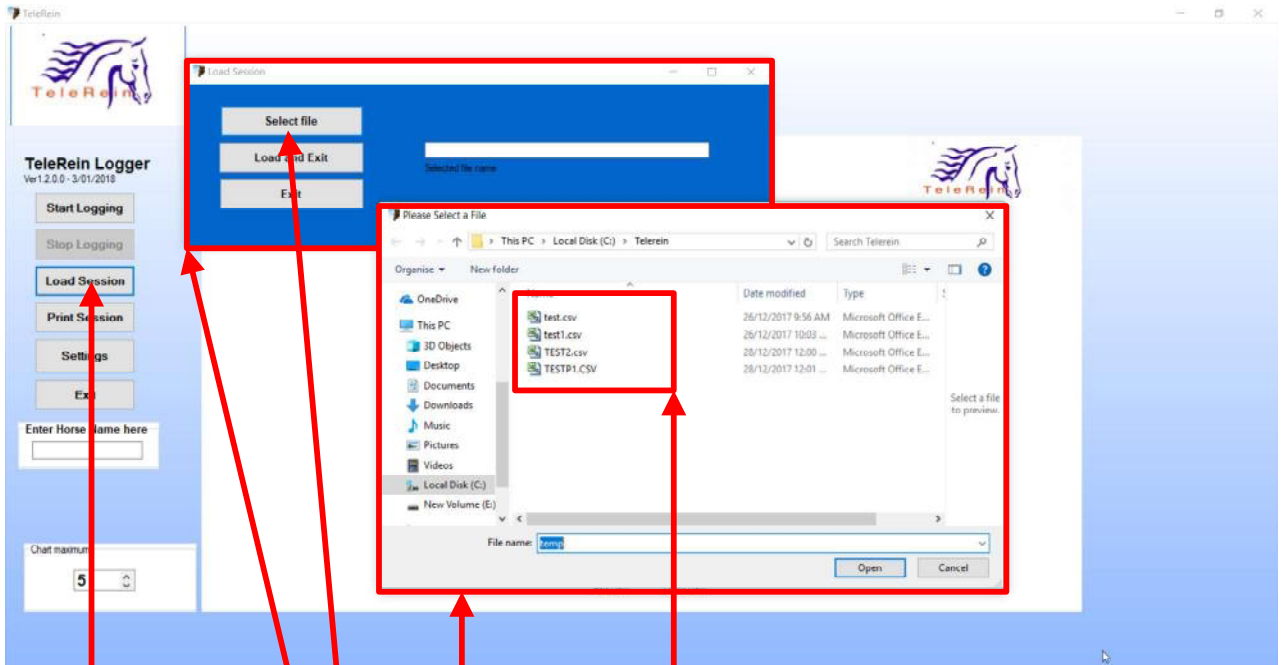
Left click on "Settings"

"Settings" dialog box opens

Type a value in here (see TeleRein software manual)

Left click to accept Chart Interval above

Click on "Exit"



Click on "Load Session"

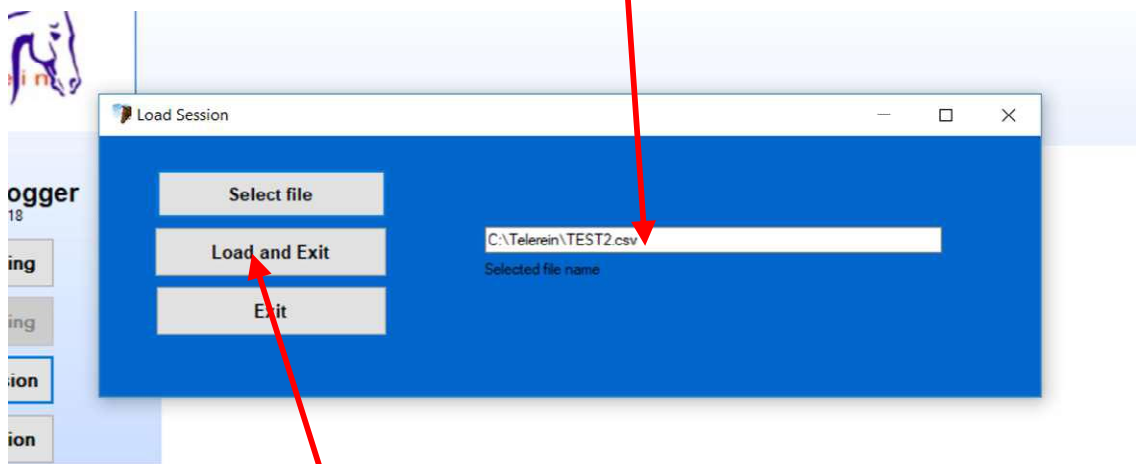
The "Load Session" dialogue box appears

Right click on "Select File"

"Please Select a File" dialogue box opens

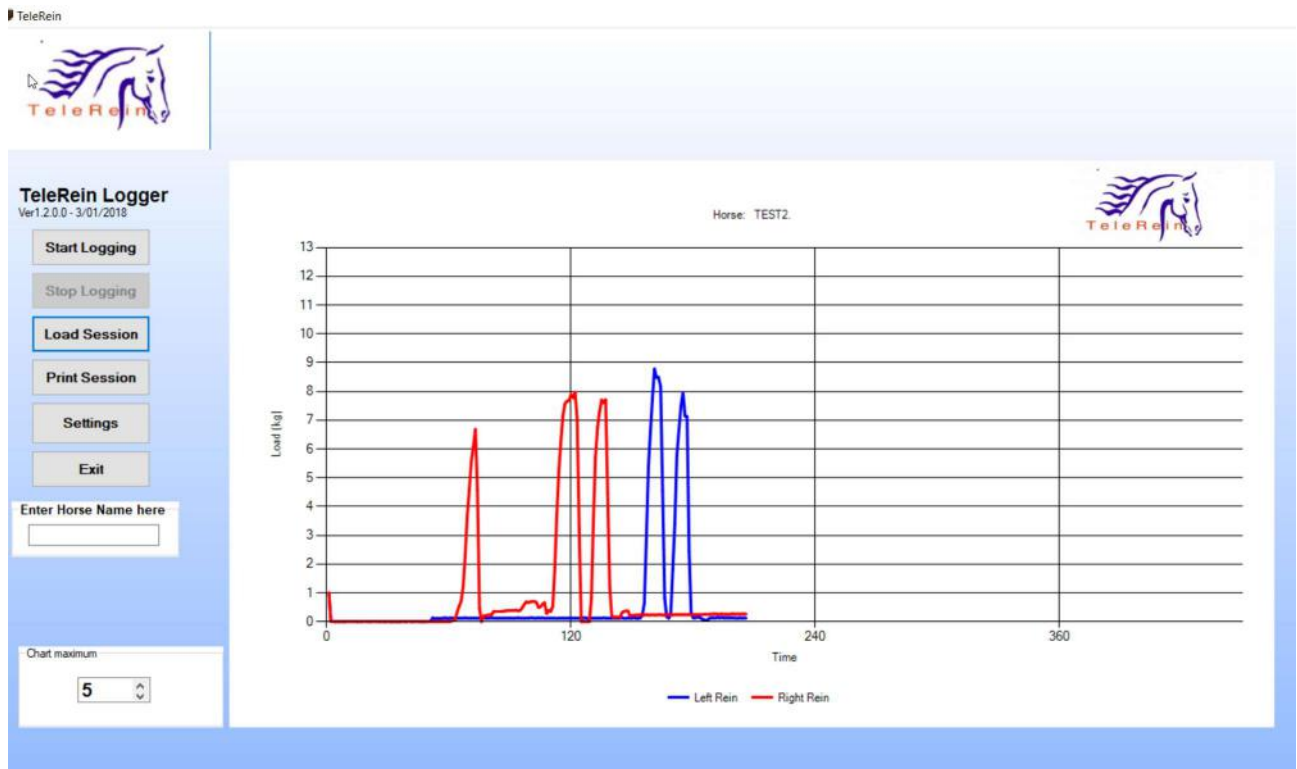
Left click on the file you wish to load into the TeleRein software (TEST2.csv for example)

The selected file appears in the "Load Session" box



Click on "Load and Exit"
And wait

The file is loaded into the application and plotted



11. SD card data and time.

The files on the SD card appear in the following format:

“your file name(up to 6 characters) followed by a number from 1 to 99. CSV”

E.g. test1.csv
test2.csv
etc.

Each file starts with a text header in the first row, with the second and third columns containing the words Right and Left, indicating which column has the rein data in grams.

The second and following rows have the time, in an hh:mm:ss format, followed by the right and left rein tension in grams. The row fields are comma separated. The sampling rate is one second, and the data is not filtered. Note that the internal sampling rate for updating the LED's is 100mSec.

Below is a typical data file, which can be read into Excel or the TeleRein software directly.

The data is at a one second rate, and is in grams.

```
,Right,Left  
00:00:34,0,0  
00:00:35,85,0  
00:00:36,1000,0  
00:00:37,3844,0  
00:00:38,3310,8  
00:00:39,2209,0  
00:00:40,1372,8  
00:00:41,1720,0  
00:00:42,1666,0  
00:00:43,147,0  
00:00:44,23,8
```

The Time starts from when the TeleRein C IT unit is turned on, it is Local time since there is no Real Time Clock in the unit. If you need to know the Real Time, make a note of the time when the unit was turned on, and add the time from the data files to it. For Example, if you start the unit at 3.30pm, and the data file starts at 00:25:00, then the actual time the data started recording was at 15:30:00 + 00:25:00 = 15:55:00, or 3.55pm. This could be useful if you have kept a record of the sessions in a note book or cell phone, for example, and wish to review progress later.