FH01 Raw Data Handling Manual

Version 0.2

The on-device firmware currently supports exporting raw serial data over a USB connection. Please note, raw data from paired tests is saved on the <u>Right side unit only</u> The data is exported and saved as a .csv file The baud rate is 57600

The steps:

- 1. We need a program that can interpret and log an incoming one way data stream
 - a. This manual uses Putty, a generic program for monitoring serial data
 - b. A multitude of other programs can be used if you are familiar with them
- 2. We need to navigate to the data save slot on-device, then select export once everything is set up

1. Download and install Putty from https://www.putty.org/

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Download PuTTY

PuTTY is an SSH and telnet client, developed originally by Simon Tatham for the Windows platform. PuTTY is open source software that is available with source code and is developed and supported by a group of volunteers.

You can download PuTTY here.

2. Find and record the COM port number of each of your devices. -If you already know these, skip to step 3.

2a. Plug in your FH01 unit with the provided USB cable

2b. Open device manager



2c. The port number of your device will look something like this. In this example, it is <u>COM11</u>

ᡖ Device Manager
File Action View Help
✓ L XPS13
> 💐 Audio inputs and outputs
> 嵾 Batteries
> 🚯 Bluetooth
> 👰 Cameras
> 💻 Computer
> 🕳 Disk drives
> 🖙 Display adapters
> 🛺 Human Interface Devices
> 🚠 Imaging devices
> 🔤 Keyboards
> 🧾 Memory technology devices
> II Mice and other pointing devices
> 🛄 Monitors
> 🚽 Network adapters
> 😰 Other devices
> 📕 Portable Devices
Ports (COM & LPT)
Silicon Labs CP210x USB to UART Bridge (COM11)
Standard Serial over Bluetooth link (COM4)
Standard Serial over Bluetooth link (COM5)
💭 Standard Serial over Bluetooth link (COM7)

3. Putty Initial Setup

3a. Change these setting on this first screen

- Serial line: The COM number of your device
- Speed: 57600
- Connection type: Serial
- Enter a name for this device (e.g. "FH01 Left")

PuTTY Configuration		? ×
Category:		
Session Logging Terminal Keyboard Bell Features Window Appearance Behaviour Translation Selection Colours Connection Data Proxy Telnet Rlogin SSH Serial	Basic options for your PuTTY set Specify the destination you want to connect Serial line COM11 Connection type: Raw Ielnet Rlogin SSH Load, save or delete a stored session Saved Sessions FH00.001	ssion t to Speed 57600
	Default Settings FH00.001 FH00.002 FH01.001 FH01.002	Load Sa <u>v</u> e Delete
<u>A</u> bout <u>H</u> elp	Close window on exit: Always Never Only on cle	ean exit <u>C</u> ancel

3b. Go to the "Logging" settings tab

- Session logging: All session output
- Select "Browse" button to choose where the data will be saved

😹 PuTTY Configuration	? ×
Category:	
 Session Logging Terminal Keyboard Bell Features Window Appearance Behaviour Translation Selection Colours Connection Data Proxy Telnet Rlogin SSH Serial 	Options controlling session logging Session logging: None Printable output All session output SSH packets SSH packets and raw data Log file name: putty.log Browse (Log file name can contain &Y, &M, &D for date, &T for time, &H for host name, and &P for port number) What to do if the log file already exists: Always overwrite it Always overwrite it Always append to the end of it Ask the user every time Flush log file frequently Include header Options specific to SSH packet logging Omit known password fields Omit session data
About Help	Open Cancel

3c. In this example, we are saving the data to the desktop.

- Best practice is to use the file name similar to the example below.
- The ampersand (&) symbol will automatically date and timestamp the file, meaning no file will ever overwrite each other
- The .csv file extension means it will automatically open in Excel
- "Force Hooks Device 1 &D&M&Y &T.csv"

Select session log file name	×
\leftarrow \rightarrow \checkmark \uparrow 📜 > This PC > Desktop > Force Hooks Raw (Data 🗸 🖸 🔎 Search Force Hooks Raw Data
Organize • New folder) • ()
Name Name	Date modified Type
Desktop	No items match your search.
➡ Downloads 🖈	
Documents 🖈	
Networks 🖈	
~ <	>
File name: Force Hooks - Device 1 - &D&M&Y &T.csv	×
Save as type: All Files (*.*)	~
▲ Hide Folders	<u>S</u> ave Cancel

3d. Once that is done, head back to the "Session' tab and click "Save"

- Once you've done that, the settings are now saved under the named profile "FH00.001" in this example.
- From now on, we can just double click the saved session and all settings will be automatically applied

😹 PuTTY Configuration		? ×	
Category:			
Session	Basic options for your PuTTY session		
Logging N	Specify the destination you want to connect to		
Keyboard	Serial li <u>n</u> e	Speed	
Bell	COM11	57600	
 Features Window Appearance Behaviour Translation Selection Colours Connection Data 	Connection type: ◯ Ra <u>w</u> ◯ <u>T</u> elnet ◯ Rlogin ◯ <u>S</u> SH	l	
	Load, save or delete a stored session Saved Sessions FH00.001		
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Telnet	FH00.002 FH01.001	Sa <u>v</u> e	
Rlogin	FH01.002	<u>D</u> elete	
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4. Using Putty in normal operation

- 1. Plug in the device through USB
- 2. Open Putty
- 3. Double click on the corresponding saved session. The device may restart at this point, which is completely normal.
- 4. On the device, navigate to the desired save slot under "View Tests"
- 5. Press enter to export the data over usb
- 6. During this process, you should see the raw values being displayed on your PC screen
- 7. After the data has finished exporting, close the session window and the data will be automatically saved to your designed folder

Device start up

****	Force Hooks Testi	ng **********
Practical Iso	metric Testing in	the Weight Room
* * * * * * * * * * * * * *	Dev Ver 3.2	* * * * * * * * * * * * * *
******** htt	ps://www.forcehook	:s.com *******
Se	lf-Test	
Battery Monito	or: Pass	
Battery:	Pass	
ADC:	Pass	
Flash:	Pass	
EEPROM:	Pass	
LCD:	Displaying	
		****settings*****
Threshold:20 calibration Fa	TestDuration:10 actor:859256	Fs:600
new Fs:600 Tare Value = 8	391555	

Screen after exporting a test

Putty	_	×
5979,9.965000,1		
5980,9.966667,1		
5981,9.968333,1		
5982,9.970000,1		
5983,9.971667,1		
5984,9.973333,1		
5985,9.975000,1		
5986,9.976667,1		
5987,9.978333,1		
5988,9.980000,1		
5989,9.981667,1		
5990,9.983333,1		
5991,9.985000,1		
5992,9.986667,1		
5993,9.988333,1		
5994,9.990000,1		
5995,9.991667,1		
5996,9.993333,1		
5997,9.995000,1		
5998,9.996667,1		
5999,9.998333,1		
Max:269 Min:1 Impulse(0-0.2s):2		
End of File		

Future Feature Additions:

- Ability to export all save slot data at once
- Custom PC application to communicate with the device
- Please contact info@forcehooks.com with any feature requests