

Notes on logging data from the Velodyne to a PC

You can use the Velodyne to download ride data to your PC as you are working out. The data can be easily be saved to a file for later analysis.

1. Connect the Velodyne data cable to your PC COM port. You may need a DB25 to DB9 adapter (be sure you get one that uses all of the wires within the DB9...the Velodyne must have pins 4 and 5 of the DB25 connected together in order to work). The cable provided from Velodyne Sports has these pins connected inside. (You may want to remove the plastic cover around the DB25 end that connects to the Velodyne to more easily fit).
2. If you want to use a USB connection instead of the serial port, you will need a serial to USB converter (available from Velodyne Sports). If you use the USB adapter be sure to install the supplied software driver. While it has not been tested yet, you may be able to use the USB to collect data on a Mac.
3. To capture data from the Velodyne, you will also need a terminal emulator program (Hyperterminal for example). Connect the Velodyne to a PC COM port. Configure the terminal program for 9600, 8 bit, no parity, 1 stop bit and select the COM port you used to connect the Velodyne, for a direct connection. If you use USB, this part should be automatic. Start the call.
4. On the Velodyne, go to Set Up and select "Select Data Transmission Time" and enter a number between 1 and 255 (seconds). This is the interval that the Velodyne will capture data over. Select Exercise Mode/Constant Grade on the Velodyne. To test the connection, press "Reset Values", after which a text header should appear on the terminal screen. When you press "Start", data will be sent at the interval you specified in Set Up. Data capture also works in the Race modes.
5. Once you have data transferring, select "Capture Text" in the terminal program. Hyperterminal, for example, will then prompt you for a file name and then will start logging all data as it arrives. When you finish your workout, select "Capture Text/Stop" to save the file.
6. The file you captured will look like this:

TIME	SPEED	DIST	POWER	CADENCE	HEART RATE	GRADE	CALORIES	
0:00:01	17.5		0	251	81	0	2	0
0:00:02	17.0		0	220	78	0	2	0
0:00:03	16.3		0	212	77	0	2	0
0:00:04	16.2		0	189	76	0	2	1
0:00:05	16.1		0	231	80	115	2	1
0:00:06	16.2		0	220	76	116	2	2
0:00:07	16.3		0	218	77	116	2	2
0:00:08	16.3		0	218	77	117	2	3
0:00:09	16.5		0	221	78	118	2	3
0:00:10	16.5		0	223	78	119	2	4
0:00:11	16.5		0	226	78	119	2	4
0:00:12	16.4		0	226	76	120	2	5
0:00:13	16.1		0	226	76	120	2	5
0:00:14	16.3		0	223	77	121	2	6

This will be in a text file. You can easily open this file from Excel where you can graph and analyze the information.

7. If you have problems getting this to work, first recheck the terminal setup. Close and re-launch Hyperterminal. Verify that the Velodyne data transmission time has been set. Use "Reset Values" to send test data.