

oym8CHWave

User Guide

V0.1

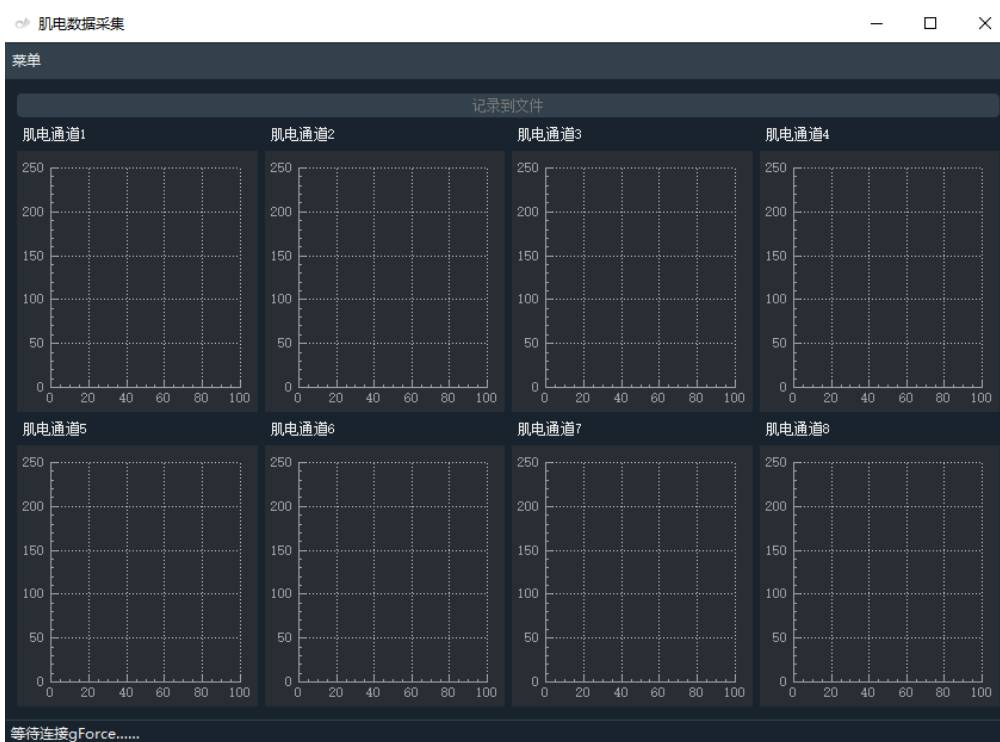
August 6,2020

一、Open oym8CHWave.exe

Insert gForce-Dongle into the USB port of a Windows 10 computer. Run oym8CHWave.exe

☐ 名称

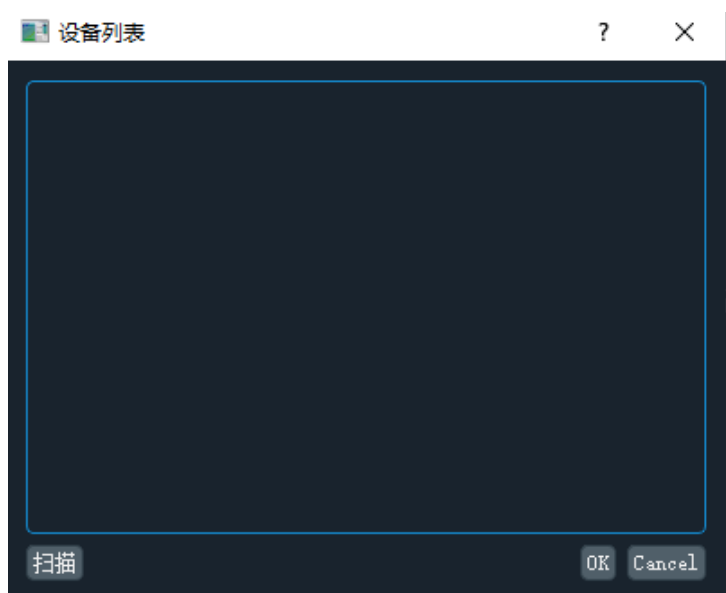
-  bearer
-  iconengines
-  imageformats
-  platforminputcontexts
-  platforms
-  qmltooling
-  scenegraph
-  styles
-  translations
-  virtualkeyboard
-  gforce32.dll
-  gforce64.dll
- ☒  oym8CHWave.exe
-  qt.conf
-  Qt5Core.dll
-  Qt5Gui.dll
-  Qt5Network.dll
-  Qt5Qml.dll
-  Qt5Quick.dll
-  Qt5SerialPort.dll
-  Qt5Svg.dll
-  Qt5Widgets.dll
-  zh_CN.qm



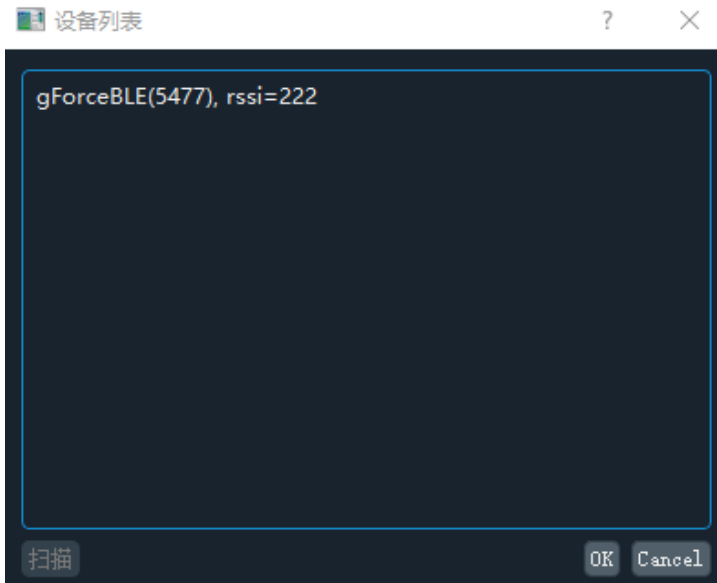
二、Connect gForce-Pro Electromyographic armband or gForce-Oct



点击左上角“菜单”，选择“连接到 gForce”。



Open the gForce Pro or gForce oct power supply (lightly press the button on the device, the green LED light flashes slowly), click the "Scan" button in the bottom left corner of the pop-up "Device List" dialog box to search for the device. If the device cannot be found, you can wait for the "Scan" button to light up and click again. If the problem persists, you can close the program, plug and unplug gForce Dongle, and start from the first step again.



Click to select the device that needs to be connected, and click the 'OK' button below to connect.

Note: This program can only connect to OYMotion's products.

三、Select the number of data bits and sampling rate.



The device supports two ADC sampling modes, 8 bit and 12 bit.

In 12 bit mode, the sampling rate is set to a maximum of 500Hz.

Click the 'OK' button to connect the device.

Under normal circumstances, after a few seconds, the program and gForce successfully establish a wireless connection, and the data is presented in real-time in waveform form on the page.



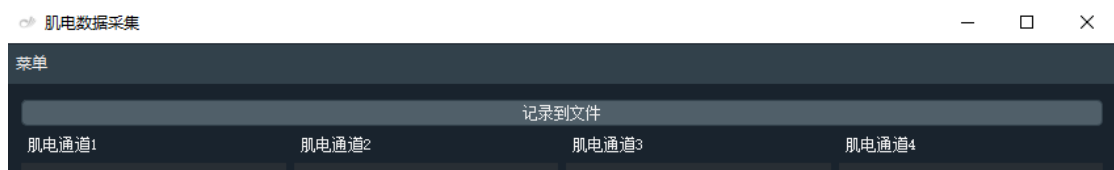
Note 1: When gForce is not worn (sensor suspended), the data is easily affected by the environment, and in this case, the data is invalid. Please ensure that gForce is properly worn.

Note 2: EMG is a very weak bioelectric signal that is highly susceptible to power frequency interference from AC power sources. During data collection, in order to reduce data interference and avoid the risk of electric shock, users are strictly prohibited from using USB charging during use.

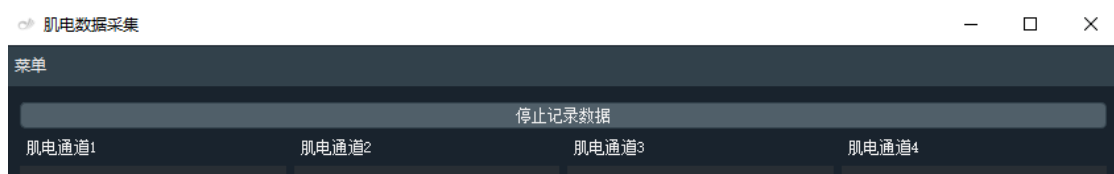
The following figure shows that after wearing gForce, when the muscles are not exerting force, all channels should be close to a straight line (DC level), and the data should be around 120 (this is the offset added during the signal acquisition process, and DC removal is required before use).



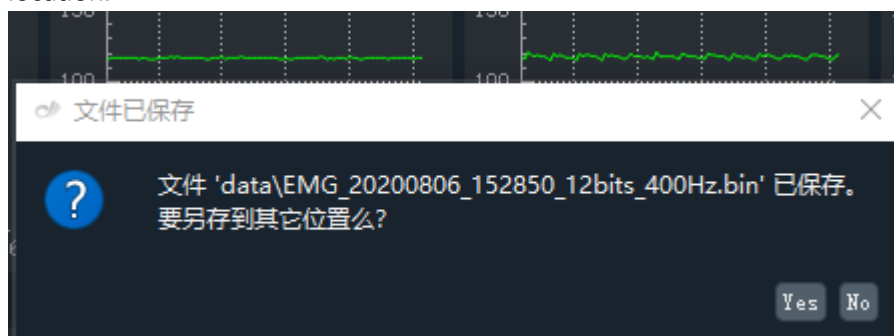
四、Data collection and storage



Click the "Record to File" button above the waveform to start data collection and saving, and the button changes to "Stop Recording Data".



When the user needs to stop data collection, click "Stop Recording Data" and a "File Saved" window will pop up, asking the user if they want to save the data to another location.



Select 'Yes' or 'No' according to actual needs.

Note: The default file is saved in \In the data directory, the file name starts with EMG_, followed by the date and time of collection, followed by the 8-bit or 12bit attribute, and finally the sampling rate attribute.

五、Connect other devices or modify sampling properties.

Click on the "Menu" in the upper left corner, select "Connect to gForce", and the system will ask if you want to disconnect the current connection:



Select 'Yes' to perform device scanning, parameter settings, and wireless device connection again.

If the gForce device cannot be found, please turn off the gForce power (press and hold the button for 5 seconds before releasing), and then turn on the gForce power (tap the button) to search for the device. If the problem persists, gently close the program, plug and unplug gForce Dongle, and run it again.

六、Data format

12bit mode:

00000000	00	01	02	03	04	05	06	07	08	09	0a	0b	0c	0d	0e	0f
00000000	79	07	65	07	6d	07	7c	09	d3	0e	d7	0e	d9	0e	9e	0c
00000010	72	07	50	07	5c	07	7a	08	d9	0e	dd	0e	df	0e	27	0a
00000020	6f	07	5c	07	68	07	6d	03	73	05	00	00	00	00	10	02
00000030	5e	07	53	07	5e	07	1b	04	06	00	01	00	00	00	00	00
00000040	5a	07	4c	07	39	07	f6	04	05	00	00	00	00	00	70	00
00000050	70	07	55	07	89	07	73	06	a2	01	00	00	00	00	f3	05
00000060	74	07	59	07	6f	07	d9	0b	e5	0e	a9	07	bb	05	ce	0e
00000070	71	07	57	07	6f	07	e4	0a	e8	0e	d6	0e	c8	0e	cf	0e
00000080	72	07	5a	07	6f	07	8d	09	e8	0e	d2	0e	c9	0e	76	0c
00000090	6b	07	56	07	68	07	92	08	e8	0e	d8	0e	cb	0e	c7	09
000000a0	71	07	52	07	5b	07	72	03	ac	04	00	00	00	00	74	01
000000b0	5f	07	54	07	5d	07	15	04	07	00	01	00	00	00	00	00
000000c0	56	07	53	07	47	07	ee	04	05	00	00	00	00	00	98	00
000000d0	7e	07	63	07	92	07	bf	06	a1	01	00	00	00	00	9a	06
000000e0	71	07	58	07	6f	07	d5	0b	e3	0e	9e	08	bc	06	de	0e
000000f0	77	07	61	07	71	07	b2	0a	cf	0e	d2	0e	d7	0e	e2	0e
00000100	77	07	62	07	70	07	70	09	cf	0e	d3	0e	d6	0e	69	0c
00000110	64	07	4d	07	5f	07	48	08	e1	0e	e5	0e	e6	0e	bd	09

All channels' data are stored sequentially in 16 bit (word) format. All data are positive numbers.

Channel 0: byte [1], byte [0] forms 16 bit valid data (word), where bit [15:12]=0

Channel 1: byte [3], byte [2] forms 16 bit valid data (word), where bit [15:12]=0

...

Channel 7: byte [15], byte [14] form 16 bit valid data (word), where bit [15:12]=0

Then there are channels 0 to 7, channels 0 to 7

8bit mode:

00000181	00	01	02	03	04	05	06	07	08	09	0a	0b	0c	0d	0e	0f
00000000	76	75	ed	78	75	76	6b	68	76	75	ed	78	75	76	73	8e
00000010	77	75	00	74	75	76	86	85	76	73	00	6e	75	76	7a	7b
00000020	76	74	00	6e	75	76	74	76	76	75	00	72	75	77	74	74
00000030	76	75	ed	87	77	77	71	66	76	75	ee	7e	76	77	6c	65
00000040	76	75	ed	78	75	77	6c	69	77	75	ee	78	75	76	75	8e
00000050	77	75	00	74	75	76	85	84	76	73	00	6e	75	76	79	7a
00000060	77	76	00	6f	75	76	74	76	76	75	00	72	75	76	74	74
00000070	76	75	ee	87	76	76	71	65	75	75	ed	7e	76	77	6b	65
00000080	76	75	ed	78	75	76	6b	68	76	74	ed	78	75	76	79	8e
00000090	77	75	00	74	75	76	84	83	77	74	00	6d	74	76	78	79
000000a0	76	75	00	6f	75	76	74	75	76	76	00	73	75	76	73	73
000000b0	76	75	ed	87	77	77	71	66	75	75	ee	7d	76	76	6a	65
000000c0	76	75	ee	79	76	76	6b	69	77	75	ed	78	75	76	7b	8e
000000d0	77	75	00	74	75	77	84	84	77	74	00	6e	75	76	78	79

All channels' data are stored sequentially in 8-bit format. All data are positive numbers.

Channel 0: byte [0] forms 8-bit valid data.

Channel 1: byte [1] forms 8-bit valid data.

...

Channel 7: byte [7] forms 8-bit valid data.
Then there are channels 0 to 7, channels 0 to 7