App Guide
Gait Phase Feedback 1

SageMotion
Wearable Biofeedback System

Table of Contents

Components

Hub

Nodes *(8x)*

Battery

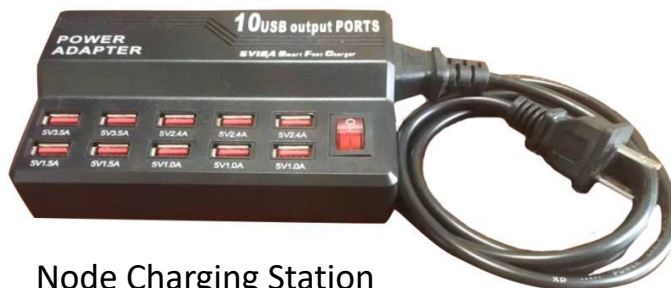Node Straps: *Medium (8x), Short (4x), Long (2x)*

Cable A *(10x)*
-Connect Hub to Battery
-Charge Nodes & Battery

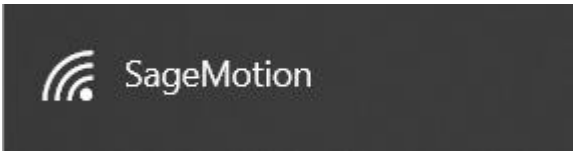Cable B *(optional use)*
-Connect Hub to Computer

Node Charging Station

Wirelessly Connect to Computer or Cellphone

## 1) Connect Cable A to Battery and to Hub

2) On Computer/Cellphone, Connect to Wi-Fi: "SageMotion"

Note 1: Need to wait for up to 1 minute for "SageMotion" to appear in Wi-Fi list. If it doesn't appear, try turning the Wi-Fi off and then on again on the computer/cellphone.

Note 2: Hub is connected after clicking "Connect" even if in Windows it shows "Connecting" or "No internet, open".

3) On Computer/Cellphone, in Chrome Address Bar, Go To http://192.168.12.1
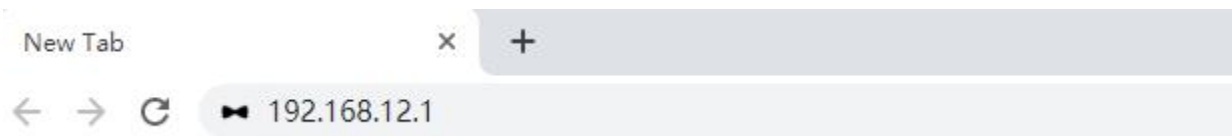
[Note] If Computer Doesn't Have Wi-Fi: *plug in Cable B to the Hub and to the ethernet port of your computer, then in chrome address bar, go to **http://192.168.137.1***

Gait Phase Feedback 1 App

The purpose of the Gait Phase Feedback 1 App is to measure gait phase of both feet and provide feedback during stance.
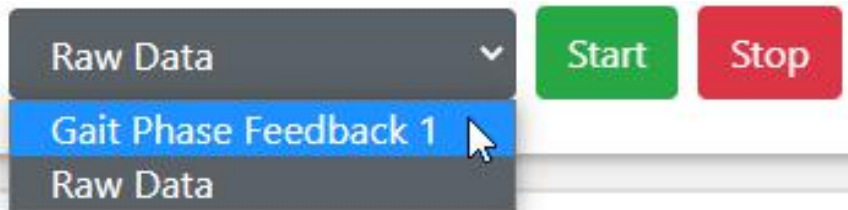
1) Turn on 4 Nodes

Slide switch toward middle to turn node on

Green light will blink after the node is on and running

2) Select "Gait Phase Feedback 1" App

3) Click "Search"

4) Configure 2 Sensor Nodes and 2 Feedback Nodes as Shown Below:

Node List   Search   Connect

Type	Position	MAC	
sensor	foot_left	88:6B:0F:E1:D8:9E	.ıll
sensor	foot_right	88:6B:0F:E1:D8:A6	.ıll
feedback	shank_left	88:6B:0F:E1:D8:9F	.ıll
feedback	shank_right	88:6B:0F:E1:D8:96	.ıll

5) Click "Connect"

Node List   Search   Connect

6) "Ready to collect data" Will Appear after Node Connection is Complete

Gait Phase Feedback 1   ∨   Start   Stop   ✔ *Ready to collect data*

Gait Phase Feedback 1 App *(cont.)*

7) Thread Straps through Nodes and Attach at Locations Shown Below:

How to Thread Straps

For both foot sensor nodes, the on/off switch points away from the body

[Note] It is recommended to place the feedback nodes at the ankles as shown in the figure above, but they can be placed at any desired location

8) Click "Blink" for each Node to Confirm Correct Locations (red LED for given node blinks 3 times on click)

Type	Position	MAC			
sensor	foot_left	88:6B:0F:E1:D8:9E	.ıl	▬	Blink
sensor	foot_right	88:6B:0F:E1:D8:A6	.ıl	▬	Blink
feedback	shank_left	88:6B:0F:E1:D8:9F	.ıl	▬	Blink
feedback	shank_right	88:6B:0F:E1:D8:96	.ıl	▬	Blink

9) In App Configuration, Enter Settings (Example Below)

App Configuration

Trial Name	trial_1

Feedback Setting

Left Foot Feedback On?	true
Right Foot Feedback On?	true
When to Give Feedback?	Early stance
Feedback Pulse Length (sec)	0.5

Save Options

Save Mode	xlsx

Gait Phase Feedback 1 App *(cont.)*

10) Click "Start" to Start Running the App

11) After the Trial is Finished, Click "Stop"

12) After Clicking "Stop", a File from that Trial will Appear under Download Data. Click the File (e.g. trial1) to Download it to the Computer or Phone.

Data Management

	Name	Date▲	Duration	App	Type	Size	Rename	Delete
☐	trial1	2021-12-12-11-39-18	0:00:18	Gait Phase Feedback 1	.xlsx	2.3 MB	✎	🗑

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Description of Data in Downloaded File

time (sec): time since trial start

Step_Count_Left: left foot steps

Gait_Phase_Left : gait phase of left foot. 0 is "Early stance"; 1 is "Middle stance" ; 2 is "Late stance"; 3 is "Swing"

Step_Count_Right: right foot steps

Gait_Phase_Right: gait phase of right foot . 0 is "Early stance"; 1 is "Middle stance" ; 2 is "Late stance"; 3 is "Swing"

Feedback_Left: feedback status for left foot. 0 is "feedback off"; 1 is "feedback on"

Feedback_Right : feedback status for right foot. 0 is "feedback off"; 1 is "feedback on"

SensorIndex_1/2: index of raw sensor data

AccelX/Y/Z_1/2 (m/s^2): raw acceleration data

GyroX/Y/Z_1/2 (deg/s): raw gyroscope data

MagX/Y/Z_1/2 (µT): raw magnetometer data

Quat1/2/3/4_1/2 : quaternion data

Sampletime_1/2: timestamp of each sensor

Package_1/2: package number of each sensor