


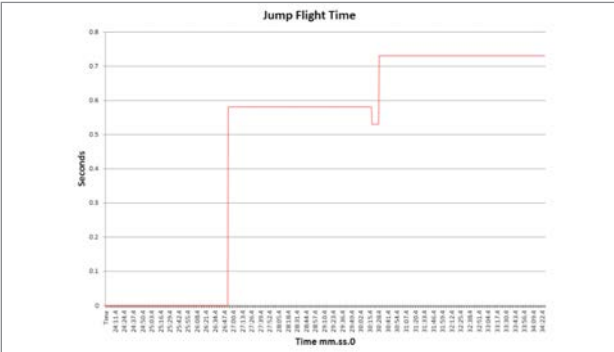
APPENDIX 4

BioModule Log Data Parameters (44/53)

Average Step Period

Log Format	Enhanced Summary
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	1 Hz
Sample Data	0.655, 0.651, 0.647...
Range	0 - 1023
Units	Seconds
Invalid Value	None specified.
Sample Graph	
Notes	Time duration of a step, averaged over previous 10 steps. Zero if no steps detected for 5 seconds.

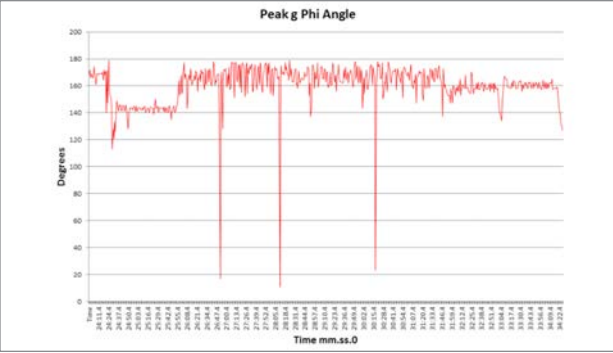
Jump Flight Time

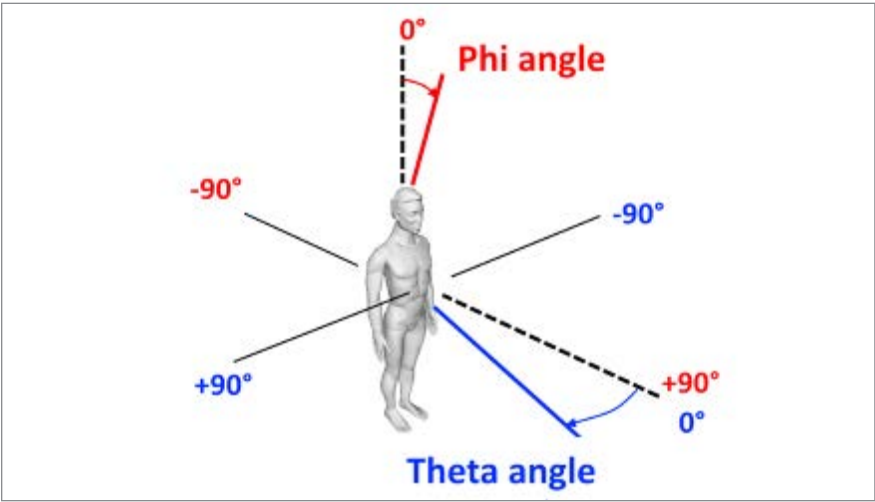
Log Format	Summary & Enhanced Summary
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	1 Hz
Sample Data	0, 0, 0.58
Range	0 - 255
Units	Seconds
Invalid Value	None specified
Sample Graph	
Notes	Last known value repeated until a new jump is detected.

APPENDIX 4

BioModule Log Data Parameters (45/53)

Peak Acceleration Phi Angle

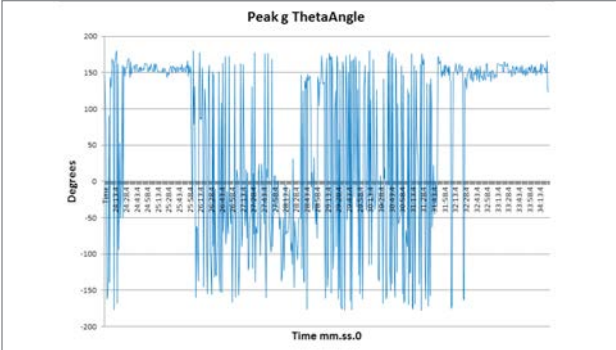
Log Format	Enhanced Summary
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	1 Hz
Sample Data	167, 154, 72
Range	0 – 180
Units	Degrees from vertical
Invalid Value	None specified
Sample Graph	
Notes	Direction of peak magnitude from vertical during previous epoch

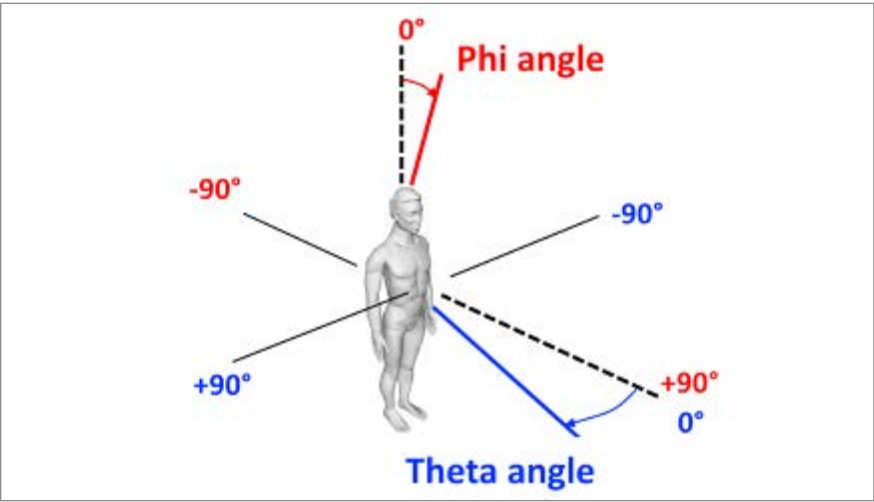


APPENDIX 4

BioModule Log Data Parameters (46/53)

Peak Acceleration Theta Angle

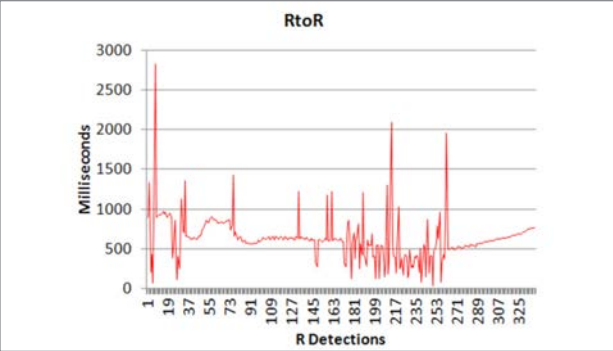
Log Format	Enhanced Summary
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	1 Hz
Sample Data	167, 154, 72
Range	-180 to +180
Units	Degrees from subject heading
Invalid Value	None specified
Sample Graph	
Notes	Direction of peak magnitude from horizontal (zero as shown below) during previous epoch.



APPENDIX 4

BioModule Log Data Parameters (47/53)

Heart R-R

Log Format	Summary & Enhanced Summary
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	Per R detection
Sample Data	891, 904, 1332...
Range	0 - 32767
Units	Milliseconds
Invalid Value	
Sample Graph	
Notes	R events are not timestamped. If necessary, a timestamp can be created by initializing the first detection at the time indicated by the file name, and accumulating RR values to this baseline.

APPENDIX 4

BioModule Log Data Parameters (48/53)

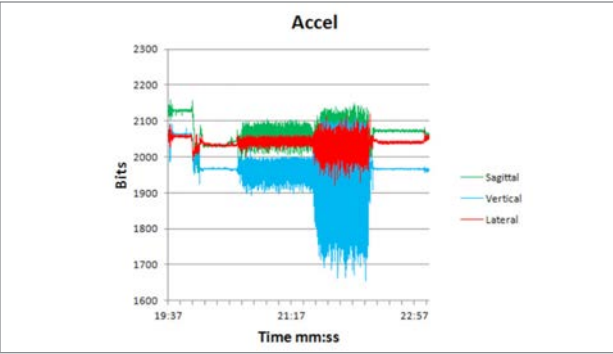
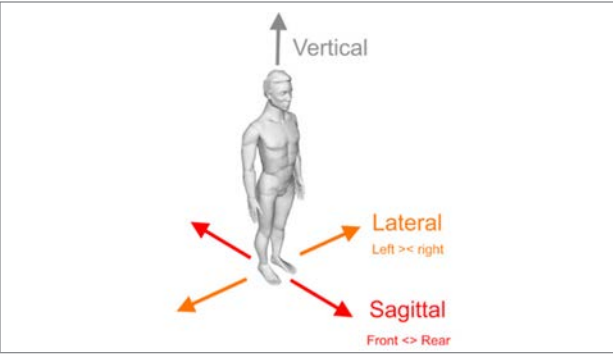
Breath B-B

Log Format	Summary & Enhanced Summary
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	Per breath detection
Sample Data	6000, 2300, 2460...
Range	
Units	Milliseconds
Invalid Value	
Sample Graph	
Notes	<p>Breath events are not timestamped. If necessary, a timestamp can be created by initializing the first detection at the time indicated by the file name, and accumulating BB values to this. BB detections are unfiltered, so values outside the 850 – 15000 range generated by a breathing rate of 4 – 70 breaths/minute can be expected.</p>

APPENDIX 4

BioModule Log Data Parameters (49/53)

Accel

Log Format	Summary & Waveform
	Enhanced Summary & Waveform
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	100 Hz
Sample Data	2061, 2063, 2063...
Range	0 - 4095
Units	
Invalid Value	4095
Sample Graph	<div><div>Accel</div></div>
Notes	<p>Raw 12 bit unfiltered accelerometer output, a separate value for each axis. Axes refer to subject orientation, if device is configured for the appropriate garment type.</p> <p>Centered at 2048, 1 g = 83 bits</p> <div></div>

APPENDIX 4

BioModule Log Data Parameters (50/53)

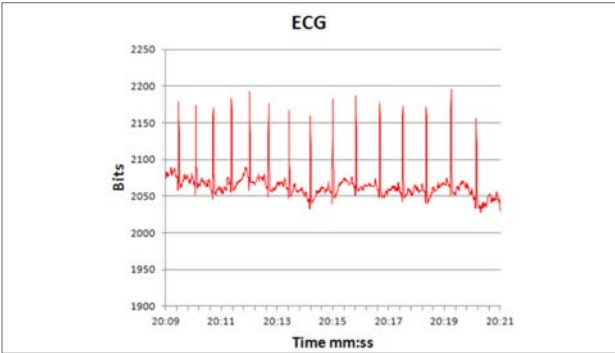
Breathing Waveform

Log Format	Summary & Waveform
	Enhanced Summary & Waveform
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	25 Hz
Sample Data	7506772, 7490787, 7490787...
Range	1 - 16777215
Units	Bits
Invalid Value	0, 16777216
Sample Graph	<div> <div>BreathingWaveform</div> </div>
Notes	A 24-bit un-calibrated representation of the breathing sensor output

APPENDIX 4

BioModule Log Data Parameters (51/53)

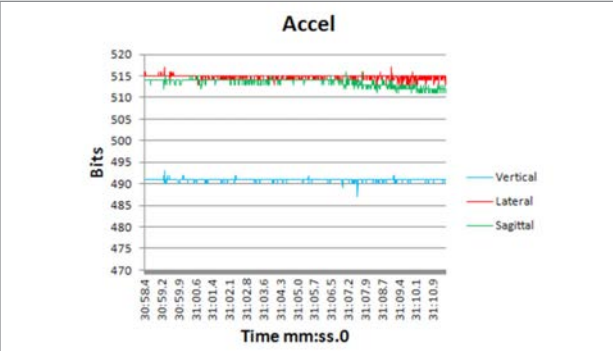
ECG

Log Format	Summary & Waveform Enhanced Summary & Waveform
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	250 Hz
Sample Data	2167, 2167, 2166...
Range	0 - 4095
Units	Bits
Invalid Value	4095
Sample Graph	
Notes	A 12-bit filtered ECG sensor output 1 bit = 0.0067025 mV (indicative)

APPENDIX 4

BioModule Log Data Parameters (52/53)

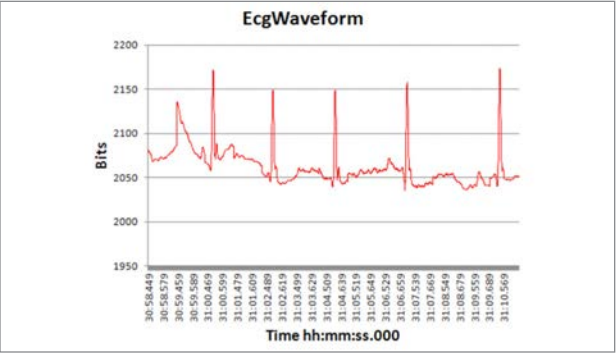
Accel

Log Format	Summary & Development
	Enhanced Summary & Development
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	100 Hz
Sample Data	491, 516, 514...
Range	0 - 1023
Units	Bits
Invalid Value	1023
Sample Graph	
Notes	Raw 10 bit unfiltered accelerometer output. Axes refer to subject orientation, if device is configured for the appropriate garment type. The 12-bit resolution of Accel in the Summary & Waveform log format is reduced to 10-bit to provide additional space. Values are centered on 512 bits, 1g = 20.75 bits

APPENDIX 4

BioModule Log Data Parameters (53/53)

ECG

Log Format	Summary & Development
	Enhanced Summary & Development
Timestamp	DD/MM/YYYY hh:mm:ss.000
Reporting Frequency	1000 Hz
Sample Data	2167, 2167, 2166...
Range	0 - 4095
Units	Bits
Invalid Value	4095
Sample Graph	
Notes	<p>A 12-bit filtered ECG sensor output</p> <p>1 bit = 0.0067025 mV indicative</p>

APPENDIX 5

Security Advice (1/2)

Theft & Hacking

- Theft of and hacking into desktop PCs, laptop, tablets and mobile phones is a legitimate concern.
- There are a number of steps which can be taken to protect and prevent access to sensitive data held on any of these devices.

Desktop and Laptop Computers



- Lock your computer with a strong and unique password.
- Safeguard all passwords. Use a password manager. Change passwords regularly. Don't have them written down near your computer.
- Consistently lock your screen when you step away.
- Encrypt your hard drive - there are many 3rd party software options which can do this.
- Regularly back up your encrypted hard drive to another location.
- Keep your antivirus software, and operating system up to date.
- When online, don't open files or follow hyperlinks unless you are confident they are legitimate.
- When floating your mouse cursor over a hyperlink, its destination should appear in a tool tip at the bottom left of your browser window, showing the destination without you clicking on the link.



- Enable a firewall. All current Microsoft™ Windows™ versions - post XP - have a built-in firewall.
- Adjust the privacy and security settings of your chosen web browser. Browser Help will guide you through this. There are privacy-focussed browsers available as alternatives to the mainstream browsers in common use.
- Consider using a VPN (Virtual Private Network) internet connection. There are many free and low-cost options available. They will offer encrypted internet connections via intermediary servers.

APPENDIX 5

Security Advice (2/2)

Mobile Devices



- Lock your phone with a PIN, password or fingerprint detection. Set the password lock to be short (i.e. 30 seconds)
- Encrypt your phone - only necessary for older phones. Current iOS™* and Android™* phones already employ data encryption, though this may not apply to the phone's SD Card by default. Check your phone's security settings.
- Set up remote wipe and phone location. These services are available from all major phone manufacturers and will be available in the phone's settings or a pre-installed application.
- Back up your phone data to its associated cloud service.
- Avoid 3rd-party apps stay with Google Play™* apps for Android™* phones, and if an app requests access to too much data, then reject it. Check app reviews for integrity.
- Beware of phishing texts and emails - most are obvious and can be deleted without opening, but remain alert to their possibility.
- Avoid jail breaking or rooting your phone - this bypasses the phone's intended security protection.
- Use public Wi-Fi carefully.
- Download anti-malware software for your device.

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