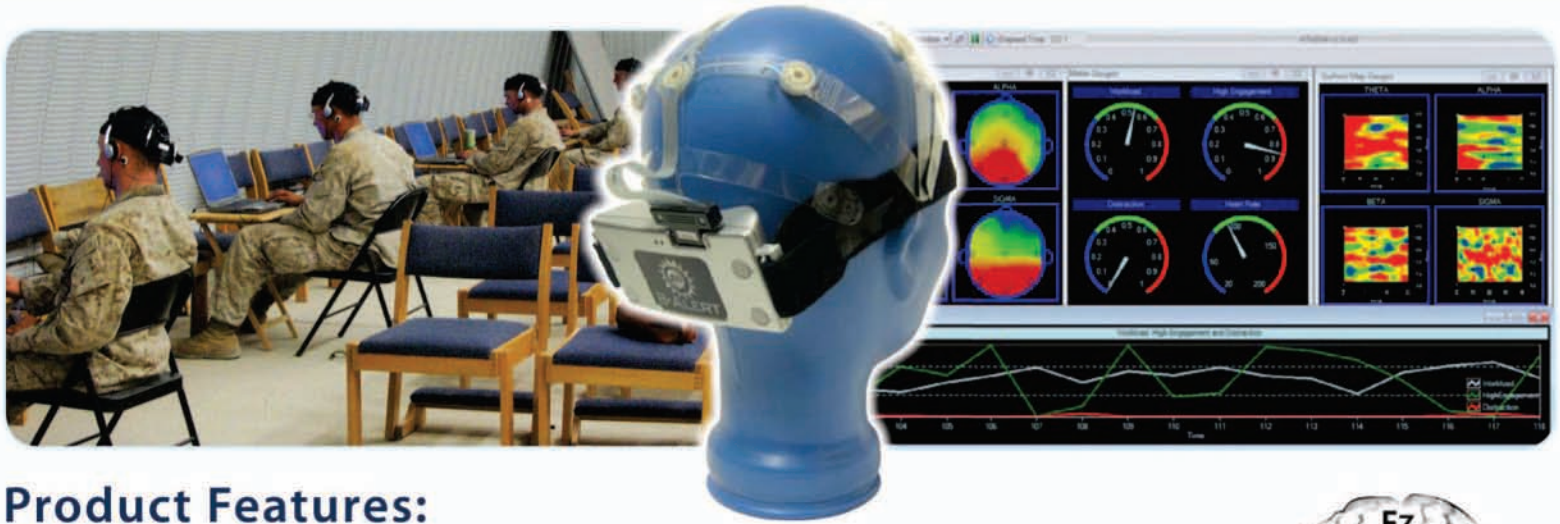


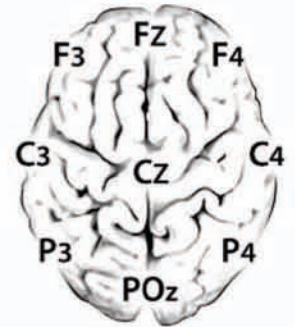
# B-ALERT<sup>®</sup> X10



## Product Features:

- Nine channels of high fidelity EEG plus one programmable gain channel
- Wireless signal acquisition and transmission up to 10-meters
- On-board accelerometer quantifies head movement & position
- Comfortable and non-intrusive; set up in less than 5 minutes
- Data quality monitoring and feedback simplifies acquisition for non-technical personnel
- Patented real-time artifact decontamination and classification algorithms
- Real-time objective metrics of engagement, distraction, drowsiness, workload and heart rate
- Neurocognitive assessment of susceptibility to effects of sleep deprivation and sleep apnea
- Multiple options for data synchronization with simultaneous acquisition for up to six users
- SDK option available; compatible with BCI2000<sup>®</sup> and Matlab<sup>®</sup> software platforms

*B-Alert X10  
Electrode sites*



*Conventional  
EEG cap &  
electrodes*





- Comfortable and non-intrusive; set up in less than 5 minutes
- Wireless acquisition of 9 channels of high fidelity EEG plus ECG, head movement & position
- Data quality monitoring and feedback simplifies acquisition for non-technical personnel
- Patented real-time artifact decontamination and classifications for engagement, confusion/distraction, drowsiness, workload and stress

## SPECIFICATIONS

### Hardware

Channels	9 EEG with fixed gain referenced to linked mastoids 1 auxiliary differential channel with programmable gain
Sampling rate	256 samples/second
Dynamic range	Fixed gain $\pm 1,000 \mu\text{V}$
Resolution	16 bit, CMRR 105 dB
Bandpass characteristics	0.1 Hz and 65Hz (at 3dB attenuation)
Noise	$\sim +1.5 \mu\text{V}$ @ 10 Hz and 50 k $\Omega$ impedance
Head movement/position	Angles obtained with 3D 12-bit accelerometer
RF Band	2.4 to 2.48 GHz (ISM band)
Transmission mode	Bi-Directional with B-Alert BT – USB dongle
Data transmission range	$\sim 10$ meters, line of sight with onboard antenna
Transmission power	$\sim 1$ mW
System power consumption	$\sim 40$ mA @ 3.7 V
Battery capacity	Standard 2 x Li-ION batteries - 500 mAH, 12-hours of continuous use Optional 4 x Li-ION batteries - 1000 mAH, 24-hours of continuous use
Battery charging	Internally charged with custom cable and USB wall charger
On-line impedance monitoring	Initiated by host computer using bi-directional link
Head unit dimensions	Size: 5'(L) x 2.25" (W) x 1" (H); Weight: 0.11 kg with standard battery
User control	On/Off
Indicator LEDs	Green - wireless synced, Red – on but not synced

### Software

Compatibility	Windows 7 and XP, PC with 2.0 GHz or higher processor 1 GB of RAM
Estimated file size per minute	$\sim 45$ KB/Min/channel

### Sensor Headset & Accessories

Sensor sites	Fz, F3, F4, Cz, C3, C4, POz, P3, P4
Sensor strips	Streamline – medium; Standard – small, medium and large Medium = Nasium to Inion $\sim 36$ cm
Electrode cream	Highly conductive, electrolytes and preservatives in non-ionic, hypoallergenic base, buffered to skin pH

