DryWired Emotiv Insight 5-Channel/Sensor and Epoc+ 14-Channel/Sensor Lightweight Mobile Wireless EEG (Electroencephalogram) 'Brainwear' Headset Systems for High-Speed, Low-Drag Brain Wave Monitoring: Can They be Integrated with a Military Ballistic Combat Helmet?

defensereview.com/drywired-emotiv-insight-5-channelsensor-and-epoc-14-channelsensor-lightweight-mobile-wireless-eeg-electroencephalogram-brainwear-headset-systems-for-high-speed-low-drag-brain-wave-monitoring/

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The EMOTIV Insight uses a proprietary polymer sensor that is safe to use and offers great electrical conductivity with the convenience of a dry sensor. A new kind of hydrophilic polymer biosensor system eliminates the need for extensive preparation and conductive materials like gels or saline solution, by absorbing moisture from the environment.



Revolutionary design meets groundbreaking technology

EMOTIV Insight is the only device in its category that offers 5 EEG sensors + 2 reference sensors. This high spatial resolution provides in-depth information on your brain activity. Leveraging years of science-backed research and experience to create the next generation Brainwear®, Insight features an elegant, lightweight and user-friendly design. The most technically advanced and credible consumer EEG device on the market.

Features:



– Elegant, lightweight, intuitive, ergonomic design
– Provides high spatial resolution ensuring 'whole brain' measurement
– Hydrophilic Polymer Sensor technology – No preparation, safe and no sticky gels!
– Wireless connectivity to phone, tablet and PC
– 4 hrs minimum battery run time, freeing you to maintain continual performance in almost any activity
– 9 axis motion sensors for precision measurement of head position and movement
– Windows, OSX, Linux, Android, and iOS compatible
– Provides access to raw EEG data with software subscription
– Leverage Performance Metrics, Mental Commands and Facial Expressions

Technical Specifications:



Signals
– 5 channels: AF3, AF4, T7, T8, Pz
– 2 references: In the CMS/DRL noise cancellation configuration
Signal resolution
– Data transmission rate: 128 samples per second per channel
– Minimum voltage resolution: 0.51μV least significant bit
– Frequency response: 1-43Hz
Connectivity
– Wireless: Bluetooth 4.0 LE
– Proprietary wireless: 2.4GHz band with purchase of EMOTIV USB Receiver accessory for connectivity with non BTLE compatible devices
Power
– Battery: Internal Lithium Polymer battery 480mAh
– Battery life: 4 hours minimum run time

– Proprietary wireless: 2.4GHz band

Power

– Battery: Internal Lithium Polymer battery 640mAh
– Battery life: up to 12 hours using proprietary wirelss, up to 6 hours using
– Bluetooth® Smart"

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All embedded DefenseReview.com (DR) photos and videos were shot by DR with an Apple iPhone 6s Plus smartphone still/video camera.

Related Articles:

DryWired Defense Protective Nanocoatings, or 'Surface Modification Chemistries' for Waterproofing and Insulating Electronics, Glass, Fabric/Textiles and Metals! (Videos!)

DryWired Defense NanoArmor Advanced Rifle Plates with Carbon Nanotube Technology: Anti-Rifle Ballistic Hard Armor (Nanocomposite Armor) with 'Almost No Backface Deformation Signature'! (Video!)

Will TALOS (Tactical Assault Light Operator Suit)-Outfitted Future Soldiers Get Lightweight Abalone Shell-Based Flexible Scalar Biomimetic Metal Foam, Carbyne (Linear Acetylenic Carbon) and/or Multilayer Graphene Ballistic Armor Composites?

Tactical Assault Light Operator Suit (TALOS) + FlyBoard Air Ducted-Fan Hoverboard = Flying Super Soldiers: Future Military Special Operations Forces (SOF) Assaulters/Operators to Fly Themselves to the Target in Exo-Armor 'Iron Man'-Type Combat Suits?

Revision Multi-Use Bump Shell/Modular Ballistic Combat Helmet with Skeletonized Accessory Rail Mount System! (Photos!)

Ops-Core FAST Ballistic Helmet (Crye MultiCam Camo Pattern?) Military Combat Helmet with FAST-ARC Accessory Rail Connectors and Head-Loc Chinstrap Retention System Going Operational in Afghanistan with U.S. Army Special Forces: FAST Helmet Demo Video, and Contour HD Tactical Helmet Cam (Camera) Photos!

B-TEMIA/Revision Military Prowler Human Augmentation System (HAS): Combat Exoskeleton Makes the Future Soldier Stronger, Faster, Better

Super-Human Future Super Soldiers Scare Vlademir Putin, So Maybe They Should Scare US, Too

Back in 2016, DefenseReview (DR) reported on DryWired Defense's NanoArmor Advanced Rifle Plates with carbon nanotube tech and protective nanocoating tech, both of which they exhibited at SOFIC (Special Operations Forces Industry Conference) 2016. However, we forgot to mention that there was one other very interesting technology they showed us at the booth made by a company called Emotiv, specifically the Emotive Insight 5-Channel/Sensor lightweight mobile wireless EEG (electroencephalogram) "Brainwear" headset system that connects up with a smartphone app to display your brain activity at any given moment, and while engaging in any activity, including high-speed/high-impact and high-stress activities.



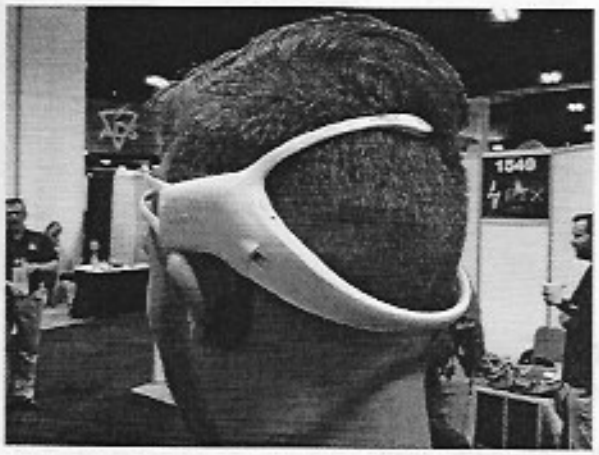
As soon as we saw it, we wondered if the Emotiv Insight wireless EEG headset tech could be integrated with SOF (Special Operations Forces) ballistic combat helmet system like the Revision Multi-Use Bump Shell/modular ballistic combat helmet, Ops-Core FAST (Future Assault Shell Technology) Ballitic Helmet, or even the futuristic TALOS ballistic combat helmet system, for example, either by integrating the Emotive EEG tech into the helmet itself, or by modifying the helment to allow the device to be worn under it.

In DR's embedded video below, you can see DryWired's Alex Nesic explain the Insight's features, attributes, advantages and capabilities in detail, and demonstrate how the smartphone app displays/represents the wearer's brain activity. It's pretty fascinating.

We should note that while the Emotiv Insight 7-channel/sensor wireless EEG headset itself is impressive, Emotiv has an even more impressive (and expensive) 14-channel/sensor system called the Emotiv EPOC+.

The following information on the Emotiv Insight comes directly from the Emotiv website:

"INSIGHT
Brainwear® that allows you to monitor your cognitive health and wellbeing and optimize your performance.



Open Your Mind to Next Generation Brainwear®

EMOTIV Insight is a sleek, 5-channel, wireless EEG headset that records your brainwaves and translates them into meaningful data you can understand. Designed for everyday use, Insight boasts advanced electronics that are fully optimized to produce clean, robust signals anytime, anywhere.

New Sensor Technology

MyEmotiv

Track your brain fitness and performance with the companion app to our INSIGHT and EPOC+ wearable EEG headsets.
Key Features:
– Capture, save and playback recordings of your brain activity
– Measure six key cognitive and emotional metrics: focus, stress, excitement, relaxation, interest and engagement
– Explore your brain's activity patterns in real time with our popular 3D BrainViz viewer
– Compare your results to previous sessions and the Emotiv community
– Get recommendations on activities you can do in daily life to improve your focus and manage your stress
– Learn how to fit your Emotiv headset and get the best contact quality
– Compatible with INSIGHT and EPOC+ headsets and iOS 9.0 and higher. Recommended devices: iPhone 5 and above, iPod Touch 6.
MyEmotiv is a new and improved version of our Insight App. Any data recorded previously on the Insight App will be accessible in your MyEmotiv upgrade. We've got you covered."

The following information on the Emotiv EPOC+ comes directly from the Emotiv website:

"**EPOC+**
A revolutionary Neuroheadset and Scientific Contextual EEG offering high resolution and full spatial resolution.

The award winning EMOTIV EPOC+ is a 14 channel wireless EEG, designed for contextualized research and advanced brain computer interface (BCI) applications. The EPOC+ provides access to dense array, high quality, raw EEG data using our subscription based software, EmotivPRO.
A high resolution, multi-channel EEG system
The EMOTIV Epoc+ features 14 EEG channels plus 2 reference channels and offers optimal positioning for accurate spatial resolution.
The most credible and cost effective mobile EEG device on the market.

Features:

– Easy to fit and flexible design
– Wireless and rechargeable
– Dense array spatial resolution ensuring 'whole brain' measurement
– Saline based wet sensors (no sticky gels)
– Lithium battery providing up to 12 hours of continuous use
– Windows, OSX, Linux, Android, and iOS compatible
– Provides access to Raw EEG data with software subscription
– Access performance metrics, mental commands and facial expressions

Technical Specifications:

Signals
– 14 channels: AF3, F7, F3, FC5, T7, P7, O1, O2, P8, T8, FC6, F4, F8, AF4
– References: In the CMS/DRL noise cancellation configuration P3/P4 locations
Signal resolution
– Sampling method: Sequential sampling. Single ADC
– Sampling rate: 128 SPS or 256 SPS* (2048 Hz internal)
– Resolution: 14 bits 1 LSB = 0.51μV (16 bit ADC, 2 bits instrumental noise floor discarded), or 16 bits*
– Bandwidth: 0.2 – 43Hz, digital notch filters at 50Hz and 60Hz
– Filtering: Built in digital 5th order Sinc filter
– Dynamic range (input referred): 8400μV(pp)
– Coupling mode: AC coupled
Connectivity
– Wireless: Bluetooth® Smart

Russian Robot Soldiers and Drone Swarms: Science Fact or Fiction? Meet FEDOR, Vikhr ('Whirlwind') and Smerch!

Russian Ratnik-3 (Warrior-3) Infantry Combat System with Exoskeleton to Turn Future Russian Military Infantry Soldier/Warfighters into 'Supermen'? Let's Hope Not.

New 'Illusion Coating' Adaptive Camouflage/Cloaking Tech Makes its Debut

DR Exclusive Interview!: HyperStealth Quantum Stealth (QS) Light-Bending Passive Adaptive Camouflage (Camo)/Visual Cloaking Technology for the 21st Century Future Soldier/Warfighter: Beyond SMARTCAMO Color-Changing Hybrid Camouflage, Beyond Fictional Alien Predator's Active Electro-Optical Camouflage/Invisibility Cloaking Tech!