



Spectrum

C23

Best mobile fNIRS
for professionals



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SPECTRUM C23

Mobile near-infrared spectroscope that non-invasively monitors brain activity for research purposes. The modular design provides flexibility and scalability in a variety of research applications. Spectrum can be customized to suit individual research needs, with the option of connecting one, two or even four optode bundles, each containing 8 detectors and 12 NIR emitters.



WiFi communication



USB-C Fast charging

Up to 250 Hz
sampling rateSD card
local recordingScalable design
with up to 4 optode bundles**CORTIVISION**
SPECTRUM

just 225 grams

+6 hours
of full operation

The Spectrum C23 provides simultaneous sampling of signals from multiple channels, ensuring high data quality and accuracy. With sampling rate up to 250 Hz, the system offers WiFi connectivity, TTL input, SD card recording and manual event marking.

Note: Our products are intended to be used for research applications only. We do not sold them as Medical Devices as defined in EU directive 93/42/EEC. Although we design and test them to the highest standards and scientific rigor, our products are not intended to be used for diagnosis or treatment of any disease.



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Reduced
weight & neck load



Integrated IMU
Accelerometer & Gyroscope



Labelled optode holders
for simple optode
management



Shielded cables &
optode housings



The Spectrum C23 uses EasyCap caps that have been specially designed to facilitate the placement of optodes. Special harnesses are available for mobile use that distribute weight evenly on the body, minimizing head load. The Spectrum C23 is the ideal solution for both stationary and field testing, offering professional data quality and ease of use.



Explore the main benefits of



SPECTRUM-C23
HARDWARE

The Spectrum fNIRS provides precise brain hemodynamic changes monitoring, ideal for cognitive and functional brain studies, child neurodevelopmental research, movement studies, mental training, hyperscanning, extreme research conditions, VR integration, multimodal applications and many more!

Detachable optode bundles

Each optode bundle can be detached from the amplifier to allow a scalable configuration for research. Each optode include 8 high quality detectors and 12 LED emitters.



End-2-End Ecosystem

Cortivision is a hardware manufacturer supporting customers & own software developer with CortiView 2 and CortiPrism handling the entire research process for streamlined workflows.

Up to 150 channels in tandem mode

Use of 4 optode bundles with 32 detectors and 48 emitters allow for a wholehead signal acquisition.

Head-Mounted IMU

The IMU sensor is mounted on the head for precise motion tracking during mobile experiments, ensuring accurate data collection.

Universal emitters

Universal emitters in Spectrum C23 allow any emitter to act as a short channel, enabling unlimited short channels for flexible, highly customizable, and precise brain activity monitoring in various research setups.



Resilient to artifacts

Shielded cables and aluminium housing elements provide high resistance to interference enabling multimodal testing even in demanding conditions.

Modern wearable fNIRS for mobile studies

Designed for motion and non-laboratory testing, Spectrum C23 features a dedicated harness and stationary mounting kit to best fit the research conditions.

Optimized UX design

Hardware and software prioritize user experience, simplifying the setup and research process for maximum efficiency.





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Stackable design

Spectrum optode bundles incorporated **magnetic stackable design** saving place and simplifying the montage of multiple items on the specially designed textile harness. Optode bundles can also be placed on a stationary mount keeping neat and organised setup for both laboratory and non-laboratory research conditions. This design is also reducing the overload on the user's neck/head making the product more comfortable than competitive solutions.





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Special button for hardware markers

Spectrum amplifier is equipped with a special button for manual marking of events during measurement, e.g. in spatial navigation studies. Easy access to the chest button allows for a wide range of applications, and combined with local recording to an SD card, allows for a wide range of non-laboratory testing freedom.





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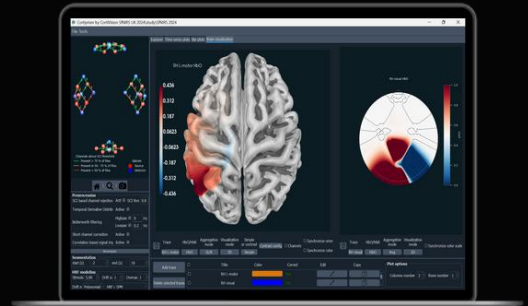
CortiView & CortiPrism

Intuitive and modern software ecosystem

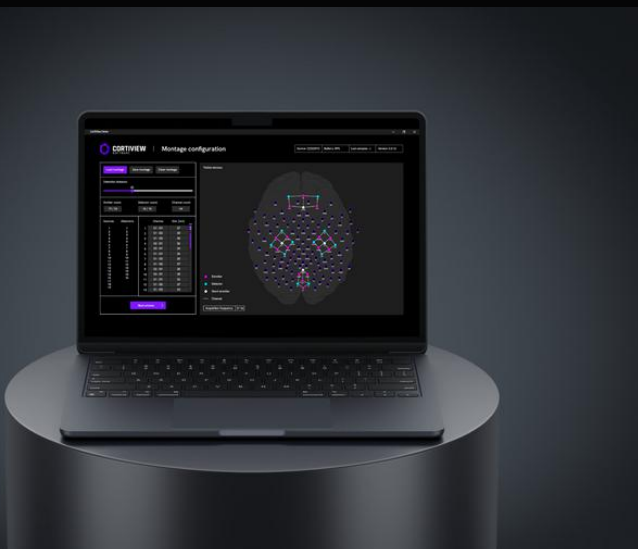
The Cortivision software ecosystem includes CortiView 2 for seamless fNIRS signal acquisition and CortiPrism for advanced data analysis, designed to streamline research workflows from setup to data interpretation. CortiView 2 supports real-time monitoring, configurable montage creation, and LSL streaming, while CortiPrism offers detailed analysis, visualization, and export options compatible with open formats. This ecosystem ensures a fully integrated, user-friendly experience tailored for both novice and advanced research applications.



1-st Level Analysis



Group Level Analysis





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Multimodalities

Eye-tracking
Glasses 3 (Tobii)



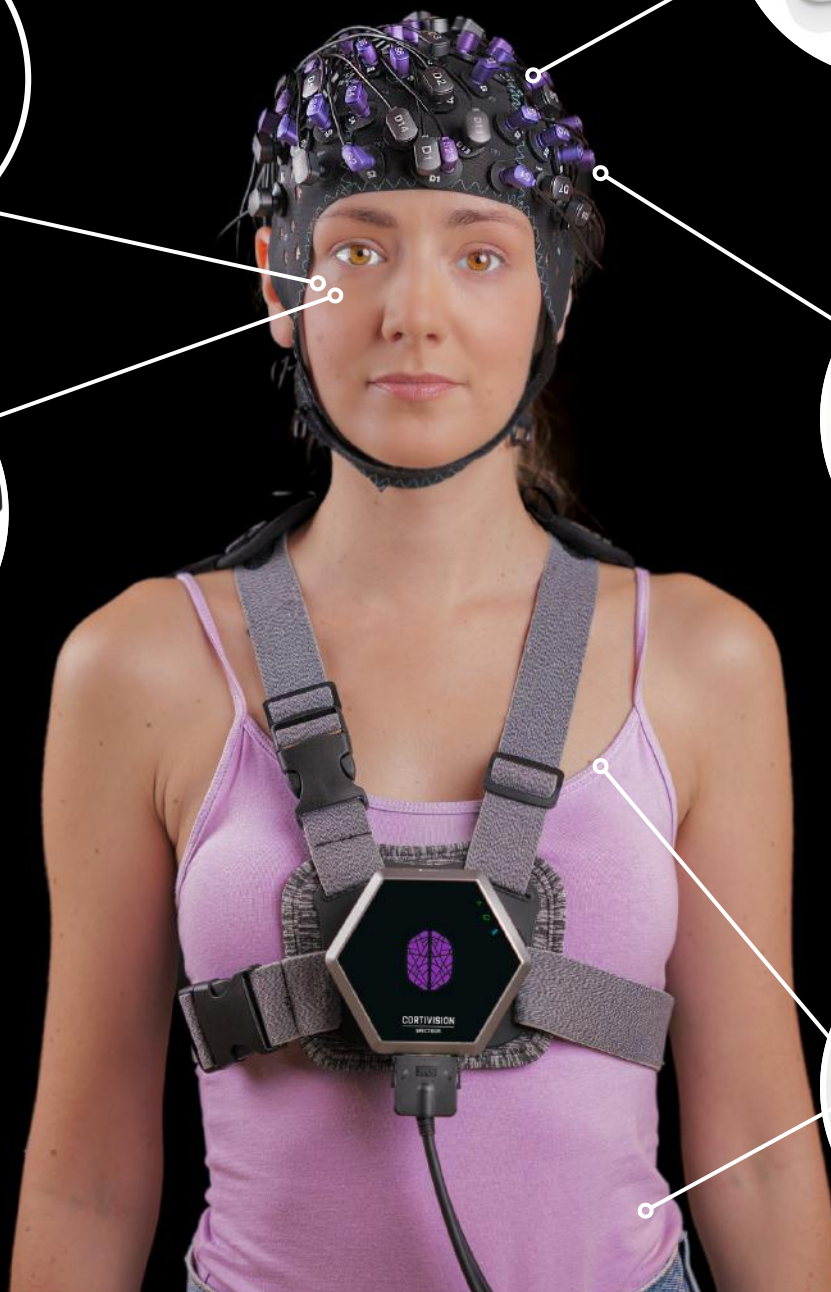
EEG
LiveAmp (BrainProducts)



EEG
Versatile (BitBrain)



VR/AR
Focus 3 (HTC)



Physiology
Versatile Bio (BitBrain)





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Technical parameters

Detector type	Silicon Photodiode (SiPD)
Emitters	12 / 24 / 36 / 48 (36/48 in tandem mode)
Detectors	8 / 16 / 24 / 32 (24/32 in tandem mode)
Short channels	Universal, any emitter can act as a short channel; no extra hardware
IMU	6-axis, on the head (optode bundle)
Head/neck load	180 g (600 g in tandem mode - 4 bundles)
Total device mass	860 g (1200 g in dual mode)
LSL synchronisation	Yes
Montage configurator / editor	Own montage creation with automatic channel generation in CortiView 2
Analysis software	Own software - CortiPrism or third-party software supporting the .snirf standard
3D visualisation	Yes
VR integration	Intuitive framework for creating and control AR/VR experiments by SilicoLabs
Wired marker input	Yes, 3-bit TTL

Logistic information

Spectrum set comes securely packed in a rugged, shockproof hard case. It includes the fNIRS amplifier, optode bundle(s), two textile caps, light-blocking cap, battery charger, SD card, harness or stationary mount, hair management tool, spare holders and data acquisition station. Ask our sales for optional accesories in your Spectrum configuration.

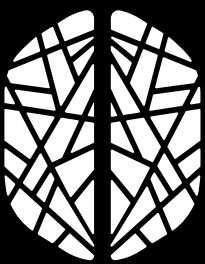
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Get a quote for Spectrum *of possibilities*

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for professionals

sales@cortivision.com



CORTIVISION

Cortivision sp. z o.o.
al. Warszawska 47,
20-803 Lublin
+48 606 723 359
sales@cortivision.com
www.cortivision.com

