

# CFM Olympic Brainz Monitor



Table 1: Symptoms of Neonatal Abstinence Syndrome

Gastrointestinal	Neurologic Excitability
Feeding Difficulty	High-Pitched Cry
Vomiting	Seizures
Loose Stools	Sleep-Wake Disturbances
Autonomic Dysfunction	Hyperactive Primitive Reflexes
Sweating	Hypertonicity
Mottling	Frequent Yawning or Sneezing
Fever	Tremors
Temperature Instability	Nasal Stuffiness

Spitzmuller RE, Morrison T, White R. Babies with neonatal abstinence syndrome have electrographic seizures and altered sleep on amplitude-integrated EEG. Neonatology Today. 2013;8(10):1-7.

## General specifications

### Touch Screen Monitor

Weight	14.33 lbs (10 kg)
Dimensions	16.46 x 13.46 x 4.53 in (418 x 342 x 115 mm)

### Data Acquisition Box (DAB)

Weight	10 oz (280 g)
Dimensions	2.98 x 5.75 x 1.23 in (75.7 x 146.1 x 31.2 mm)

### Roll Stand

Weight	40 lbs (20 kg)
Dimensions	61.5 in height, 25 in base dia. (1562 mm height, 635 mm base dia.)

### Operation (all components)

Temperature	0 to 40 °C (32 to 104 °F)
Relative humidity	25 to 90% at 40 °C (non-condensing)

Display	Real-time EEG Waveform Rapid pens (aEEG, Impedance) - Computed Rapid numeric (Impedance) - Computed Histogram distribution over 15-second intervals (aEEG, Impedance) Color TFT LCD with resistive touchscreen, 15" (381 mm) diagonal, TFT color, 1024 x 768 pixel native resolution
---------	---

### Power supply (integrated)

Power supply unit	Integrated AC, medical grade
Power supply input voltage	100 - 240 VAC, 50/60 Hz, 4A - 2A
EEG specifications sensitivity	50 $\mu$ Vpk full scale maximum sensitivity ( $< 1 \mu$ V/mm)
Dynamic range	0.30 - 10000 $\mu$ Vpp (1-20 Hz)
Update rate	200 Hz (EEG Waveform)

### Data Acquisition Box (DAB) Specifications

Differential channels	3
Frequency response	0.5 Hz - 450 Hz
Analogue to digital converter	SAR ADC (16x oversampling)
Sampling rate	2000 Hz
Resolution	16 bits
Sampling quantization	300 nV
Input impedance (DC)	$> 50 \text{ M}\Omega$

Continuous bedside cerebral function monitoring – providing actionable information when you need it most...



Amplitude-integrated EEG is the most commonly used digital trend for newborns and its use has been integrated as a customary practice for assessment of EEG background in many intensive care nurseries.<sup>1</sup>

The **Olympic Brainz Monitor** is the latest technology in cerebral function monitoring (CFM), allowing you to begin monitoring in 3 easy steps: Plug in unit, apply electrodes and start recording.

Understanding an infant's brain health is a critical part of your treatment decisions. Use of continuous Cerebral Function Monitoring provides vital information to clinicians to assist with earlier diagnosis and treatment<sup>2</sup> – the **Olympic Brainz Monitor** is the optimal CFM solution for fast & simple routine bedside monitoring.

The Olympic Brainz Monitor provides aEEG, real time EEG and continuous measurement of impedance in up to 3 channels. The NICU friendly interface allows real time monitoring of brain function, providing vital data that may assist in predicting outcomes.

### Clinical Usage of aEEG Monitoring

Medical literature reports that aEEG monitoring can be used to:

- Monitor general neurological status
- Monitor and record seizures<sup>3</sup>
- Monitor during hypothermic treatment to measure the effectiveness of treatment<sup>4</sup>
  - The time to normal trace (TTNT) has prognostic value and is a good predictor of neurodevelopment outcome in term infants with Hypoxic-Ischemic Encephalopathy (HIE) undergoing hypothermic treatment<sup>5</sup>
- Monitor aEEG patterns to indicate the presence of sleep wake cycling (cyclicality) in term and preterm infants, which is associated with better outcomes in HIE patients<sup>6</sup> and may add value in developmental care

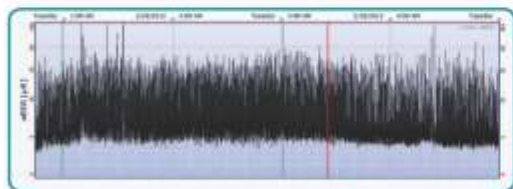
### Ease of Operation

- System-based online help feature provides a step-by-step guide for setting up both the system and patient prep – allowing staff to start monitoring in minutes
- Intuitive navigation allows access to information fast when you need it most
- Versatile patient settings
  - Easily add a channel to an existing single channel setup
  - Cross cerebral, right and left hemisphere with up to 3-channel monitoring simplifies patient hook up and provides additional data when needed

### CFMsight

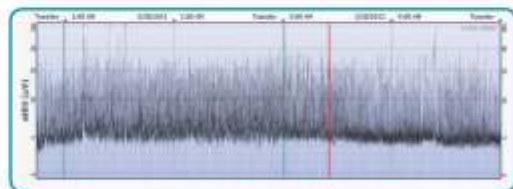
- Provides enhanced signal display for easier trace interpretation

Without CFMsight:



Trace appears CNV based on margins (however SWC is absent)

With CFMsight:



- The same trace with CFMsight enabled displays a narrow dark band in the lower margin, suggesting the possibility of a falsely elevated lower margin due to EKG artifact
- With the confirmation of EKG artifact in the raw EEG, the actual lower margin would be interpreted as being close to zero, which would be more consistent with severe injury and a burst suppression pattern



## Monitor neurological status sooner – help the newborn faster

### Ease of interpretation and collaboration

#### CFM Viewer

- CFM Viewer software implements similar functionality to the bedside unit, permitting review and analysis of recorded CFM data away from the bedside
- Remote review and consultation – offers remote viewing of active or stored recordings from any location
  - Simplifies consultation
  - Provides remote review and annotation of patient recordings with marked events appearing at bedside
- Web-based

#### Event markers

- User-customizable, time-stamped markers keep track of when medications are administered, making the review process more efficient and easier for cross collaboration
- Different colors designate whether markers were placed at bedside or using Viewer from a remote location

#### File management and printing options

- Network archiving feature allows transfer of sessions and facilitates file management by increasing speed of transfer
- Network printer connectivity simplifies charting and record keeping, saving cost by allowing printing onto standard paper
- Archive, restore and review patient files via USB, allowing data management even when not connected to the hospital network

### Consumables

#### Electrodes

- Both hydrogel and needle electrodes are supported through standard touch-proof connectors located on the amplifier housing

