

## **\*\*The ActiveElectrode ERP/EEG System\*\***

Now you can setup 256 channels\* in less then 45 Minutes!



■ Step 1

...at a price you can afford!



■ Step 2



■ Step 3



24-bit A/D – 256 channels –  
Battery-Powered Portable  
System Plus Optical to USB2  
Converter



**For more information contact us at: [info@neurospec.com](mailto:info@neurospec.com)**

## Specifications

Sample-rate: (Is adjustable by user)	2048 Hz	4096 Hz	8192 Hz	16,384 Hz
Max. number of channels @ selected sample rate:	256	128	64	32
Bandwidth (-3dB):	DC - 400 Hz	DC - 800 Hz	DC - 1600	DC - 3200 Hz
Low-pass response:	5 <sup>th</sup> order sinc digital filter			
High-pass response:	Fully DC coupled			
Digitalization:	24 bit, 4 <sup>th</sup> order Delta-Sigma modulator with 64x over sampling, one converter per channel			
Sampling skew:	< 10 ps			
Absolute sample rate accuracy (over temp range: 0-70 C):	0.1 Hz	0.2 Hz	0.4 Hz	0.8 Hz
Relative sample rate accuracy (jitter):	< 200 ps			
Quantization-resolution:	LSB = 31.25 nV, guaranteed no missing codes			
Gain accuracy:	1 %			
Anti aliasing filter:	fixed first order analog filter, -3dB at 3.6 kHz			
Total input noise ( $Z_e < 10 \text{ k}\Omega$ ):, full bandwidth:	0.8 $\mu\text{VRMS}$ (5 $\mu\text{Vpk-pk}$ )	1.0 $\mu\text{VRMS}$ (6 $\mu\text{Vpk-pk}$ )	1.4 $\mu\text{VRMS}$ (8 $\mu\text{Vpk-pk}$ )	2.0 $\mu\text{VRMS}$ (12 $\mu\text{Vpk-pk}$ )
1/f noise ( $Z_e < 1 \text{ M}\Omega$ ):	1 $\mu\text{Vpk-pk}$ @ 0.1..10Hz			
Amplifier current noise:	< 30 fArms			
Input bias current:	< 10 pA per channel			
Input impedance Active Electrode:	300 M $\Omega$ @ 50 Hz (10 <sup>12</sup> $\Omega$ // 11 pF)			
DC offset:	< 0.5 mV			
DC drift:	< 0.5 $\mu\text{V}$ per degree Celsius			
Input range:	+262 mV to -262 mV			
Distortion:	< 0.1 %			
Channel separation:	> 100 dB			
Common Mode Rejection Ratio:	> 80 dB @ 50 Hz			
Isolation Mode Rejection Ratio:	> 160 dB @ 50 Hz			
Power Consumption:	4 Watt @ 256 channels			
Battery capacity, standard battery:	25 Watt-hour, 3 cell sealed lead-acid			
Battery life on standard battery:	> 5 hours @ 256 channels			
Battery charge time (with external fast charger):	< 3.5 hours for a 100% charge			
Leakage current, normal operation:	< 1 $\mu\text{A}$ rms.			
Leakage current, single fault:	< 50 $\mu\text{Arms}$			
Trigger inputs:	16 inputs on optical receiver (isolated from subject)			
Trigger outputs:	15 outputs on optical receiver (isolated from subject)			
PC interface:	USB2.0			
Size of front-end, including battery-box (H x W x D):	120 x 150 x 190 mm			
Weight of front-end, including battery-box:	1.1 kg			
Environment:	Indoor use: Temperature: +10°C to +40°C Humidity: 30 to 75% Pressure: 700 hPa to 1060 hPa			
Warranty:	3 years (1 year on electrodes and batteries)			



Research Neurosciences

***Note that BioSemi Products are only used in Research and are not designed for medical use in diagnosis or treatment of disease!***

**PLEASE SEND YOUR ENQUIRE FOR OFFER TO:**



Research Neurosciences

NEUROSPEC AG  
Stansstaderstrasse 10  
CH-6370 Stans NW  
Switzerland

<http://www.neurospec.com>  
[info@neurospec.com](mailto:info@neurospec.com)  
Tel: +41 41 371 07 04  
Fax: +41 41 371 07 03