



Grael LT EEG

# grael<sup>®</sup> LT

Industry-leading value amplifier with research-grade technology.

A DC-coupled, digital amplifier system with a high input range and 22-bit resolution providing amplification and digitization of electroencephalographic physiologic signals. The amplifier provides 39 channels (32 isolated high-frequency referential channels, 6 bipolar channels) and event button input. The unit has a POE 100BASE-TX network connection for both power and communication.

HD EEG

OVER    
DECADES OF ADVANCED  
BRAIN RESEARCH

# Technical specifications



**INPUTS** 32, DC-coupled, fully isolated, referential (monopolar); 6 user-defined, DC-coupled, fully isolated, bipolar inputs

**INPUT IMPEDANCE** >100 M $\Omega$  1-32;  
>20 M $\Omega$  33-40

**BIAS CURRENT** typically 1nA

**INPUT NOISE** < 2  $\mu$ Vpp typical (referential ch)

**INPUT RANGE** 600mVpp

**CMRR** > 100dB

**CROSSTALK** <- 60dB to adjacent channels FSR

**HIGH PASS FILTER** DC Coupled

**LOW PASS FILTER** (3dB):  
71 Hz at 256 s/s  
143 Hz at 512 s/s  
284 Hz at 1024 s/s  
580 Hz at 2048 s/s

**NOTCH FILTER** Software based display filtering of 50Hz, 60Hz, or off

**ISOLATION SPECIFICATIONS**  
Complies with IEC 60601-1 CF patient Inputs

**ANALOGUE TO DIGITAL CONVERTER**  
22 bit resolution

**SAMPLE AND DATA RATES CHANNELS 1 TO 40**  
Data sampled at 16384 samples per second and decimated to data rates shown below. Actual data rate sent is determined by controlling PC software application.

**Output data rate** 2048, 1024, 512 or 256 samples per second

**COMMUNICATION INTERFACE**  
**Network Type** 802.3/802.3u twisted pair Ethernet with auto MDIX; RJ45 connector.

**EVENT BUTTON CHANNEL x 1**

## DIMENSIONS

Grael EEG System Component	Size L x W x H	Weight
<b>Amplifier</b>	240mm x 144mm x 50mm 9.45in x 5.66in x 1.97in	700 grams 24.7 ounces

## ENVIRONMENTAL REQUIREMENTS

**Temperature** Ambient operating temperature range:  
0°C - 40°C (32°F - 104°F)  
Storage temperature range:  
-10°C - 50°C (-4°F - 122°F)

**Humidity** 20% - 90%-relative humidity (non-condensing)

**Altitude** Less than 3,000m

## ELECTRICAL SPECIFICATIONS

**Power Supply** All power provided by the network connection using Power Over Ethernet (either mid-span injector or POE Switch, per IEEE 802.3af standard)

**Operating voltage** 48 volts

**Power consumption** <10 watts

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