



 COMPUMEDICS®

 NEUROSPEC

Research Neurosciences



World's First 4K High-Definition PSG : EEG - Only from Compumedics

grael[®]4K

HD psg: eeg

Over 26 years of experience in designing PSG and EEG amplifiers, including the highly successful Compumedics E-Series, has culminated in **Grael** - Our most technologically advanced amplifier yet, and the world's first High Definition PSG amplifier. Choose the model best suited for your needs: **Grael** for dual-platform PSG and EEG, or **Grael EEG** for dedicated EEG studies.



Tabletop Configuration

NOW IN
4K
HIGH DEFINITION

High Definition PSG/EEG

- Full PSG / EEG in High Definition
- 24-bit amplifier - A new standard for PSG
- DC-coupled inputs - See what's really happening
- Differential ECG and EMG provide unparalleled signal quality
- Respiratory impedance plethysmography
- Exceptional noise and artifact rejection
- Exceeds all AASM Digital Specifications**

One-box, One cable amplifier

- All connections are integrated
- A single IP connection to the **Grael** provides both power and data transmission
- Built-in light sensor*
- Sleep-optimised Oximeter
- Integrated RIP technology*
- New high-sensitivity snore microphone*
- Calibration-free position sensor*

Improved Efficiency

- One-touch quick disconnect
- Lanyard for easy carrying when disconnected
- Light-up touch-proof connectors allows convenient bedside impedance checking
- Create large channel sets by linking

Create Virtual Amplifiers

- Any number of Grael Amplifiers can be linked in software to create large channel counts.

* Not available in Grael EEG model

** Standards as of printing



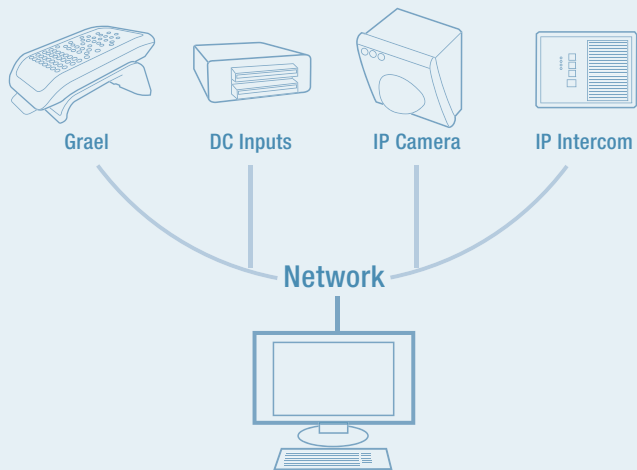
Wall Configuration



Trolley Configuration

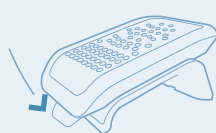
Network your lab

Use **Grael** with other network devices to simplify installation and system maintenance.

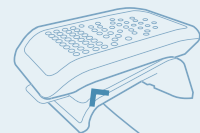


Quick Disconnect

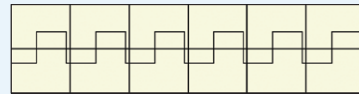
One push on the unique disconnect lever instantly releases **Grael**. With all electrode and sensor connections integrated, there's nothing else to disconnect.



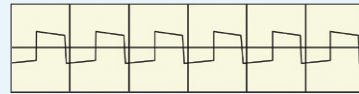
Push on front lever



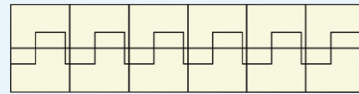
Grael is released from cradle



Input Signal



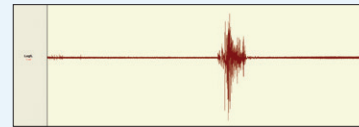
Recorded signal from traditional AC-coupled amplifier



HD signal from Grael



Traditional Limb EMG



HD signal from Grael

DC Coupling

Traditional PSG amplifiers use AC-coupled inputs, which result in signals decaying back to zero even if no other filters are applied. **Grael** introduces DC-coupled inputs to PSG, allowing signals to be faithfully recorded without compromise.

Differential Inputs

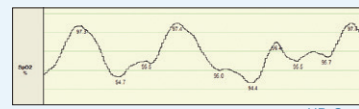
Traditional PSG amplifiers use a common reference for all inputs, meaning that signals such as Leg EMG are prone to significant artifact. **Grael** includes 16 true differential inputs (8 on Grael EEG), which provide the cleanest signals possible by virtually eliminating noise/artifact.



Nasal Pressure



Traditional oximetry performance



HD Grael oximetry performance

Oximeter Performance

Oximeters traditionally have a resolution of 1%, requiring filtering to display a smooth signal. **Grael's** integrated Oximeter has been specifically designed for sleep monitoring, and with a resolution of 0.1% allows accurate identification of clinically significant desaturations.



® grael 4K



® grael 4K EEG

Both Grael 4K and Grael EEG 4K integrate with our World Class Profusion Sleep and EEG softwares:

✔ Supported by * Profusion Sleep

✔ Supported by * Profusion EEG

*From versions PSG3 and EEG4 upwards

Feature	Grael 4K	Grael EEG 4K
Full 10-20 EEG referential layout	✔	✔
11 additional referential inputs	✔	✔
8 Differential inputs with impedance test	✔	✔
8 Differential inputs without impedance test	✔	✔
Integrated Light Sensor	✔	
Integrated Oximeter	✔	✔
RIP Band connections	✔	
Snore Microphone connection	✔	
Position sensor connection	✔	
Pressure and airflow connections (3)	✔	
Event button connection		✔
Trigger Module		✔
Quik-Cap connection	✔	✔
Docking Cradle with quick disconnect	✔	✔
Power over Ethernet (PoE)	✔	✔
Optional DC inputs	✔	✔

** Standards as of printing

Our World Class Profusion software:

Use Profusion Sleep for World Class Sleep analysis:



- Score and report all AASM** recommended parameters
- Proven automatic analysis for all primary event types and sleep stages
- Easily configure and customize reports
- DC offset removal tool for Grael studies

Use Profusion EEG for effortless EEG analysis:



- Monitor waveforms continuously for LTM applications
- Summary graphics tool provides simple navigation to review and edit relevant segments of data; single step archiving of waveforms and digital video
- Real-time access to studies currently being recorded from physician review station
- Software controlled, fully synchronized digital video

For high level Network and Database applications:



Information Flow at the Next Logical Level

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