Nox A1
A NEW ERA IN SLEEP DIAGNOSTICS
NOX MEDICAL INTRODUCTION

With decades of clinical and engineering excellence behind, Nox Medical continues to deliver solutions to the world of sleep diagnostics which break the mold. Through innovative thinking, knowledge, experience, and collaboration from world leading physicians, Nox Medical, has identified common issues with last generation’s technology and now introduces a system that is ready for the future and opens a new era in sleep diagnostics.

The new Nox A1 PSG system is a full, portable polysomnography system that greatly simplifies the task of performing a sleep study while delivering more secure and precise measurements than ever before. Innovations in a number of key areas such as ergonomics, robustness, scalability, flexibility and new technology are combined to create the next generation of PSG systems.

Specific features such as very small physical size make the system ideal for ambulatory and pediatric measurements. The Nox A1’s optimized design of cable leads minimize the effort needed for hookup, cleaning and service, while minimizing electrode pull. The use of intelligent re-referencing secures study integrity throughout the night. Through wireless communications with sensors and auxiliary devices the possibilities for endless interfaces and configurations are opened while giving the patient freedom to move around. Flexibility is guaranteed through full remote BioCal, impedance check, configuration, and signal monitoring over tablets. The sophistication of the system is completed with audio recording capabilities and 256 kHz simultaneous sampling rate, allowing for high performance re-referencing.

Combining the Nox A1 with the powerful Noxturnal software unleashes the full potential of the solution. Offering automatic analysis, scoring and reporting, Noxturnal greatly simplifies the task of preparing a sleep study for the correct interpretation by physicians.

UNMATCHED SIMPLICITY IN PSG SETUP

- Small and lightweight PSG recorder
- Easy setup enabling home sleep testing
- Minimum number of cables and straps
- Highly improved ergonomics
- Time and effort saving
- Integrated ambient light sensor supports scoring

EXCEPTIONAL SIGNAL QUALITY

- Continuous impedance control
- Automatic reference adjustment
- Ensuring signal synchrony
- High frequency sampling at 256 kHz for advanced noise reduction and anti-aliasing
- Power line noise effect elimination through wireless technology
- 32 bit signal processing
Revolution in patient comfort and ergonomics
THE NEXT GENERATION OF PSG SYSTEMS

ADVANCED TECHNOLOGY
- 10 unipolar inputs for EOG and EEG
- 3 unipolar EMG Sub-mental inputs
- 4 configurable bipolar inputs (Thermistor, EKG, EMG, multi-channel GSR)
- Sound from built in microphone
- Pressure from Nasal and Mask cannula
- 3-D Acceleration from built in acceleration sensor
- Two channels of respiratory effort from RIP belts circulating the Thorax and Abdomen
- Pulse, SpO2 and Plethysmography from a wireless Bluetooth® oximetry
- Bluetooth interface with various external devices
- Light detector
- Disposable or rechargeable battery (AA)

POWERFUL AND USER FRIENDLY SOFTWARE
- Extended AASM standard PSG recording
- Immediate recording results with automatic analysis
- Calibrated RIP technology
- Flow Volume Loops
- New Pleth Waveform Analysis
- Customizable workspace layout
- Centralized settings for multi-user environments
- Microsoft Word™ like customizable reports
- Easy to create new statistical fields for custom reports
- Single click scoring
- Audio Playback
TABLET APPLICATION

Connects wirelessly

Enables setting up the recorder

Perform biocalibration and impedance checks next to patient

Review signal quality of sensors

View live traces

Runs on the Android™ platform

Audio Recording and playback

Small Physical Size
**TECHNICAL SPECIFICATIONS**

### DEVICE

<table>
<thead>
<tr>
<th>Signal Specifications:</th>
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<tbody>
<tr>
<td>13x Unipolar Channels</td>
<td>Automated Referencing</td>
</tr>
<tr>
<td>Touch proof connector DIN 42-802, ±8mV input range AC</td>
<td>&lt; 1 µVrms noise, 90 Hz BW, 256 kHz Sampling rate</td>
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<tr>
<td>4x Bipolar Channels</td>
<td>Key hole connector, ±350mV input range DC or AC</td>
</tr>
<tr>
<td>Thorax and Abdomen Respiratory Inductance Plethysmography</td>
<td>&lt; 1 µVrms noise, 90 Hz BW, 256 kHz Sampling rate</td>
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<tr>
<td>2x RIP</td>
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<tr>
<td>1x Flow/Pressure signal</td>
<td>&gt;60 cmH2O input pressure range, DC-90 Hz, &lt;1 mmH2O noise</td>
</tr>
<tr>
<td>1x Sound signals</td>
<td>8kHz sampling, Internal 3.6 kHz bandwidth, 24-bit ADC</td>
</tr>
<tr>
<td>3x Activity/Position signals</td>
<td>Internal 3 axis, ±2 g</td>
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<tr>
<td>1x Wireless Interface</td>
<td>Bluetooth V2.0 wireless interface for external devices</td>
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<tr>
<td>1x Ambient Light</td>
<td>1 Hz</td>
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### Performance Specifications:

| Storage capacity | 1 GB |
| Recording time | Up to 9 hour including true audio recording |
| PC communications | USB 2.0 hi-speed |

### Physical Specifications:

| Power source | One 1.5V AA battery during recording; Host PC USB during data download |
| Battery type | Nickel-metal hydride rechargeable (NiMH), Lithium |
| Power source (online module) | Input 100-240V~ 50-60Hz 0.4A; Output 12V 1.0A 12W Max |
| Device dimension | 82 mm W x 63 mm H x 21 mm D (3.23 in W x 2.48 in H x 0.83 in D) |
| Weight | 89 grams (0.19 pounds) |
| Display | Type OLED-Dimensions 19 x 35 mm (0.75 x 1.38 in), resolution 128 x 64 dots |
| Battery cover | Tamper proof and locked |
| USB 2.0 connection | USB-Mini type B |

### SOFTWARE

**Minimum PC Requirements**

- Windows XP Home, Windows XP Professional SP 2, Windows Vista, 32 and 64 bit, Windows 7, 32 and 64 bit, Windows 8, 32 and 64 bit
- Processor: X86 Intel based or AMD 1.2 GHz
- 512MB RAM, 1 GB of free disk space
- Resolution: 1024 x 768 or higher