











# HOME SLEEP TESTING (HST) DEVICES

Company	Advanced Brain Monitoring Inc	BRAEBON Medical	CleveMed	Compumedics USA Inc	General Sleep Corporation
Product	 Sleep Profiler & PSG2	 MediByte Jr	 SleepView	 Somte	 Zmachine Insight
Website	www.advancedbrainmonitoring.com	www.braebon.com	www.clevemed.com	www.compumedics.com	www.generalsleep.com
Cost to Buy	Starting at \$5,495	\$2,750	\$2,400	\$3,450	Starting at \$500
Cost to Rent	N/A	Contact company	\$825/quarter (includes web portal and study kits)		N/A
Owner's Warranty (years)	2	1	1	1	1
Cost of Consumables per Study	\$17-\$25 (includes desktop or portal software)	>\$3	\$10 (included in rental)	<\$4	\$2
Type	Type II (S <sub>2</sub> , C <sub>3</sub> , O <sub>1</sub> , P <sub>2</sub> , E, R <sub>2</sub> )	Type III	Type III	Type III	N/A
Channels	Up to 13 channels: Sleep Profiler includes EEG, LEOG, REOG, EMG or ECG, forehead pulse, snoring (dB), head movement, and head position; PSG2 additionally includes wireless finger SpO <sub>2</sub> and pulse, nasal pressure airflow, and optional thorax and abdomen Piezo or RIP belts	7 channels: oronasal airflow, snoring (airflow), CPAP flow, CPAP pressure, chest RIP effort, SpO <sub>2</sub> , pulse rate, body position	8 channels: heart rate, pulse oximetry, respiratory airflow (CPAP compatible), RIP respiratory effort belt, snore, body position, auxiliary (second RIP respiratory effort, thermal airflow, or IDcheck), actigraphy (with web portal)	Up to 13 channels from 8 inputs: nasal pressure, snoring, CPAP mask pressure, thoracic and abdominal effort, body position, SpO <sub>2</sub> , pulse rate, plethysmography waveform, signal quality, limb movement (or optional nasal thermistor), 2xEXG (EEG, EOG, EMG, ECG, or off)	1 channel: EEG (high bandwidth/high resolution)
Product Dimensions (cm)	7 x 4.5 x 1.75	6.35 x 5.72 x 1.91	7.62 x 6.60 x 1.78	Recorder: 11.43 x 6.35 x 3.05; sensor interface: 7.62 x 4.45 x 2.29	11.6 x 6.8 x 2.1
Weight, Including Batteries (grams)	76	91	57	232.46	102
Power	Internal lithium polymer battery	1/2 AA disposable or optional rechargeable	AAA battery	NiMH	Internal lithium-ion rechargeable battery
Memory Storage	Internal 8 GB SD card	128 MB	100 MB internal	Compact flash card	4 GB microSD (larger available)
Recording Time Capacity (hours)	Up to 30 (depending on configuration)	18 (two 9-hour nights)	100	36 (total)	> 200
Features	Auto-scored and editable full-disclosure signals with forehead-based, simple-to-use self-application, guided by voice messages. Ideal for multi-night evaluation of sleep architecture and sleep continuity in the home or hospital, with automated detection of sleep biomarkers associated with neurodegeneration. PSG2 upgrade enables automated detection of apneas, hypopneas and RERAs, and REM-related SDB severity. Cloud or desktop-based software with data download in seconds via USB.	MediByte is designed for patient ease of use and may be used with a local PC or with the BridgeBuilder Cloud Portal Program, which empowers cooperation between health-care disciplines. Ask about the SuperGroup program. SDB analysis including RERA, flow limitation, breath statistics, SpO <sub>2</sub> , perfusion, carrying case, patient instructional video, USB cable. CPAP compatible, multiple nights, immediate report access, unlimited custom reports, locking connectors, stainless steel connector, LED study status indicator, all internal biosensors, complies with guidelines.	SleepView is a small, lightweight, AASM-compliant HST monitor designed to be easy for patients to use. The "Smart Check" feature indicates if a good study was recorded by lighting green or red. SleepView uses a RIP belt, is CPAP compatible, and can collect multi-night studies. The optional ID check sensor can verify patient identity. The HIPAA compliant web portal offers access to studies, scoring, and reports, while facilitating collaboration between sleep labs and office-based physicians, including IT management and data archival.	Carrying case included, will deliver results while patient is on CPAP, includes video instruction for patient, 24/7 technical support, and analysis, scoring, and reporting software. Designed for basic HST workflow with automated respiratory event analysis and customized reporting. Supports both nasal pressure and thermistor airflow signals.	Designed for clinical and research use, the Zmachine Insight provides accurate EEG-based sleep staging information in a device that is easy-to-operate, unobtrusive, and very patient-friendly. The Zmachine Insight uses self-stick EEG sensors located completely outside of the hairline for easy self-application and comfortable sleep. Sleep staging results and raw EEG signals are stored locally on a removable microSD memory card and can be imported directly into a spreadsheet, statistical package, or Zmachine Data Viewer software.

General Sleep Corporation	Itamar Medical Inc	Natus Medical Inc	Nihon Kohden America Inc	Nox Medical
				
Zmachine Synergy	WatchPAT	Embletta MPR	Nomad	NOX-T3
<a href="http://www.generalsleep.com">www.generalsleep.com</a>	<a href="http://www.itamar-medical.com">www.itamar-medical.com</a>	<a href="http://www.natus.com/index.cfm?page=products_1&amp;crd=1008">www.natus.com/index.cfm?page=products_1&amp;crd=1008</a>	<a href="http://us.nihonkohden.com">us.nihonkohden.com</a>	<a href="http://www.noxmedical.com">www.noxmedical.com</a>
\$1,000	Contact company	\$3,889	Contact company	Contact company
N/A	Contact company	N/A		Contact company
1	1 (extension available)	1	1	2
\$5	Volume dependent	\$5 to \$12 depending on the configuration	\$5	Depends on configuration
Type III	Type IV	Type III, Type II, and I (with add-ons)	Type III	Type III
EEG (sleep staging & arousals), RIP (respiratory effort), pressure transducer (respiratory airflow & snore), pulse oximeter (SpO <sub>2</sub> , pulse, pleth), tri-axis accelerometer (body position)	6 channels: PAT signal, pulse rate, oximetry, actigraphy, snoring (optional), body position (optional)	19 recorded channels: pressure, sound, gravity (X/Y/Z), bipolar ExG, thermistor, thoracic effort (RIP), abdominal effort (RIP), DC (0 – 1 V), battery, event button, SpO <sub>2</sub> , SpO <sub>2</sub> B-B, SpO <sub>2</sub> quality, pulse rate, plethysmography, RD quality, PPG; + multiple derived channels, ie: CPAP pressure, linearized flow, snore, XSum, XFlow, actigraphy, PTT, etc	11 channels: thermistor, pressure transducer, snore, body position sensor (internal), SpO <sub>2</sub> , pleth wave, pulse wave (derived from SpO <sub>2</sub> ), chest effort, abdominal effort, 2-EMG channels, 1-DC input	16+ channels: flow, snoring, 2x effort, RIP sum, RIP flow, SpO <sub>2</sub> , pulse, plethysmogram, body position, activity, complete audio, cal. audio volume in dB, event, 2x ExG, information from up to 7 auxiliary devices with multiple channels per each one can be recorded via Bluetooth
12.1 x 6.1 x 2.4	8 x 5 x 2	10.7 x 7.9 x 1.9	11.77 x 7.24 x 2.54	7.9 x 6.3 x 2.1
93	130	153	481.94	88
Internal lithium-ion rechargeable battery (> 24 hrs.)	Proprietary, rechargeable lithium ion battery + charger	2 x AA (alkaline or NiMH)	2 AA batteries	1 AA battery (alkaline, lithium, or NiMH)
4 GB internal	400 MB microSD card	2 GB internal	2 GB internal	1 GB internal
> 150	< 30 (10 per study, up to 3 nights)	24 (including true 8 kHz audio recording)	17	Up to 24 (including true audio recording)
Zmachine Synergy combines General Sleep's proven single-channel EEG sleep staging technology with airflow, effort, pulse oximetry, snore, and tri-axis body position to report an AHI based on EEG-derived sleep time and body position (not simply recording time). Designed for comfort, ease of use, and reliable results, the Zmachine Synergy has one-touch controls and an intuitive multi-color LED interface for first night success.	An easy to use wrist-worn device designed to provide comfort, reliability, and outstanding patient compliance. Fully automated analysis includes complete sleep architecture and total sleep time measurement. Proprietary tamper-proof bracelet for optional ID verification. Using the advanced PAT-based technology, WatchPAT offers diagnostic efficacy alongside substantial clinical and operational benefits.	Scalable up to Type I (ambulatory or online) Bluetooth device with add-ons; auto start option; high resolution screen including signal display, signal test features (including impedance measurement) and status information; sound recording with snap-on-cannula microphone, wide sensor range available (disposable and reusable); comes with nonlicensed version of RemLogic (globally largest install base for HSAT); 24/7 technical support.	Connects to computers via USB port, connects to computer via serial port, will deliver results while patient is on CPAP, includes video instruction for patient, wireless, 24/7 technical support, and analysis, scoring, and reporting software.	Carrying case included, one click upload and analysis via USB port, wireless, CPAP compatible recordings, analysis, scoring, and reporting software, and hook-up instructions for the patient. Audio recording from a built-in microphone for improved snoring detection and frequency analysis, SpO <sub>2</sub> , pulse and plethysmography from a wireless Bluetooth oximeter.

Company	Philips Respironics	ResMed	SleepMed	Sleepvirtual	SOMNOmedics America Inc
<b>Product</b>	 Alice NightOne	 ApneaLink Air	 ARES	 BWMini HST/PSG	 SOMNOtouch RESP
<b>Website</b>	<a href="http://www.usa.philips.com/healthcare/product/HC1109289/alice-nightone-home-sleep-testing-device">www.usa.philips.com/healthcare/product/HC1109289/alice-nightone-home-sleep-testing-device</a>	<a href="http://resmed.com/apnealinkair">resmed.com/apnealinkair</a>	<a href="http://www.sleepmedinc.com">www.sleepmedinc.com</a>	<a href="http://www.sleepvirtual.com">www.sleepvirtual.com</a>	<a href="http://www.somnomedics-diagnostics.com">www.somnomedics-diagnostics.com</a>
<b>Cost to Buy</b>	\$2,999	\$1,999	\$2,995	Contact company	Depends on channel configuration
<b>Cost to Rent</b>	\$89/month	\$169/quarter	\$339/unlimited use monthly (device, technical edits, and study consumables included)	Contact company	Depends on channel configuration
<b>Owner's Warranty (years)</b>	2	2	Lifetime of rental	1	2
<b>Cost of Consumables per Study</b>	~\$5 (2 AA batteries & cannula)	\$4	Included in rental	\$8 (cannula/batteries)	\$2 and up (depending on channel configuration)
<b>Type</b>	Type III (C <sub>0</sub> , P <sub>2</sub> , E, R <sub>2</sub> per SCOPER system)	Type III	Type III	Type I, II, III	Type II, III, IV
<b>Channels</b>	7 channels: flow, snore, thoracic effort, SpO <sub>2</sub> , pulse rate, body position, pleth; plus optional therapy channels depending on therapy device and mode; Body position reporting: supine, prone, right side, left side, upright	Respiratory effort, pulse, oxygen saturation, nasal flow, snoring, body positioning reporting, supine, non-supine, upright	10 channels: airflow (pressure), SpO <sub>2</sub> , heart rate, acoustic snoring (dB & pattern), actigraphy (head position and movement), EEG/EOG/EMG (NREM/REM), respiratory effort (optional), behaviorally estimated sleep/wake, behavioral arousals, & signal quality	12 to 30 channels: airflow, pressure, snore, thoracic/abdominal respiratory effort, SpO <sub>2</sub> , pulse rate, plethysmogram, body position, 3xEMG, 12xEEG, EKG, 2x AC auxiliary, 2x DC channels, PTT, patient event	Respiratory airflow, snore, CPAP pressure, thoracic breathing effort, abdominal breathing effort, SpO <sub>2</sub> , pulse rate, finger plethysmogram, body position, movement, patient marker. Optional: sleep staging according to AASM (4 EEG, 2 EOG, 1 EMG/ECG), simplified sleep scoring (2 EEG, 2 EOG), PLM analysis, ECG
<b>Product Dimensions (cm)</b>	10.34 x 2.51 x 6.78	6.2 x 10.2 x 3	6.35 x 5.08 x 2.54	14.73 x 8.89 x 4.57	8.4 x 5.5 x 1.8
<b>Weight, Including Batteries (grams)</b>	84 (not including sensors or batteries)	66	96.4	363	64
<b>Power</b>	Two AA (1.5V) alkaline batteries or two AA (1.2V) rechargeable batteries with at least 2400mAh capacity	AAA alkaline batteries	2 X lithium polymer rechargeable 250 mAh, >21hrs	4X AA lithium battery	Lithium battery, rechargeable
<b>Memory Storage</b>	4 GB internal	512 MB	Internal SD card	SD card/USB online acquisition	512 MB internal
<b>Recording Time Capacity (hours)</b>	10 per study; memory can hold weeks of studies	48	72	72	Up to 21
<b>Features</b>	Alice NightOne means home sleep testing done on night one. Designed to provide ease, confidence, and reliability. Gold standard sensor set for the same sensor technology recommended by the AASM for in-lab studies. Enhanced Good Study Indicator so you know the data is there before the device is returned. Powered by Sleepware G3 software, the same software for in-lab and out-of-lab testing. Optional cloud services to spread services; unify data. Wireless connection to Bluetooth-enabled Philips Respironics' PAP devices. RIP with integrated buckle design eliminates external wire sets. Device kit includes hard plastic shipping case.	ApneaLink Air is easy for patients and healthcare providers to use, with an intuitive start/stop button, a test complete light, and signal indicators, so the test can be set up correctly the first time. Diagnostic features include Cheyne-Stokes probability detection and the ability to differentiate between obstructive and central sleep apnea. ApneaLink Air data is available via ResMed's AirView cloud-based portal to help manage diagnostic reports, interpretations, and prescriptions.	AHI compliant with AASM and CMS; all signals integrated into compact forehead unit; validated automated analysis with data quality review by RPSGT for each study; voice prompted alerts to maximize signal quality; full-disclosure raw data available for review; AHI/RDI data are quantified across state, stage, and body position; integrated validated pre-test OSA risk questionnaire that automatically populates into the fully editable clinical report. Numerous validation studies showing very strong PSG concordance, sensitivity, specificity, and low failure rate. Online library of educational resources available to physicians. ARES may be equipped with a piezo-crystal belt upon request.	LCD screen displays impedance, study, and battery status. Optional ambulatory EEG upgrade (sold separately). Up to 72 hours of continuous recording capacity. Integrated Nonin Pulse Oximeter (up to 3 channels). 2 built-in DC channels for CPAP or CO <sub>2</sub> monitoring integration. Optional synchronized video monitoring.	Sensor detection with Intelligent Connect for real-time sensor check, high resolution touch screen for easy handling and signal check, easy application by the patient at home, extensive analysis and reporting software (2 licenses), charging and data transfer simultaneously via docking station, CPAP compatible recordings, Easy Start direct on the device without initialization possible, 24/7 technical support, auto detection of sleep/wake, carrying case included. AUX connection for extended recordings, eg, PLM, ECG, EEG, EOG, EMG, pediatric options available soon.