

# HOME SLEEP TESTING (HST) DEVICES

Company		Advanced Brain Monitoring	BRAEBON Medical	Cadwell	CleveMed	Compumedics USA
HST		 Sleep Profiler & PSG2	 MediByte Jr	 ApneaTrak	 SleepView	 Somte
Website		www.advancedbrainmonitoring.com	www.braebon.com	www.cadwell.com/apneatrak	www.clevedmed.com	www.compumedics.com
Purchase Price		Contact company	\$2,750	starts at \$3,250	\$2,400	\$3,450
Rental Price		Contact company	Contact company	Contact company	Contact company	Contact company
Consumables/ Study Price		starts at \$17.50	starts at \$3	<\$3	\$18.40	<\$4
Type	Type II	X				
	Type III		X	X	X	X
	Type IV			X	X	X
Channels		Up to 13: Sleep Profiler includes EEG, LEOG, REOG, EMG or ECG, forehead pulse, snoring (dB), head movement, head position; PSG2 adds wireless finger SpO <sub>2</sub> , pulse, nasal pressure airflow, optional thorax and abdomen piezo or RIP belts	8: oronasal airflow, snoring (airflow), CPAP flow, CPAP pressure, chest RIP effort, SpO <sub>2</sub> , pulse rate, PPG, body position, custody assurance	Up to 10: airflow (pressure), snore (pressure), thoracic and abdominal effort (RIP or PVDF), thermal airflow, snore (microphone), SpO <sub>2</sub> , pulse, plethysmography, position	8: heart rate, pulse oximetry, respiratory airflow (CPAP compatible), RIP belt, snore, body position, auxiliary (second RIP, thermal airflow, or IDcheck), actigraphy	Up to 13: 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)
Power Options	Disposable		X		X	X
	Rechargeable	X	X	X		X
Chain-of-Custody Assurance			X	X	X	
Warranty (years)		2	1	1	1	1
Dimensions (cm)		7 x 4.5 x 1.75	6.35 x 5.72 x 1.91	7.3 x 11.5 x 2.5	7.62 x 6.60 x 1.78	11.43 x 6.35 x 3.05; sensor interface: 7.62 x 4.45 x 2.29
Weight (grams)		76	91	143.5	57	232.46
Memory		8 GB internal	128 MB	128 MB	100 MB internal	Compact flash card
Recording Time (hours)		Up to 30	18	Up to 24	100	36
Features		Scientifically-validated and editable auto-scored full-disclosure signals with forehead-based self-application, guided by voice messages. For multi-night evaluation of sleep architecture and sleep continuity in 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-based software with data downloaded via USB.	May be used with a local PC or the BridgeBuilder Cloud Portal 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.	Available in two versions: ApneaTrak:Core (all required Type 3 channels) and ApneaTrak:Legacy (provides additional respiratory detail). Both devices use the same sensors recommended for in-lab studies. A single connection to the PC (zero-click) automatically downloads the recording, clears, recharges, and prepares ApneaTrak to be initialized for the next patient. Uses Easy III PSG software for the scoring and review process.	An 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. Uses a RIP belt, is CPAP compatible, and can collect multi-night studies. The HIPAA compliant web portal offers access to studies, scoring, and reports, while facilitating collaboration between local 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, 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.

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Information based on data submitted by home sleep testing marketers. Sleep Review strives for accuracy but cannot be held responsible for claims made by marketers. All HSTs may not be included. E-mail [sroy@medqor.com](mailto:sroy@medqor.com) to be considered for the next update.

Company		General Sleep Corporation	Itamar Medical Inc		Natus Medical Inc	Nihon Kohden America Inc	Nox Medical
HST		 Zmachine Synergy	 WatchPAT 300	 WatchPAT ONE	 Embletta MPR	 Nomad	 NOX-T3
Website		<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.itamar-medical.com">www.itamar-medical.com</a>	<a href="http://neuro.natus.com/products-services/embletta-mpr-sleep-system">neuro.natus.com/products-services/embletta-mpr-sleep-system</a>	<a href="http://us.nihonkohden.com">us.nihonkohden.com</a>	<a href="http://www.noxmedical.com">www.noxmedical.com</a>
Purchase Price		Contact company	Contact company	Contact company	\$3,967	Contact company	Contact company
Rental Price		Contact company	Contact company	N/A	N/A	Contact company	Contact company
Consumables/ Study Price		\$10	Contact company; acquisition models available for government and private sectors	Contact company; acquisition models available for government and private sectors	\$5-\$12	Configuration and sensor dependent	Configuration dependent
Type	Type II	X			X		
	Type III	X	X	X	X	X	X
	Type IV				X		X
Channels		8: EEG sleep staging, airflow, respiratory effort (RIP), snore, SpO <sub>2</sub> , pulse, plethysmogram, body position	7: PAT signal, pulse rate, oximetry, actigraphy, snoring, body position, chest motion	7: PAT signal, pulse rate, oximetry, actigraphy, snoring, body position, chest motion	19: 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	12: thermistor, pressure transducer, snore, body position sensor (internal), SpO <sub>2</sub> , pleth wave, heart rate, chest effort, abdominal effort, 2 leg movement channels, 1-DC input	24: 2x bipolar channels: RIP, abdomen + thorax breathing effort, respiratory sound, audio volume, gravity, activity, position, flow, snore; 9 derived: heart rate; calibrated RIP flow, calibrated RIP sum, RIP flow, RIP sum, RIP phase, PTT, respiratory rate, PWA; pulse oximetry (4) + up to 7 multiple-channel auxiliary devices
Power Options	Disposable		X	X	X	X	X
	Rechargeable	X	X				X
Chain-of-Custody Assurance			X		X		X
Warranty (years)		2	1	N/A	1	1	2
Dimensions (cm)		10.2 x 6.1 x 2.4	6.5 x 6 x 1.3	6 x 5.5 x 1.8	10.7 x 7.9 x 1.9	11.77 x 7.24 x 2.54	7.9 x 6.3 x 2.1
Weight (grams)		86	129.5	85	153	481.94	112
Memory		8 GB internal	128 MB (minimum)	16 MB	2 GB internal	2 GB internal	1 GB internal
Recording Time (hours)		> 300	10	10	24	24	24
Features		Supported by a cloud-based software platform, the Zmachine Synergy combines General Sleep's 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). 1-touch controls, multi-night recording capability, and multi-color LED interface.	A wrist worn device that provides an automated analysis based upon 3 points of contact. Within 1-minute post study, raw data is downloaded and autoscored differentiating obstructive and central events, providing an AHI, AHlc, RDI and ODI based upon true sleep time and sleep staging.	A wrist worn device that provides an automated analysis based upon 3 points of contact. Within 1-minute post study, raw data is downloaded and autoscored differentiating obstructive and central events, providing an AHI, AHlc, RDI and ODI based upon true sleep time and sleep staging.	Scalable 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, disposable and reusable sensors available; comes with nonlicensed version of RemLogic or Natus SleepWorks for HST recordings.	Carry case and instructional DVD included. Connects to computers via USB. 3 options for starting a recording: immediate, timed, and Smart Start (when patient applies SpO <sub>2</sub> probe). Interfaces with Polysmith software or Portable Nomad software (included). Nomad can use disposable or reusable sensors and probes.	Indicated for use in patients >2 years old. Audio recording from a built-in microphone, abdomen and thorax respiratory effort and derived flow from RIP technology, nasal cannula flow and mask pressure, body position and activity from an integrated 3D accelerometer, SpO <sub>2</sub> , pulse, and plethysmography from a wireless Bluetooth-enabled oximeter, 2 flexible bipolar channels for ECG, EOG, EEG, and EMG.

Philips Respironics	ResMed	SleepMed	Sleepvirtual	SOMNOmedics America Inc		Zephyr Sleep Technologies
						
Alice NightOne	ApneaLink Air	ARES	BWMMini HST Compass	SOMNOtouch RESP	SOMNOtouch RESP eco	MATRx plus
<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://www.resmed.com/apnealinkair">www.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>	<a href="http://www.somnomedics-diagnostics.com">www.somnomedics-diagnostics.com</a>	<a href="http://www.zephyrsleep.com">www.zephyrsleep.com</a>
\$2,999	\$1,999	\$2,995	\$3,490	Configuration-dependent	Configuration-dependent	\$150 - \$175
\$89/month	\$169/quarter	\$339/month	Contact company	Configuration-dependent	Configuration-dependent	N/A
~\$5	\$4	\$65	\$5	\$2 and up	\$2 and up	\$50-\$115
				X		
X	X	X	X	X	X	X
			X	X	X	
7: 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	5 channels: respiratory effort, pulse, oxygen saturation, nasal flow, snoring; plus body position	10: 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	13: 2x RIP, pressure transducer, SpO <sub>2</sub> , pulse, plethysmography, body position, 2x ExG; 3x DC channels, luminosity sensor	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	Up to 11; respiratory airflow, snore, CPAP pressure, thoracic breathing effort, SpO <sub>2</sub> , pulse rate, finger plethysmogram, body position, movement, patient marker. Optional: abdominal breathing effort	7: mandibular titration position, oxygen saturation, 2-channel nasal flow, pulse, respiratory effort, snoring, body position, head position
X	X		X			
X		X	X	X	X	X
		X				
2	2	1	1	2	2	1 (3 with connected program enrollment)
10.34 x 2.51 x 6.78	6.2 x 10.2 x 3	6.35 x 5.08 x 2.54	10.8 x 7.7 x 2.8	8.4 x 5.5 x 1.8	8.4 x 5.5 x 1.8	11 x 8 x 3.5
84 + user's battery choice	66	96.4	90	64	64	166
4 GB internal	512 MB	SD card	32 GB microSD card	512 MB internal	512 MB internal	16 GB
10/study	48	72	12	21	up to 24	8 hours/night
Standard sensor set uses the same sensor technology recommended by the AASM for in-lab studies. Enhanced Good Study Indicator alerts 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. Wireless connection to Bluetooth-enabled Philips Respironics' PAP devices. RIP with integrated buckle design eliminates external wire sets. Kit includes hard plastic shipping case.	Start/stop button, test complete light, signal indicators. Diagnostic features include Cheyne-Stokes probability detection and the ability to differentiate between obstructive and central sleep apnea. Data 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; voice-prompted alerts to maximize signal quality; AHI/RDI data quantified across state, stage, and body position; integrated validated pre-test OSA risk questionnaire auto-populates into editable clinical report. Numerous validation studies show very strong PSG concordance, sensitivity, specificity, and low failure rate. Piezo-crystal belt upon request.	Polysomnography type 3 and 4 device powered by an AA battery. Contains 2x AC bipolar channels, pressure transducer, integrated RIP interfaces, oximeter, integrated body position and DC channels. All of these resources embedded into a single module that will fit on the patient's chest. Ability to monitor the traces and study information on the screen.	Sensor detection with Intelligent Connect for real-time sensor check; high-res touchscreen; 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; auto detection of sleep/wake. Carrying case included. AUX connection for extended recordings. Pediatric options available soon.	Sensor detection with Intelligent Connect for real-time sensor check, easy application by the patient at home, extensive analysis and reporting software (1 license), charging and data transfer simultaneously via USB, CPAP-compatible recordings, Easy Start direct on the device without initialization possible, auto detection of sleep/wake. Carrying case included. Additional abdomen belt available. Pediatric options available soon.	The first ( <i>de novo</i> clearance Aug 2019) at-home sleep theragnostic that evaluates and auto-titrates for oral appliance (OA) therapy. Includes a temporary OA that auto-adjusts in response to real-time respiratory information. Using AI, the data predicts a patient's response to OA therapy, as well as a target therapeutic position. Tablet-based, cloud-connected, and operates as a standard HSAT. Compatible data connections: 4G LTE or wifi.