# vyaire™
M E D I C A L

SomnoStar® z4
Sleep diagnostics system

An accurate and reliable sleep diagnostic system

The SomnoStar® system is proven to be an accurate, reliable and easy-to-use sleep diagnostic system that is used in labs globally.

- Accurately diagnose and treat your sleep apnea patients using our patented Calibrated Respiratory Flow Volume Loops.

- See the close relationship of sleep apnea and heart dysfunction with a deep analysis of your patient's entire overnight cardiac function with our one page Heart Rate Variability Graph.[1]

- Our LabManager™ Microsoft Word report generator provides interpretations in minutes.

- 24-hour live tech support, manned by Registered Polysomnographic Technicians, provide technical assistance.

- AASM hardware and software compliant

- SomnoStar has been independently tested and certified to meet applicable published standards by ETL, HL-7, and CSA.
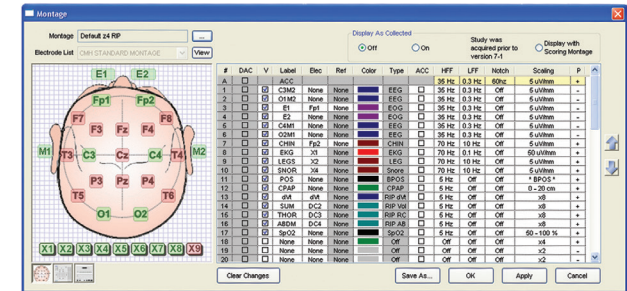
Data acquisition

The SomnoStar sleep system provides seamless interfaces and vast diagnostic capabilities.

- 64 available channels

- Full re-referencing, including linking M1 + M2 pre and post data collection

- Complete scoring and reporting functionality during data collection

- Real-time collection of calibrated RIP signals with Flow Volume Loops

- Integrated digital video and audio

- Heart Rate Variability (HRV)

- 32 AC and 12 DC inputs

- Validated autonomic recording device

- Patient friendly, lightweight head box

- TCP/IP amplifier communication using standard Cat5e cabling

- Sampling rate up to 2,000 Hz

- IP video camera
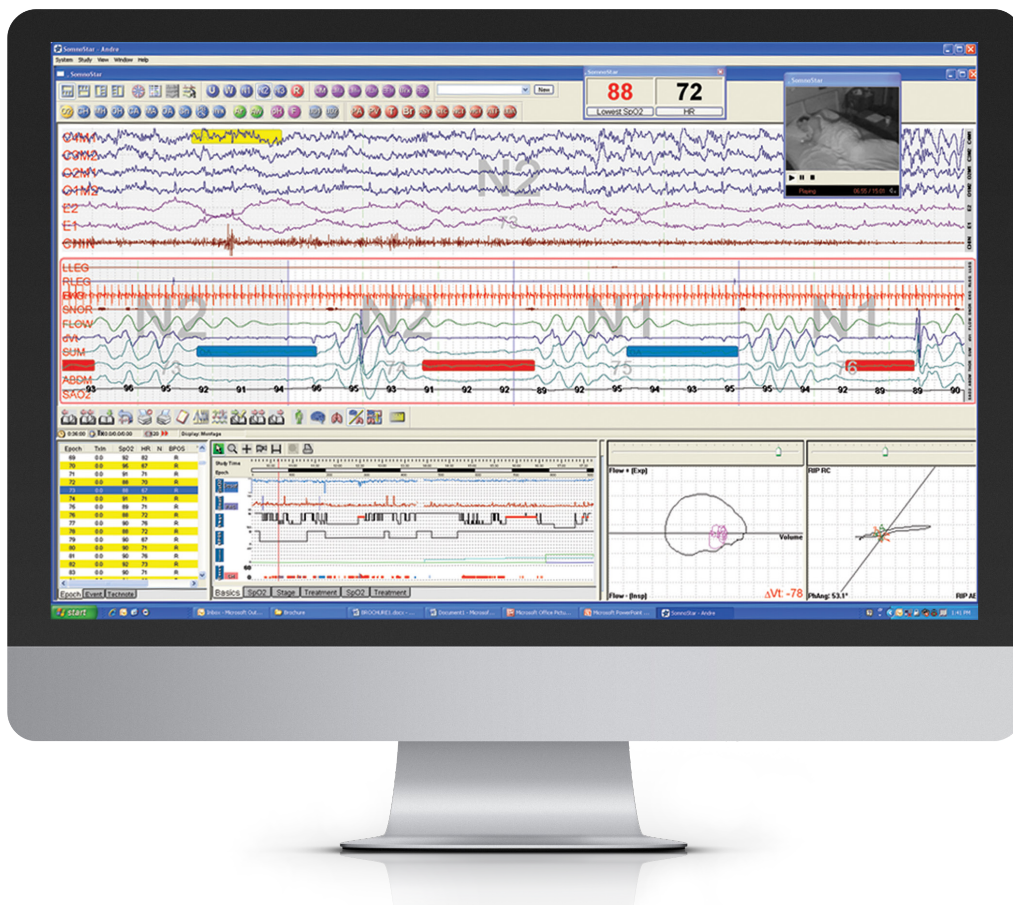
Unlock data with flexible scoring

Select from manual, automatic or a combination of the two and unlock volumes of information by linking pathophysiological/sleep-fragmenting events and their characteristics to specific channels. With a single mouse click, you can view the event, its duration, and if it is associated with other events like arousals, awakening and limb movements.
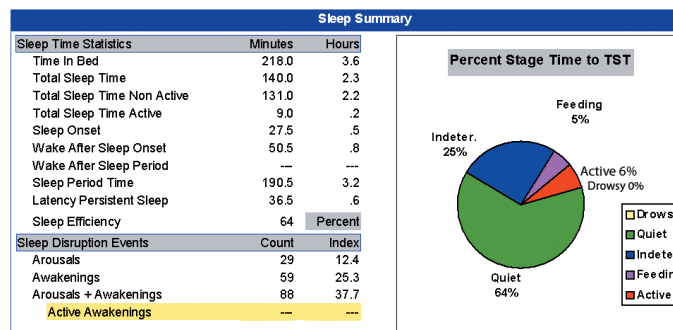
View your collected data in a comprehensive format that is easy-to-view and understand. Customize your display and streamline review with bookmarks.

- Link arousals to scored events
- Users can define data time period
- Split time domain and tabular view for quick epoch data
- Users can define the data time period and generate reports directly from the scoring software
- Provide your patients a copy of their sleep study with our CD review tool.

Tailored for pediatric patients

Because testing young patients presents its own challenges, SomnoStar has set of specific tools to help you get the best results.

- Pediatric staging toolbar for different stages
- Collect and report on pH, $EtCO_2$, CO_2, temperature, and actigraphy
- Integrated and customizable pediatric reports

Infant Staging


Periodic breathing

Calibrated Flow Volume Loops – the heart of our system

SomnoStar is a market leader in sleep diagnostics. It can help you to accurately diagnose the severity of your patient's sleep apnea with our calibrated Flow Volume Loops system.

- The Calibrated RIP (cRIP) signal provides breath-by-breath Flow Volume Loops with abdominal/chest wall synchrony for a simplified and more accurate analysis.
- Synchronous patient breathing will produce a Konno Mead Loop that is represented by a 45° angle.
- Bands placed on the patient's chest and abdomen allow for trouble-free recordings all night long.
- Advanced real-time tools, available during acquisition and scoring, aid in identifying apneas, hypopneas and Respiratory Effort Related Arousals (RERAs).

Measure patient's baseline

Distinguish a wider variety of sleep disorders and determine effective treatment modalities with our integrated of Calibrated Flow Volume Loops.
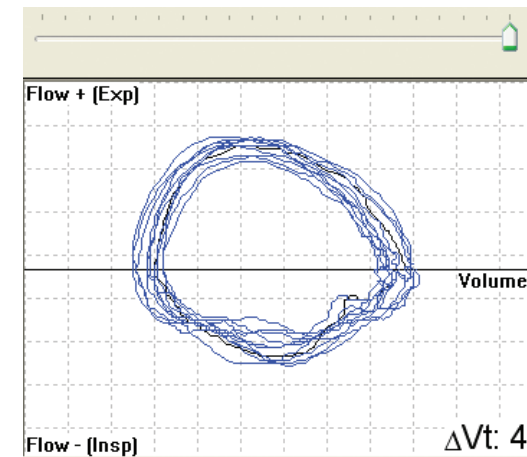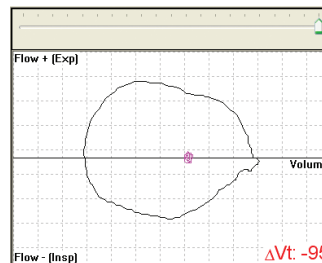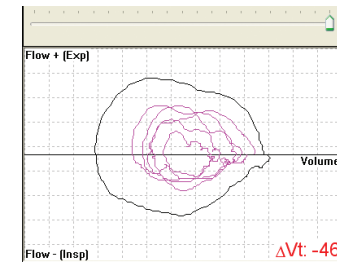
Baseline loop

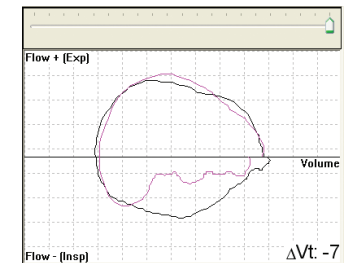Once a "signature" baseline loop is selected, the technologist has a visual tool to optimize treatment level.

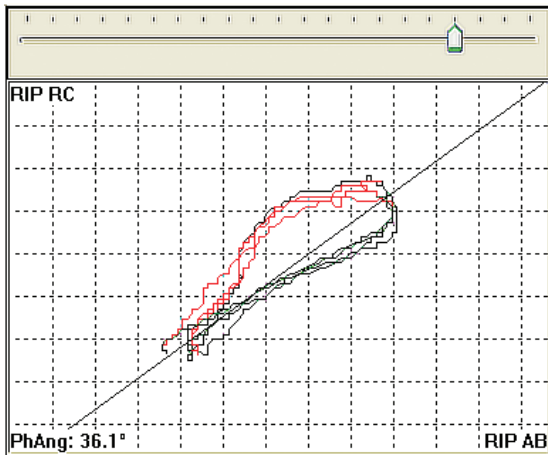## Determine the severity of patient's sleep disordered breathing
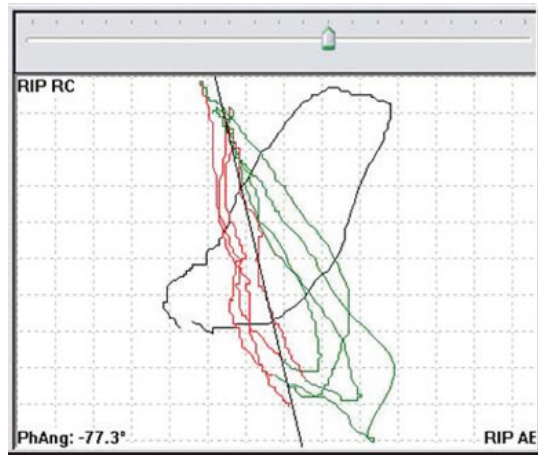

Apnea

Hypopnea

UARS

Evaluate patient's work of breathing

KonnoMead baseline

KonnoMead Paradox

Paradoxical breathing is represented when the angle of the Konno Mead Loop rotates counterclockwise.

Optimal treatment levels made easy

The SomnoStar system yields more accurate test results than traditional flow-based signals. Using cRIP, technologists can titrate the patient's therapy appropriately. The Calibrated Flow Volume Loops provide a tool to reduce over- and under-titration.

It is also easy and comfortable for patients, helping improve compliance. One disposable band is placed on the patient's chest and another on the abdomen. With nothing attached to the face, it creates a more natural testing environment.

## Tritrate your patient to their optimal level

Utilizing Flow Volume Loops enables you to view inspiratory and expiratory tidal breathing and the percentage of change displayed for every breath. You can individually adjust IPAP and EPAP BiLevel settings to calibrate respiratory signals and optimize therapy. With true representation of the patient's abdominal and thoracic efforts, you can reduce the occurrence of central events due to over titration.
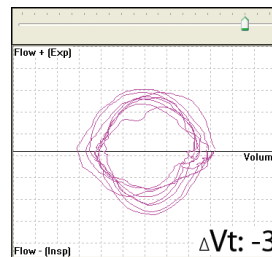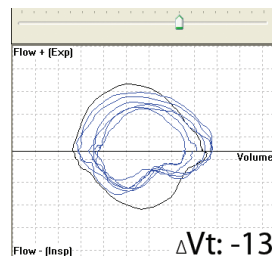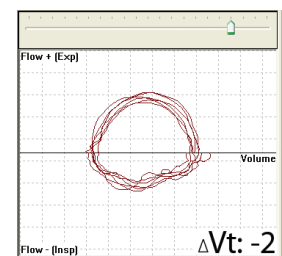

Treatment 1
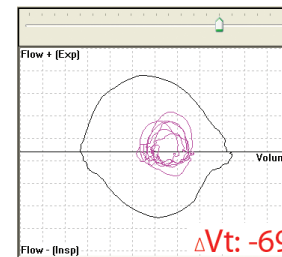
Treatment 2
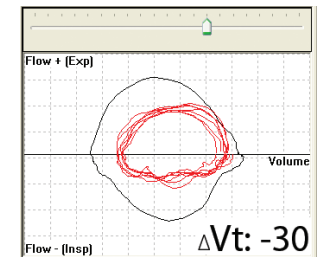
Treatment 3

Treatment 4

Treatment 5

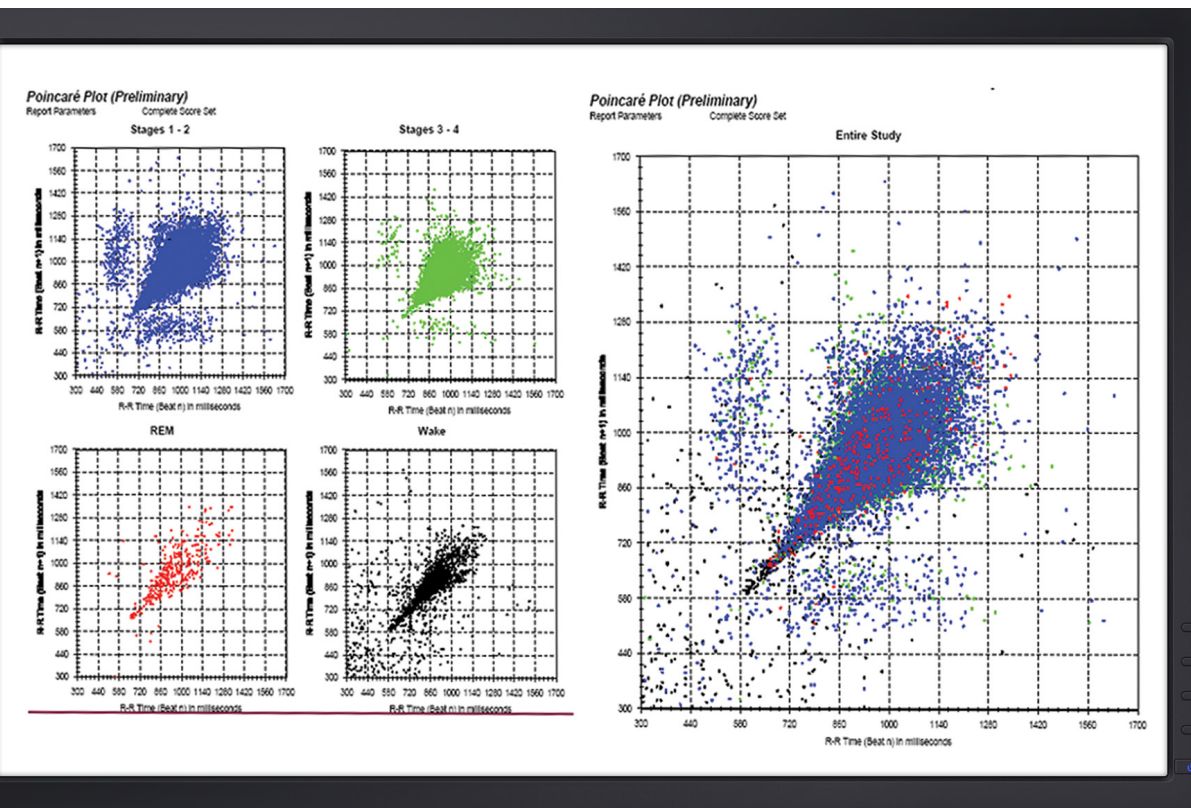# LabManager provides flexible reporting to meet every need

Built upon SQL database, our reporting enables you to create your own reports or choose from one of our pre-formatted reports. Print or send reports directly to your EMR.

Report generation tools

- Microsoft Word-based development toolbar facilitates the creation of custom reports by inserting LabManager fields and graphics as well as patient photos
- Complete study heart rate variability graphing
- Customized Logic-Tree and unique formula calculations
- Auto interpretation based upon physician-defined parameters

Other LabManager functions

- Patient scheduling with calendar
- Ability to directly interface with Hospital Information Systems (HIS)
- Report the results of patient data queries through the simple Management Report Wizard
- Maintain the highest standards and laboratory QA using comparison reports
- LabManager contains more than 10,000 reportable fields

Heart Rate Variability Report

Example of a customized report

Add to your lab with portable sleep monitoring

Integrate the Nox T3 portable sleep monitoring device into your sleep diagnostic program. The Nox T3 device's design is small and lightweight, which is designed to increase comfort for children and adults.

- The Nox T3 device has the functionality of a full-fledged sleep software and can navigate, score, review, report and export your data

- Built-in microphone for true recording and playback of respiratory sounds using MP3 technology, true-3D, high-resolution activity and position sensor, and built-in pressure channel

- 14 total channels, with 2 flexible inputs for ECG, EOC, EEG or EMG for use in a varity of markets

Stay connected and optimize workflow

Sentry Connect

Increase efficiency with bidirectional HL7 interfacing and connect to hospital and private office EMR's. The ADT data from HIS ensures data validity and proper billing.

Remote access

With Citrix and terminal server compatibility, you can access your data from anywhere via the Internet, saving time and money on costly infrastructure. Need help? We offer onsite and remote support.

vyaire™
MEDICAL

REFERENCES

1. Baumert M, Smith J, Catcheside P, McEvoy R, et al. Variability of QT Interval Duration in Obstructive Sleep Apnea: An Indicator of Disease Severity. Sleep, 2007; vol 31, issue 07.

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