



compumedics  
**profusionSLEEP**  
version 5

World Class Sleep Diagnostic Software

## AASM V2 Compliant - Profusion Sleep meets the latest AASM scoring rules.

Allows expanded reporting for hypopneas including:

- REM without atonia (RWA)
- Hypopneas meeting the traditional Medicare rule of a 4% desaturation as well as that of a 3% desaturation with or without associated arousal
- Hypopneas meeting your traditional lab rule
- New report codes also allow reporting of AASM, Medicare (USA), and/or traditional hypopneas for numeric or chronological bi-level pressure treatment.

Property	Value
Bruxism Input	Chin 1
Sustained Muscle Activity Input	Chin 2
Transient Muscle Activity	
Flexor Digitorum Input	AmtL
Extensor Digitorum Input	AmtL
Rhythmic Movement Disorder Burst Input	EMG Back
Hypnagogic Foot Tremor	
Burst (Left) Input	FootL
Burst (Right) Input	FootR
Excessive Fragmentary Myoclonus	
Left Limb Input	LegL
Right Limb Input	LegR

## Tools for Recording

### Decision Assist

Aids deciding when to start CPAP titration in a split night study. Set your criteria for sleep and REM time, respiratory disturbances and oxygen saturation levels based on AASM Hypopnea scoring rules.

Decision Assist

Start Titration State:  Acknowledge Alert

Scheduled end of study time: 6:00:00 AM

Start Analysis

Auto (Analysis based on lights out period)

Manual - Assume lights out at: 4:46:30 PM

Parameter	Threshold	Current Value
Time since lights out	120 minutes	10 minutes
Time asleep	120 minutes	14 minutes
Time in REM sleep	0 minutes	6 minutes
Total Arousal and Hypopneas	40	14
Total RERAs	0	4
AHI	20	60.0
Time with SpO2 <= 80	10 minutes	0 minutes
Number of desats >= 10	5	0
Study time remaining	240 minutes	778 minutes

### Visual and/or Audio Notifications on Calibrated Channels

Helps ensure critical events are not missed.

### On-Line Trend View

Provides extensive information including any scored events, particularly useful during CPAP or Bi-level treatment.

### Fully Synchronized High-Definition Digital Video/Audio Recording

With support for two High-Definition Video Cameras  
 Helpful when studying patients with parasomnias and seizure disorders. Features digital pan, tilt and zoom to record patient activity throughout the night.

### Enhanced Pageback during recording

#### Integrated Pageback

Full automatic and manual on-line scoring or editing capabilities.

#### Video Review of previously recorded DV

Don't miss what the patient was doing while you attend to another.

#### ECG free trace transformation

Score during acquisition and frustrated with ECG artifact? **ECGfree** is now available during Pageback.

## Features -

### Totally Modern User Interface

Profusion Sleep software suite has been updated with a modern and visually appealing user interface. All applications within the suite have a consistent look and feel, making them easier to recognise, learn and operate.

### My Workspaces

Each individual can customize up to four workspaces, which allow the user to maximize the screen layout for optimum viewing of essential data. Easily accessible waveform data, trends, hypnogram, digital video, and other data windows.

### Drag-and-Drop Traces

Drag traces off screen to delete, drag in from a list to select. Move a trace by dragging and dropping in a new position.



### Charting Tool

A handy reminder to chart observations. User defined forms that pop-up at pre-defined intervals.

### Online Respiratory Rate

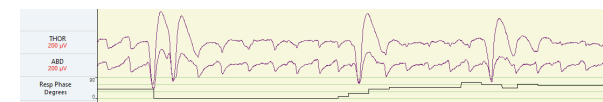
Quick Rate on-screen calculation. Provides additional information, especially for pediatric patients.

### User Defined Manual Inputs

Create inputs to manually track important information such as body position and snoring level.

### Respiratory SUM channel is also available in Pageback view.

The Respiratory Sum channel aids in the identification and classification of respiratory events, making it easier to score during acquisition.



### Respiratory Band Phase Analysis

A new respiratory band phase analysis has been added to both PSG Online and Profusion PSG software to provide a new respiratory phase angle channel. Provides additional information, especially for pediatric patients.

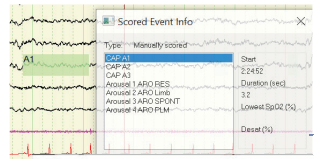
## Tools for Scoring

### “As Recorded” Review

Anyone viewing the file can see it just as the recording technician did. Change any settings or open with your own personal preferences.

### Selectable Timebase

Easily review all data at the most appropriate rate. Display raw data or data trends in multiple panes with different timebases if desired.



### View Data in Context

On-screen trend data and details of the current epoch allow simple relation to the entire study.

### Cyclic Alternating Pattern (CAP) scoring and reporting

### MSLT nap times are user configurable

Added ability to define MSLT nap periods for ease of reporting. No need to set lights on/off. Added ability to associate up to three studies during reporting.

### Added analysis and reporting support for Esophageal Pressure Monitoring (Pes)

### ECG free trace transformation - score or review, even during acquisition

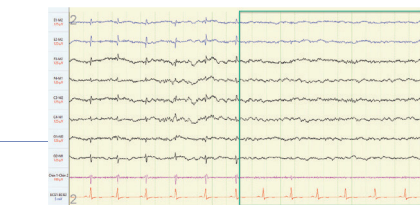
Frustrated with ECG artifact? **ECGfree** is now available anytime you score or review.

### Staging and Event Scoring Comparison

Correlate different staff member results, including epoch-by-epoch review.

### Summary Statistics

See the results as you score. Dynamic on-screen display including sleep architecture, respiratory events, arousals and limb movements.



Rank	Bed 1	Bed 2	Bed 3
1	11111	11111	11111
2	11111	11111	11111
3	11111	11111	11111
4	11111	11111	11111
5	11111	11111	11111
6	11111	11111	11111
7	11111	11111	11111
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11	11111	11111	11111
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47	11111	11111	11111
48	11111	11111	11111
49	11111	11111	11111
50	11111	11111	11111

## Tools for Interpretation and Final Reports

### New Reporting Features Include:

- Generic scored event count graph
- RDI (Sleep time in Supine body position), RDI (REM Sleep in Supine body position), RDI (NREM Sleep in Supine body position)
- Expanded reporting for Hypopneas. Report both AASM and CMS defined hypopneas in any report
- Report expanded parameters for ASV
- Added analysis and reporting support for Esophageal Pressure Monitoring (Pes)
- Cyclic Alternating Pattern (CAP) scoring and reporting
- Split-night reports
- New Active text facility.

Polysomnography Report COMPUMEDICS

**Study Information**

PI: Sample Patient	Study Type: Treat PSG
DOB: Female	Study Date: 8/2/2013
DOB: 08/19/90	Protocol #: 1001-05
Age: 22	Refer Phys: Paul Peters, M.D.
Height: 175	Study Tech: James Etherton, MD
Weight: 175	Recording Tech: D. Downs
EMR #: 20-2	Scoring Tech: M. Cummings

**Methodology:** The patient underwent a digital polysomnography study using the Compumedics Great PPG system with Profusion scoring software. Electroencephalogram, electrocardiogram, electrogram, electrocardiogram, respiratory effort, nasal and oral airflow, nasal pressure, leg movement, body position, and esophageal, snore and snore were simultaneously recorded. The data was adequate for interpretation and the data was reviewed by the scorer. Scoring was done on the Recommended Standards and Specifications as outlined in the AASM Manual for the Scoring of Sleep and Associated Events, Version 2.0.

**Staging Summary Information**

Lights Out Time: 21:57:17	Lights On Time: 05:12:46
Total Recording Time (min): 397.0 min	Total Sleep Time (min): 322.0 min
Wake Time After Sleep Onset: 35.0 min	Sleep Efficiency: 81.1%
Sleep Onset Latency: 30.0 min	Sleep REM Latency: 72.0 min

**Staging Table**

Sleep Stage	Duration (min)	% Sleep Time
Wake during sleep period	35.0	8.8
Stage N1 Sleep	28.5	8.9
Stage N2 Sleep	163.5	50.5
Stage N3 Sleep	38.0	11.2
Stage REM Sleep	50.0	15.5

**Respiratory Events Summary**

Parameter	Observed	Mixed	Central	Hypopneas AASM	Hypopneas CMS	RERA
Number in Sleep	13	5	30	55	27	0
Avg. Dur. (sec)	2.4	0.9	7.1	10.4	5.0	0.0
Number in NREM	10	5	37	44	25	0
Number in REM	3	0	1	12	7	0

**Respiratory Events - REMNREM**

Parameter	REM	NREM	Sleep
Apneas	4	52	56
Hypopneas-AASM	12	44	56
Hypopneas-CMS	7	20	27
Apneas + Hypopneas-AASM	16	96	112
Apneas + Hypopneas-CMS	11	72	83
RERAs	0	0	0
AHI-AASM (hr <sup>-1</sup> )	18.1	21.4	20.9
AHI-CMS (hr <sup>-1</sup> )	12.5	16.1	15.5
RDI (hr <sup>-1</sup> )	22.9	23.8	23.8

**Respiratory Events Index (hr<sup>-1</sup>) by Position (Sleep Time)**

Parameter	Observed	Mixed	Central	Hypopneas AASM	Hypopneas CMS	RERA
Index Supine	2.2	2.7	20.0	20.5	9.2	0.0
Index Non-Supine	2.6	0.0	0.3	5.1	2.8	0.0

\* Hypopneas with 2-3% desaturation or an arousal.  
 \* Hypopneas with 2-4% desaturation.  
 \* Includes apneas plus hypopneas with 2-3% desaturation or an arousal.  
 \* Includes apneas plus hypopneas with 2-4% desaturation.

**Treatment Statistics**

CPAP	EPAP	EPAP Min	EPAP Max	Pres	Other	Rise	Total Sleep Time (min)	WAKE	REM	REM Time (min)	#HYP	#CA	#OA	#MA	AW	#RERA	ROF
0/0/0	0	5	8	16	0	Time = 2	61.0	61.0	61.0	0.0	0	13	0	0	32.8	0	12.8
4/7/0	0	5	8	16	0	Time = 2, Rise = 12	98.0	100.0	72.0	26.0	0	14	0	0	8.6	0	6.7
3/8/1	0	5	8	16	0	Time = 3, Rise = 10	32.0	32.0	32.0	0.0	0	2	0	0	3.8	0	3.8
3/8/2	0	3	8	16	2	Time = 1	1.5	1.5	1.5	0.0	0	0	0	0	0.0	0	0.0
4/1/0	0	5	8	16	0	Time = 1	0.5	0.5	0.5	0.0	0	0	0	0	0.0	0	0.0

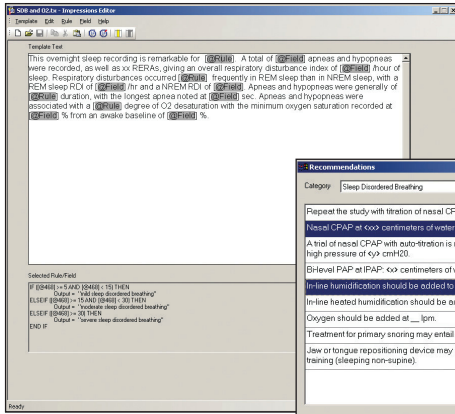
### Polysomnography Reports

Customize your reports using the many tools available in MS WORD, including logos, drop downs, and tables as well as the new Report Template Editor.

### Report Template Wizard -

It's never been easier to have report templates customized to your exact requirements. The **Report Template Editor** and the **Report Wizard**, (an MS Word plug-in), allows searches for the description of any one of literally thousands of possible statistics - to be used in any way you wish.

# Optional Features

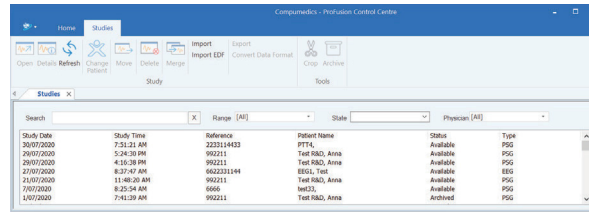


## Automatic Narrative Interpretations

A significant time-saving feature for interpreting physicians. The Impressions Editor applies user-defined rules to automatically generate the desired interpretation of the numbers, e.g. severity of OSA dependent on the AHI or RDI.

## Quick Insertion Of Recommendations

More time saved for the physician. Simply select one or more user-defined statements from a pre-configured drop-down list. For **neXus 360** users there is a two-way dialogue between **neXus 360 service** details and the report in Profusion Sleep. Physicians can make interpretations and recommendations in either application with each being automatically updated.

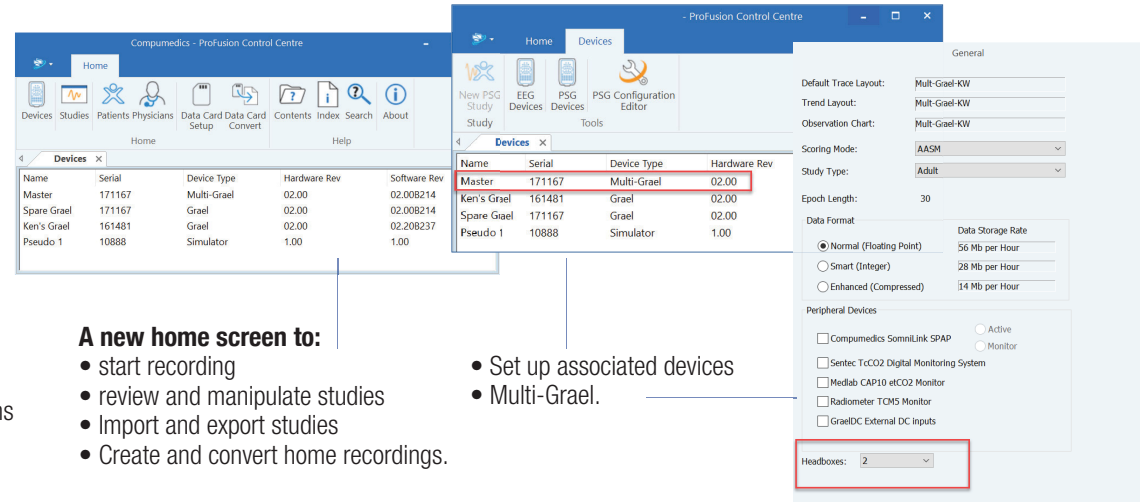


## Profusion Small Database

Entry level study / patient database system for smaller clinics to help manage study and patient information. Patient details are now stored in a single Microsoft Access Database, making it easier to search and maintain data.

## Profusion Control Centre

The new Profusion Control Centre provides a single tool to perform common operations such as starting new studies, setting up data cards and downloading studies.



### A new home screen to:

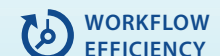
- start recording
- review and manipulate studies
- Import and export studies
- Create and convert home recordings.
- Set up associated devices
- Multi-Grael.



# profusion neXus 360™

Introducing Compumedics Profusion neXus 360, the next generation of Profusion neXus.

Built on the proven Profusion neXus platform with more than 15 years of customer use and thousands of users, Profusion neXus 360 offers the full functionality of Profusion neXus and more, in a full web-based interface.



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