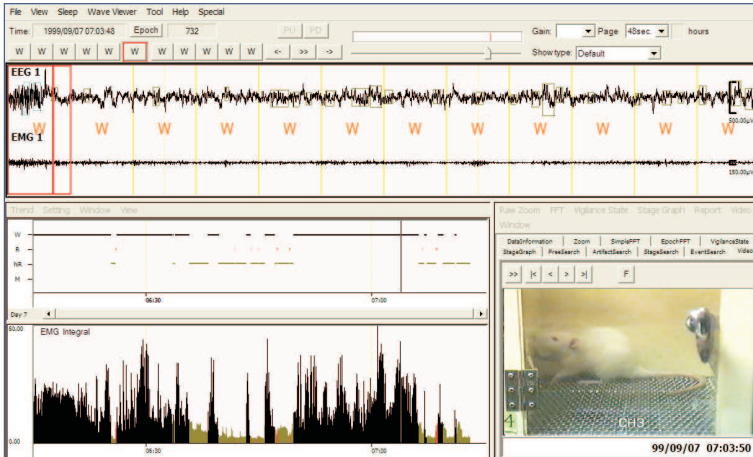


## SleepSign™ for animal

### Automated Multi Animal Sleep Stage scoring



SleepSign for Animal is powerful sleep analysis software for automatic and manual sleep stage scoring. It recognizes several sleep stages, including REM, NREM and awake. With SLEEPSIGN the researcher can investigate sleep disruptions or sleep disorders in animals in an efficient and easy way.

#### The SleepSign software

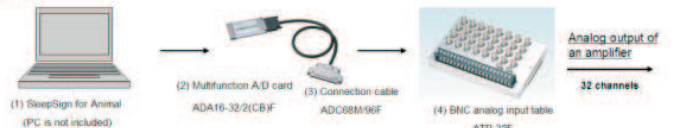
SleepSign for Animal is a software package that can distinguish several sleep stages, including REM, NREM stages 1-4 and wake in freely moving animals using EMG and EEG data.

The EMG and EEG data can either be obtained from a telemetry based system or a wired/ tethered EMG / EEG solution. It also possible to import earlier acquired EMG and EEG data in the SleepSign software (see pictures on the right).

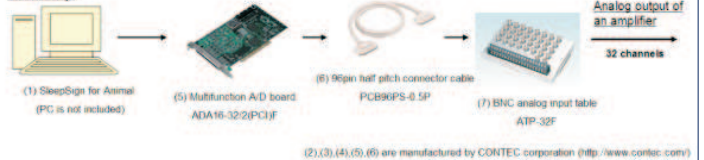
SleepSign for Animal drastically reduces the time and labor spend on sleep stage scoring and offers functionality to score the sleep stages automatically as well as manually. In the manual sleep scoring mode, SleepSign offers several tools to assist you in efficiently classify the sleep stages yourself. The reliable auto scoring function of SleepSign, can even further reduce the analysis time by automatically classifying the sleep stages.

SleepSign for Animal enables you to generate various report types of accepted, standard reports with just a few key strokes. These report functions assist you to grasp both sleep quality and sleep quantity in a very convenient and efficient way.

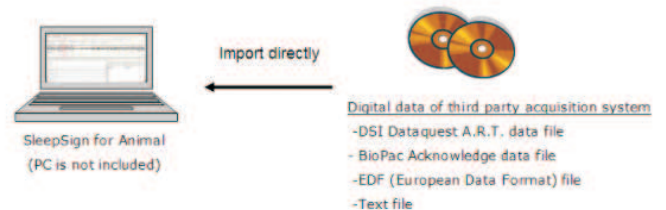
#### Laptop



#### Desktop



(2),(3),(4),(5),(6) are manufactured by CONTEC corporation (<http://www.contec.com>)



#### About Metris

Metris is a solution provider for automated animal behavior analysis. We offer both off the shelf and tailor made solutions for non-invasive measurement of animal behavior. All solutions provided contribute to a further Refinement, Reduction and Replacement of laboratory animal research. Metris actively works together with trend setting research institutes and companies and has several strategic alliances with other market leaders in the field of animal behavior research.

Besides of SleepSign Metris also offers the award winning LABORAS (for automated continuous behavior recognition and tracking of small rodents) and SONOTRACK (for recording, analysis and playback of ultrasonic vocalizations).

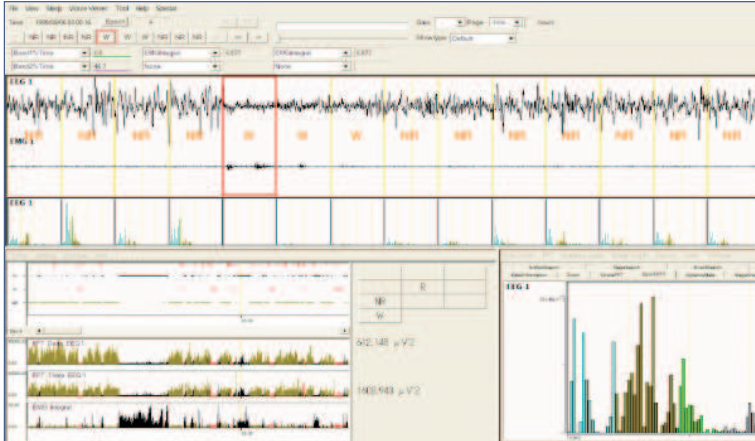
#### SleepSign in your Research

SleepSign for Animal is a strong tool that proved itself in sleep analysis, neurology and pharmaceutical research. It offers you the ability for both in-depth analysis of sleep stages in unconstrained and free moving animals as well as automatic analysis of sleep stages that will quickly help you to reach the end points of your sleep studies.

The SleepSign for Animal software can be integrated with other products of Metris, such as LABORAS and SONOTRACK (see picture above). The integrated solutions provide laboratories with a total animal behavior analysis solution: day and night, time simultaneous recordings of behavioral, physiological and acoustical data. It will increase both flexibility and capacity of test facilities.

# SleepSign™ for animal

## Automated Multi Animal Sleep Stage scoring



### Unique Features of SleepSign software

#### Flexible choice of hardware:

The SleepSign software can work with a large variety of third party hardware to provide the required EEG and EMG inputs to the SleepSign software. The software works with both wireless (telemetry solutions) as well as wired solutions.

#### Reduces time, money and animals:

SleepSign reduces the lead time of your experiment and will therefore reduce the overall cost of your experiment and the number of animals used in your sleep studies.

#### Manual and Automated classification of sleep stages:

SleepSign provides a reliable and proven autoscoring function, but provides the researcher with the flexibility to perform corrections or to classify the data completely manually.

#### Scoring of pre-assigned and unassigned vigilance stages:

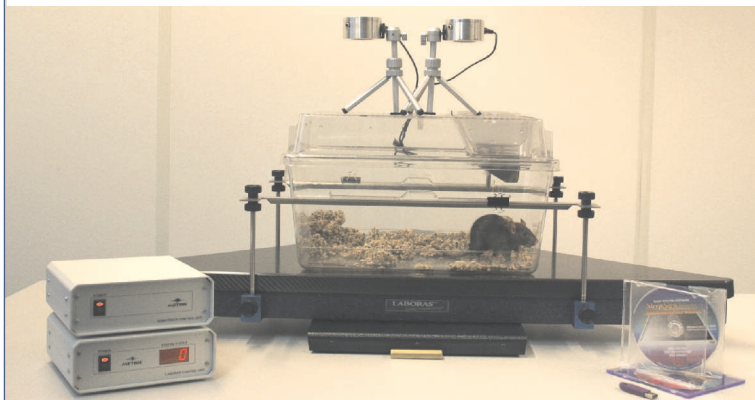
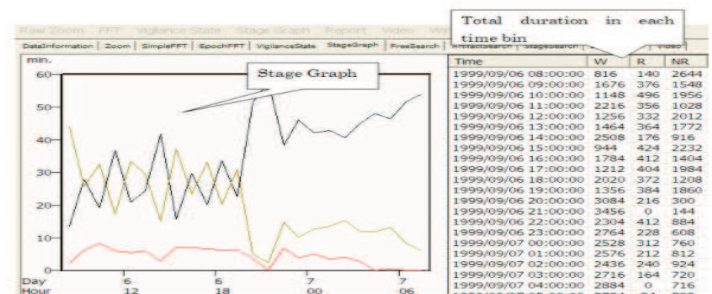
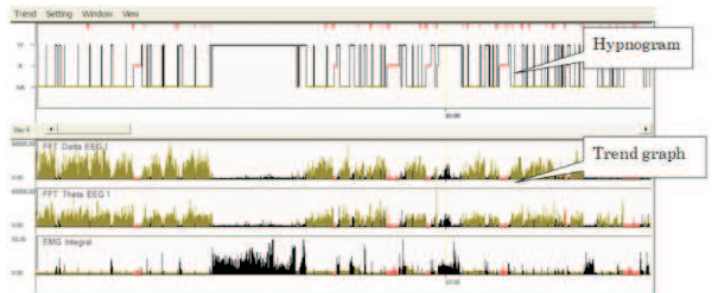
SleepSign scores a number of pre-assigned sleep stages such as REM and NREM, but also three unassigned vigilance stages.

#### Wide choice of accepted Sleep Analysis and Report functions:

In depth analysis can be performed by using Hypnograms and Trend Graphs, Stage Graphs, Vigilance State Parameter Display, FFT analysis of vigilance stages.

#### Developed with the help of and for Sleep Researchers.

SleepSign for Animal is developed by Kissei Comtec and was designed in cooperation with well known Sleep researchers in Japan. Since its introduction in the market, SleepSign for Animal has been selected as the preferred software for sleep studies by an increasing number of researchers. The new, faster and even more versatile version 3.0 of the software will continue to improve sleep studies in animals in laboratories around the world.



### Ordering information

SleepSign can be delivered in several configurations. Depending on your research requirements you can choose for a software license only or additional hardware such as data acquisition boards, camera's and video multiplexers.

Metris distributes SleepSign for Animal in West and Eastern Europe. Customers outside this area might contact Kissei Comtec directly.

More information can be obtained through our website.