

# Stellar Telemetry

The Freedom to move anywhere, anytime and still collect your data



- Pressures
- ECG
- Temperatures
- EEG
- Heart Rate
- EMG
- Activity
- EOG

Mice to Large Animals

## Key Features

- Build-in memory, no data dropout
- Catheter tipped solid state pressure sensor
- Remote programming of implanted transmitters
- One receiver for multiple animals
- Collects data even when outside 5m range
- Continuous mode / scheduled
- Animals can be group-housed & roam freely
- Implants for animals 15g - 3500+g



## Stellar Telemetry: The Next Generation

### Stellar Telemetry is the next generation of implantable telemetry technology

The system allows monitoring of unlimited animals with just one receiver thus allowing group housing, social interaction studies AND monitoring of animals without the need for individual dedicated receiver platforms under each cage. Further, no other system on today's market allows researchers the freedom to move your animals away from their home cage for the purpose of performing specific tests anywhere in your facility with no loss in data thanks to on-board controlled recording and storage. The transmitter automatically switches to datalogger mode when out-of-range. Animals are allowed to roam freely and interact in groups with no restriction in number. No large complicated, cumbersome set-ups required, just one receiver and transmitter(s) is all that is required to perform studies. The Stellar Telemetry system can be implanted into any animal from mice to swine with no additional items required. Finally an implantable telemetry system for research that performs with great efficiency, and ease without the large capital expense required with other systems on the market

The Stellar Telemetry system allows researchers to measure and collect vital signs while performing phenotypical, physiological, pharmacological, behavioral, metabolic and inhalation studies in your facility.

### Transmitters – Pressure, Heart-Rate, ECG, EEG, EMG, EOG, (Dual)Temperature and (3D)Activity

Stellar Telemetry transmitters allow measurement of activity (A), pressure (P), electrocardiogram (ECG), electro-encephalogram (EEG), electromyography (EMG), electrooculography (EOG), heart rate and temperature in a hermetically sealed implanted system. All leads feature solid state pressure tipped sensors, eliminating slow frequency response, head pressure and animal movement noise which are associated with fluid filled catheters. Transmitters can be ordered in any combination of the following: Pressure / ECG / EEG / EMG / EOG / Heart Rate. Temperature and Activity are included standard with any transmitter configuration.

### Stellar Telemetry Receiver and Antenna

Monitor numerous animals with a single receiver. Receive your data from anywhere in the lab. Animals may also be removed from receiver range while the implant is still recording their parameters with Stellar's unique built-in self-scheduling/ data storage capabilities. Data transfer of the stored data is resumed once the animal is within range. Real-Time waveforms can be reviewed to guide implantation or provide acute feedback. The new analog output function can be used for real-time recording and synchronization with external devices and recordings. The antenna can be placed in a room, on the wall, ceiling, or even in another room by utilizing the 5m transmission range. The array feature may be used by incorporating additional antennas to cover even larger areas.

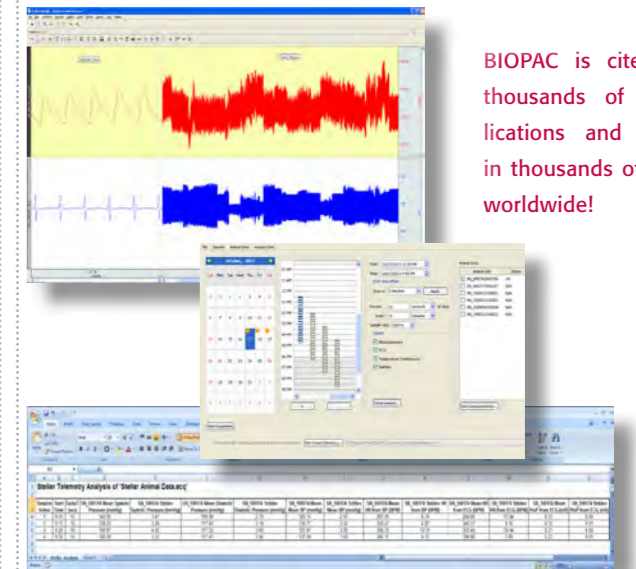
## Stellar Telemetry: Dedicated Software

### BIOPAC AcqKnowledge Software – Stellar Module

Use the power of AcqKnowledge Software for seamless integration of animal scheduling, telemetry data recording, video monitoring, and fully automated signal analysis for a large variety of physiological signal types. Scripting options allow for fully automated and customized analysis routines and output (e.g. to EXCEL™).

#### Key Features

- Easy-to-configure animal schedule with intuitive calendar interface
- Powerful display options—historic, real-time, processed: view data in multiple formats simultaneously
- Signal conditioning tools including filtering options and artifact removal
- Multi-Animal, Multi-Channel simultaneous automated data analysis
- Data and results are automatically exported to Excel for further statistical analysis



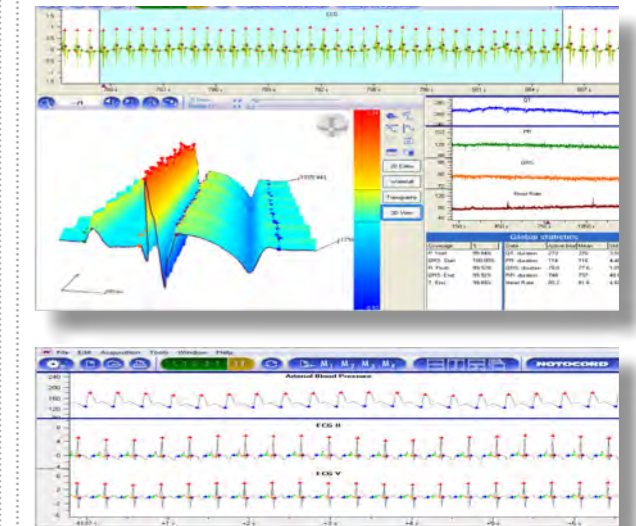
BIOPAC is cited in thousands of publications and used in thousands of labs worldwide!

### NOTOCORD-hem™ Evolution

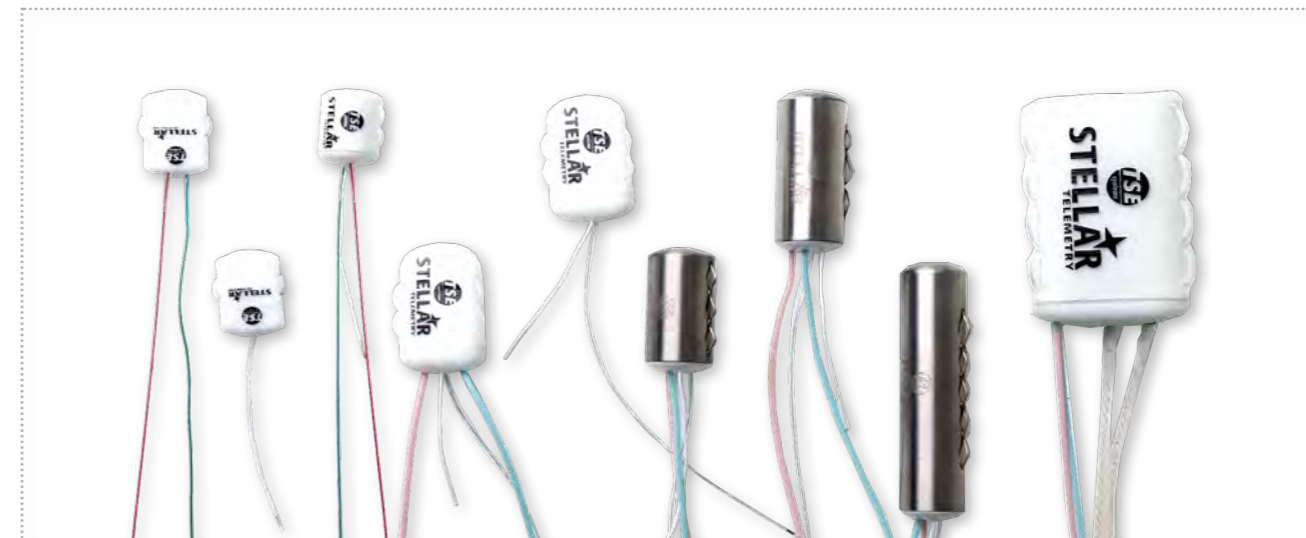
NOTOCORD-hem™ Evolution is an advanced software platform designed to acquire, display and analyze physiological signals.

#### Key Features

- Flexible and open software platform providing customized analysis
- Simultaneous acquisition possible from different sources and systems (E.g. physiological data and video)
- Multiple sessions to acquire data from different channels in each session
- Compatible with various experimental setups and animal species
- Extensive library of signal processors and analyzers
- Various displays with advanced capabilities (continuous, digital, 2D, 3D, video...)
- Real time review of data and results during acquisition
- Ultra fast access to data whatever the experiment file size
- Fast and customizable reporting in Excel® with the possibility to create customized data extraction templates
- Single and highly compressed generated file containing all data
- GLP / 21 CFR Part 11 compliant



Notocord is the preferred solution in GLP environments.





## Battery Life

Due to the flexibility in programming the Stellar battery life allows for unsurpassed lengths of recording time with the batteries lasting on average 4 times longer than legacy systems. The disposable Stellar transmitters can be resterilized and reused as many times as needed and will maintain flexibility and accuracy throughout.

<b>TECH DATA</b>							
<b>TRANSMITTER ANIMAL BODY WEIGHT</b>	<b>XS 17 g+</b>	<b>S 30 g+</b>	<b>M 170 g+</b>	<b>L 240 g+</b>	<b>XL 500 g+</b>	<b>XXL 2500 g+</b>	<b>XXXL 3500 g+</b>
Typical range	5 meters / 16 ft						
Parameters	Pressure(s), Tidal Volume, Heart Rate, Temperature(s), Biopotentials, Activity						
Sample rate / sec	100 / 200 / 500 / 1000 Hz (1 ... 5000 Hz on request)						
Auto on / off	Unit is always in power saving mode until instructed by the computer to conduct a measurement session						
Battery life	up to 6 months	up to 6 months	up to 12 months	up to 24 months	up to 36 months	up to 48 months	up to 60 months
Housing	Silicone	Titanium					
<b>CHANNEL PRESSURE</b>							
Pressure range	-20 to +300 mmHg Solid State Pressure Sensor						
Ambient barometric pressure	up to 7600 mmHg (10 atm.)						
<b>TEMPERATURE</b>							
Temperature range	5...45 °C						
<b>RECEIVER</b>							
Maximum number of transmitters per receiver	Unlimited						
Barometric pressure reading	Built into Receiver Unit						
Computer connection	USB						
Power	from USB Port						

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