

## Playback

There is also a wide range of playback options available:

The bus-powered UltraSoundGate Player 116 includes a 16 bit D/A converter, a power amplifier and a bias voltage generator for electrostatic speakers (order # 70111 / ...2)



At limited budgets and lower bandwidth requirements (up to 80 kHz), a combination of the less expensive Avisoft Bioacoustics power amplifier (order # 70101) and a standard USB audio interface (order # 43001) could be used.

There are two dynamic and two electrostatic speakers that can be used with the UltraSoundGate Player.

The playback procedures are also handled by the RECORDER software that provides a playlist tool.



Dynamic speaker ScanSpeak (available with an optional 10 mm aperture screen)



Electrostatic speaker ESS16

## Product Highlights

Hassle-free plug-and-play installation that is supported by the bus-powered USB data acquisition hardware.

Solid design, made of high-quality components.

Very sensitive ultrasound microphones provide a good signal-to-noise ratio, which is essential for a reliable USV data analysis.

Powerful and easy-to-use recording and analysis software.

The unique sound analysis software Avisoft-SASLab Pro supports a wide range of analysis and synthesis options. Certainly its automatic call detection algorithms provide reliable and efficient USV analysis even under difficult circumstances such as high levels of disturbing noise originating from the substrate. If this automatic procedure fails in some cases, it is still possible to correct the results interactively on the spectrographic display window.

The UltraSoundGate system has been developed by Avisoft Bioacoustics having more than 20 years of experience in designing animal sound analysis software, digital signal processing systems and ultrasound recording / detecting equipment.

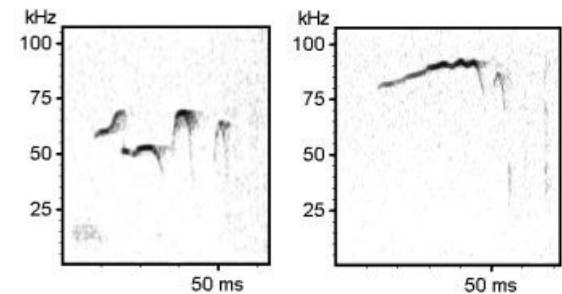
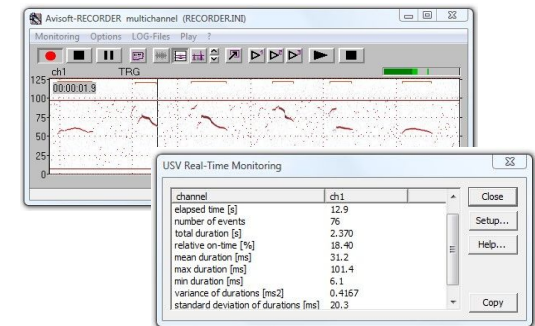
It is being used successfully by an increasing number of researchers at numerous Universities and pharmaceutical companies, such as Pfizer, GlaxoSmithKline, Merck and Sanofi-Aventis.

More details on the system can be found at [www.ultrasoundgate.com](http://www.ultrasoundgate.com).

Avisoft Bioacoustics  
Kirchstr. 11  
13158 Berlin  
Germany

Fax: +49 30 48476987  
email: [sales@avisoft.com](mailto:sales@avisoft.com)

[www.ultrasoundgate.com](http://www.ultrasoundgate.com)  
[www.avisoft.com](http://www.avisoft.com)



**Integrated Tools for Recording,  
Analysis and Playback  
of Ultrasound Vocalizations  
in Laboratory Rodents**

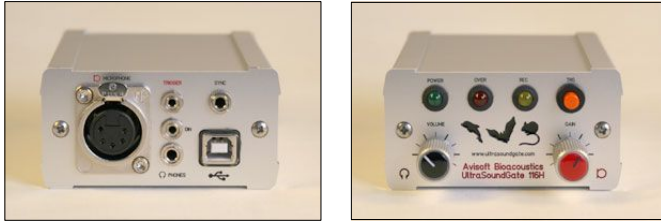
**Avisoft ULTRASOUNDGATE**

# Avisoft Bioacoustics UltraSoundGate

Powerful ultrasound recording and playback systems for applications in laboratory rodents

## Single-Channel Recording Systems

**USG 116H : full-featured unit**  
sample rates of up to 1 MHz, with external trigger inputs and spare microphone capsule  
(order # 51163 / ...4)



**USG 116Hb : basic and cost-effective solution**  
sample rates of up to 300 kHz, without external trigger inputs and without spare microphone capsule  
(order # 51161 / ...2)



## Special microphones for best results



The supplied sensitive externally polarized solid-dielectric condenser microphones exhibit a fairly flat frequency response from 15 to 200 kHz

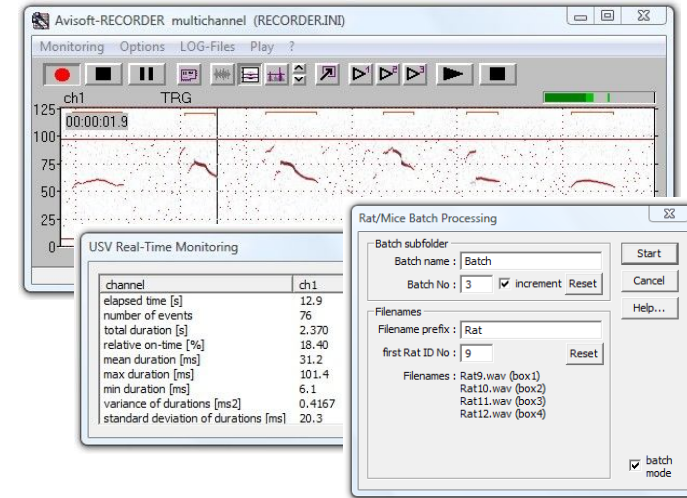
(order # 40011)



Alternative microphone models are available in order to suit special needs.

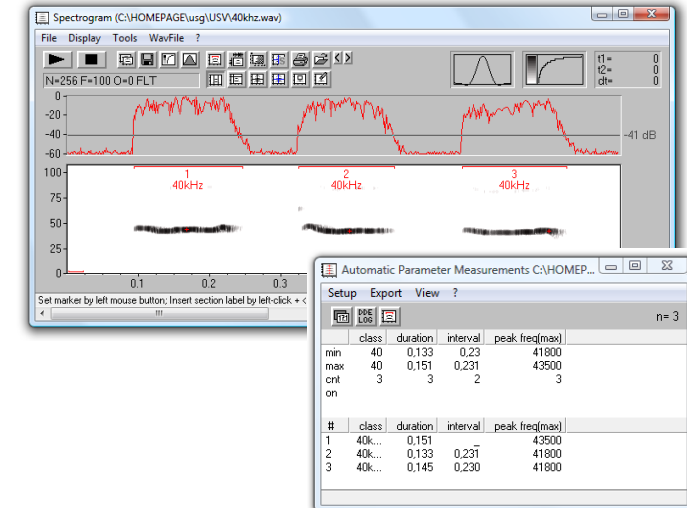
## Versatile Recording Software

The accompanying Avisoft-RECORDER USGH software saves the incoming sounds as common .wav files onto the PC harddrive, provides real-time spectrogram displays, batch mode capabilities and can acquire preliminary statistics on the USVs in real-time.



## Advanced Analysis Software

The sound files created by the RECORDER software can be further analyzed with the Avisoft-SASLab Pro software (order # 51161 / ...2).



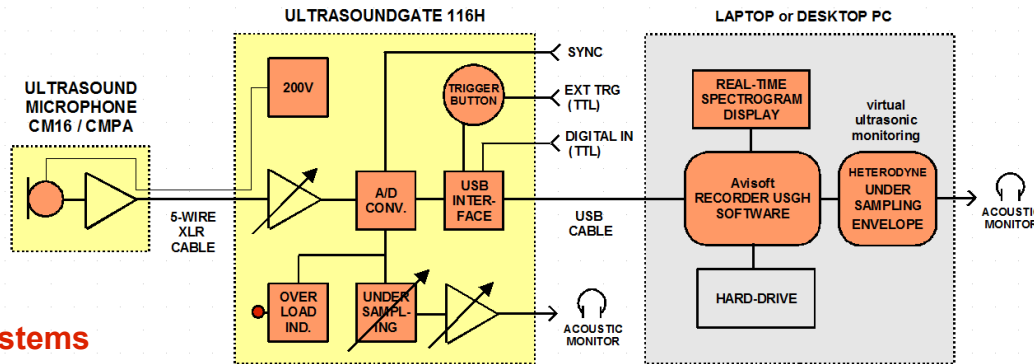
## 4-Channel Recording Systems

**USG 416H : full-featured unit**  
sample rates of up to 750 kHz, 16 bit resolution for all 4 channels (order # 34163 / ...4)



**USG 416Hb : basic and cost-effective solution**  
sample rates of up to 300 kHz @ 16bit, no external digital inputs and no trigger button (order # 64163 / ...4)

Functional principle of the single-channel system



## System requirements

IBM-compatible PC, 600 MHz or more with at least one USB 2.0 port, running Windows XP, Vista or 7



**Recording USV's has never been easier!**