

Getting started with the RECORDER USGH Software

The RECORDER USGH software can be launched from **Start / All Programs / Avisoft Bioacoustics / RECORDER USGH**. On the first program start, the configuration dialog box will be launched automatically (otherwise it is available from **Options / Configuration**). Select the desired **Sampling rate** from the **Input Device Settings** section and click at **Ok**. Then click at the Pause button (**Monitoring/Pause**) and the Start button (**Monitoring/Start**). You will then see the real-time spectrogram displaying the incoming signals. For details on the operation of the RECORDER software see the Avisoft-RECORDER manual and the section **RECORDER USGH Software Settings** in this guide.

Sound-activated recording can be arranged by selecting the **Trigger** source option **level of this channel**. The Pre-trigger duration should be kept as short as possible. Long pre-trigger settings can lead to data transmission errors if the sample rate is high. In order to simplify the operation of the Avisoft-RECORDER software in the field, a link to **RECORDER USGH** may be added to the Windows **Startup folder** (*Start->All Programs->Startup*).

Additionally, the Avisoft-RECORDER option **Monitoring/Autostart** should be activated. This arrangement will start the monitoring process automatically after booting the laptop (the UltraSoundGate device must be attached to the USB port prior to booting Windows).

The menu **Options/Configuration management/Presets** provides a number of default settings that might help to configure the system for a specific task. Note that the relatively low gain of the UltraSoundGate 116Unb requires that the trigger threshold is set to a low level. For passive bat monitoring try the preset **Options / Configuration management / Preset / Bat monitoring using USG116Hnm/Hnb/Hnbm**. It is also recommended to activate the option **x10** on the Display Settings section of the Configuration Dialog box that will provide a better (more sensitive) real-time spectrogram display.

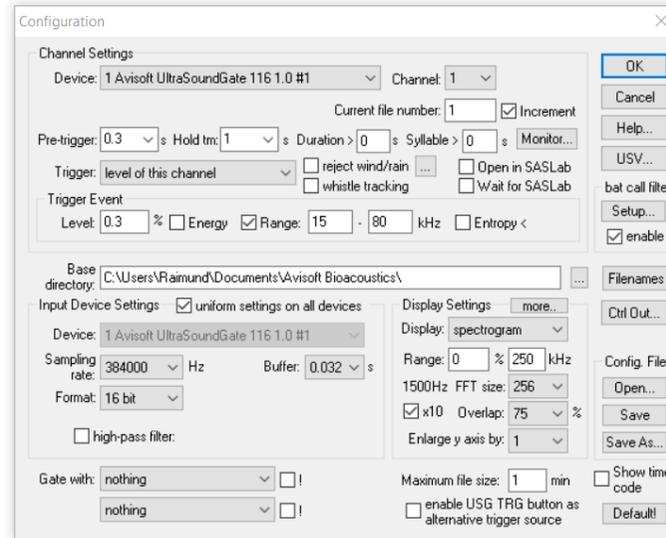
To become familiar with the RECORDER USGH software use the online help system that can be accessed through the drop-down menu **Help > Help...**, the **Help...** buttons on the individual dialog boxes or the website at <http://www.avisoft.com/Help/RECORDER/content.htm>



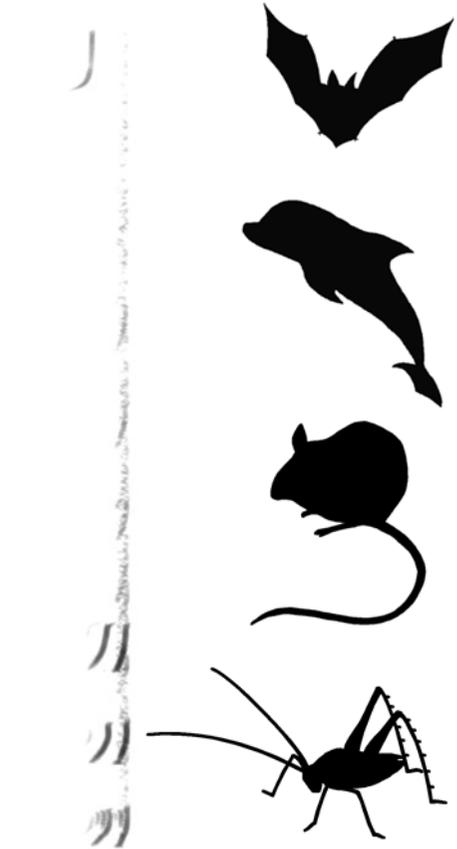
RECORDER USGH Settings

The configuration dialog box can be launched from the menu **Options/Configuration...** or through the button .

The input sample rate can be selected from the **Input Device Settings** section. Available sample rates are 384, 256, 192, 128, 96 and 48 kHz. The **Buffer** setting determines the USB transfer buffer size on the PC. Shorter durations will provide low real-time spectrogram display latencies but might lead to erroneous USB transfers under certain conditions.



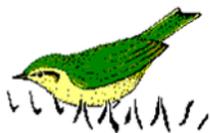
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UltraSoundGate 116Unb

Generic USB Audio Device

User's Guide



Avisoft ULTRASOUNDGATE

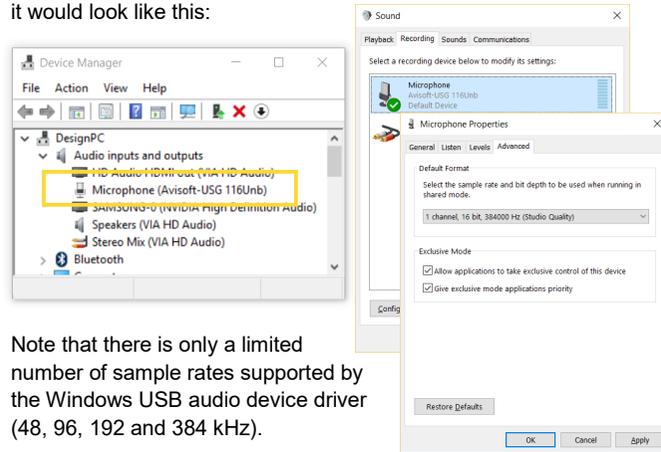
Introduction

Thank you for purchasing the Avisoft UltraSoundGate 116Unb. This generic USB audio device supports sampling rates of up to 384 kHz. Thanks to its class-compliant USB audio interface design, it can be used with third-party / custom software on various operating systems including Windows, Linux, Android and OS X. In addition to that it can also be used with the included Avisoft-RECORDER USG/USGH recording software on Windows XP / Vista / 7 / 8 / 8.1 / 10 / 11.

Installation procedure on Windows

A) Using the USB audio device driver of the operating system

When the Avisoft UltraSoundGate 116Unb is connected to the computer at the first time it will be recognized as a Generic USB Audio device (Microphone) and the required device driver will be installed automatically. There is no further installation required except of the selection of the desired sample rate. On Windows 10 it would look like this:



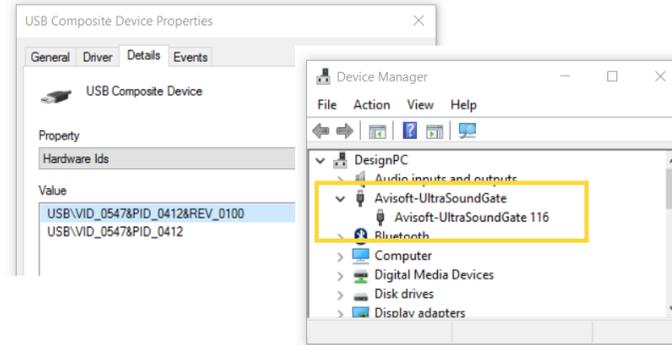
Note that there is only a limited number of sample rates supported by the Windows USB audio device driver (48, 96, 192 and 384 kHz).

B) Using the proprietary USGH.SYS device driver in combination with the Avisoft-RECORDER USGH software on Windows

In order to use the Avisoft-RECORDER USGH software (which supports all sample rates up to 384 kHz on all Windows versions) this software must first be installed either from the supplied software installation media (navigate to the subfolder **RECORDER USH** and run **setup.exe**) or from the Avisoft Bioacoustics website (www.avisoft.com/downloads or directly www.avisoft.com/RECORDER%20USGH.exe). This installation program will install both the RECORDER USGH application (rec_usgh.exe) and the required device drivers (usgh_xx16h.inf, usgh.sys) for the UltraSoundGate xx16H devices.

In order to use the RECORDER USGH software it is necessary to manually install the USGH.SYS driver. Navigate to the *Windows Control Panel > Hardware and Sound > Device Manager* and right-click at the **USB Composite Device** entry in the Universal Serial Bus controllers section. In case there is more than one composite device, select the one with the **Hardware Id** property "USB\VID_0547&PID_0412". This property can be viewed by right-clicking and selecting the popup menu option **Properties**. Select the **Details** tab and then the **Property** list box entry **Hardware IDs**.

To install the new driver select the popup menu option **Update Driver Software...** and then the option **Browse my computer for driver software**. Navigate to the folder **C:\Program Files (x86)\Avisoft Bioacoustics\RECORDER USGH\Drivers** and finally click at **Next**. The completed device driver installation will then look like this:

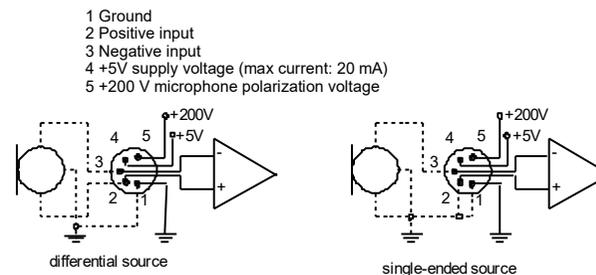


The USGH.SYS driver can be uninstalled from the Device Manager by right-clicking at the **Avisoft-UltraSoundGate 116** entry and selecting the popup menu item **Uninstall**. Make sure to activate the option **Delete the driver software for this device** in order to permanently remove the driver. After unplugging the USG 116Unb it will be recognized again as an USB audio class device (Microphone) again.

Components of the UltraSoundGate 116Unb

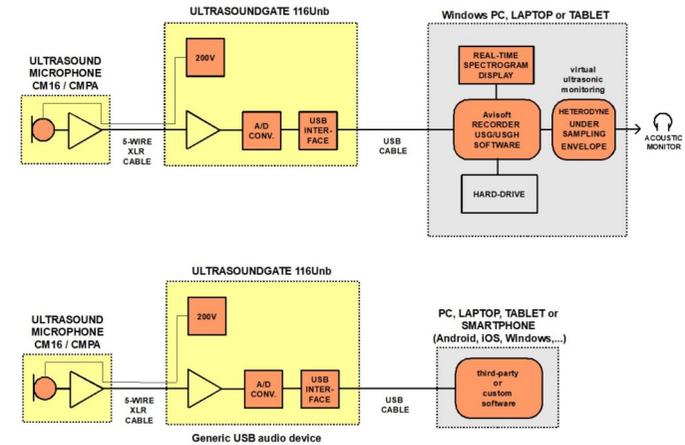
XLR input connector

The 5-pole XLR input connectors represent the analog inputs of the recording device and provide power supply voltages for external amplifiers and microphones. The connector scheme is as follows:



Specifications

Number of channels	1
ADC type	Delta-Sigma architecture with integrated adaptive anti-aliasing filter
Resolution	16 bit
Sample rates [kHz]	384 , 256, 192 , 128, 96 , 48
Frequency response (-3dB)	20 Hz - 180 kHz
Input sensitivity	-9 dBV = -7 dBu = 0.35 Vrms
Input impedance	50 kOhm
Analog input connector	female XLR-5 socket
Computer interface	USB 1.1/2.0, isochronous full-speed mode
Supply current (drawn from the USB)	100 mA
Physical dimensions (W/H/D)	36 x 36 x 120 mm
Weight	170 g



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