

**DODOTRONIC**

**ULTRAMIC**

**ULTRASONIC USB MICROPHONES**



**USER GUIDE**

**2.9**

The first fully digital ultrasonic USB microphone.

Side view



USB connector



Back view

# USER GUIDE

Ultramics are ultrasound microphones, with an integrated digital to analog converter. It features a 192 KHz, 200 kHz & 250 KHz respectively sampling rate. The USB 2,0 Full speed port allows an easy connection to any PC or Mac computer. The device is recognized as a standard USB audio microphone, so **no driver installation is required!**

It appears as a single channel audio input device. However, if recording in stereo, the two channels will appear identical.

## Microphone

The MEMS (Micro Electro-Mechanical Systems) microphone is very sensitive, with a good signal/noise ratio and small form factor.

## Connections

Connect it to your PC, iPhone, iPad, Android smartphone or tablet, and it will immediately be recognized as a new audio input.

In your preferred sound recording software, simply select the new audio input, and choose the sampling frequency. Table below for device compatibility.

## Settings

Ultramic can be easily opened, via a screw on the back. There are two switches, near the front of the microphone, that can be turned on and off with a fingernail (no tools needed), to change amplification between the three hardware levels.

Operating system	ULTRAMIC		
	192K	200K	250K
Windows 8	√	√ (1)	√ (1)
Windows Vista	√	√	√
Windows XP	√	√	X
Windows 7	√	√	√
Linux Ubuntu	√	√	√
Linux Raspbian	√	√	√
Linux Android	√ (2)	√ (2)	√ (2)
Mac Os	√	√	√
iPhone - iPad	√ (1)	√ (1)	√ (1)

Note:

1 – Only with a specific software.

2 – Only on some devices (search the compatibility on [www.dodotronic.com](http://www.dodotronic.com))

The ultramic has been developed with the scientific support of:  
CIBRA / University of Pavia.



## Applications

It can be used by scientific researchers for:

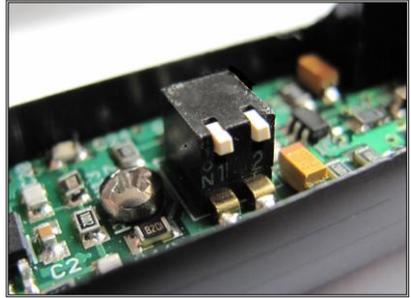
- Detection and recording of biological ultrasounds for **bioacoustic studies** on insects, rodents and bats.
- Environmental studies to assess the impact of **wind farms** on bats.
- Recording and analyzing mouse ultrasonic vocalizations for **pharmacological studies**.
- Detection of the high-frequency noises emitted by switching power supply, by LCD screens, and also by the turbines of car and truck engines.

In your home or in office: Discover the ultrasonic noise emitted by your TV, your computers, and by the power adapters of all your electronic devices.

Outside, use the UltraMic to record bat sounds! And discover the ultrasonic sounds of small rodents.

## Amplification settings

Amplification levels, can be adjusted by turning down one of the two switches on the inner board.



Accessing the switches is simple:

- unscrew the ring on the back of the device, near the USB connector.

Pull the aluminium tube.



It's possible to set three amplification levels:

High gain	Both up
Medium gain	Inner down, distal up
Low gain	distal down

## Technical specifications

- ^ 192 K sampling per second. ULTRAMIC192K.
- ^ 200 K sampling per second. ULTRAMIC200K.
- ^ 250 K sampling per second. ULTRAMIC250K.
- ^ True 16 bit resolution.
- ^ Frequency range up to 96 KHz - 100 KHz - 125 KHz respectively.
- ^ MEMS high sensitivity Surface Mount Wide-band Ultrasonic Acoustic Sensor.
- ^ High quality, and low noise analog amplification.
- ^ USB device: Full speed port, with a mini USB B connector.
- ^ 32 bit 80 MHz integrated microcontroller.
- ^ Dimensions: 130 mm long x 20 mm in diameter.
- ^ Weight 50 g.

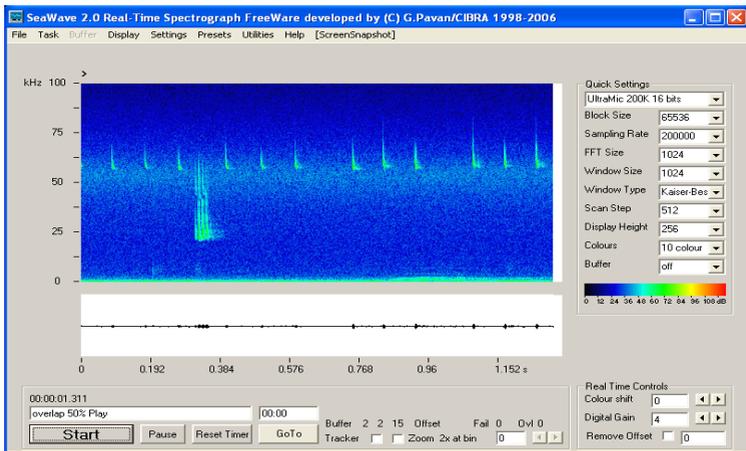
Please keep in mind that ULTRAMIC250K doesn't run on Windows XP!

# ANALITICAL SOFTWARE

## SEA wave & SEA pro



Ultramics can be connected to any software able to record at 192 KHz, 200 khz and 250KHz respectively.  
It will be well optimized with SEAPRO, and SEAPRO analyzer.  
Mainly developed for bioacoustic studies, this software can be used for a wide range of applications requiring real-time display of sounds and vibrations.



It allows to view in real-time the spectrographic features of sounds acquired by any sound device compatible with all Windows version. The use of this software is free of charge for personal non commercial use.

The latest version of SEA software are available here:  
[www.unipv.it/cibra/seawave.html](http://www.unipv.it/cibra/seawave.html)

# SOUNDCHASER



Save time with **SoundChaser** !

It allows yourself to perform analytical work directly in the field !

With this software, you can **detect**, record and **analyzed** in real-time directly on your tablet or laptop.



Digital solutions for the detection, localization of bats and marine mammals by Cyberio.

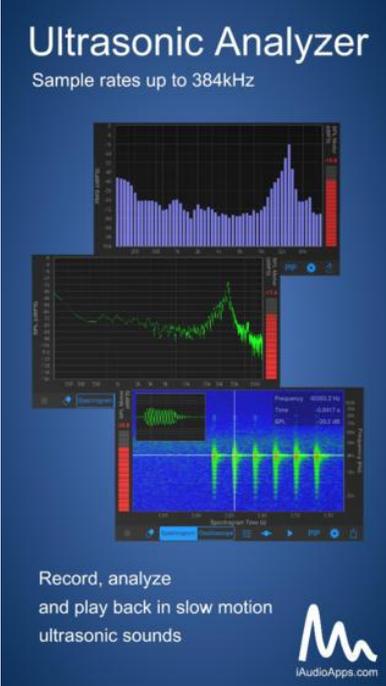
Based on Windows OS.

<http://acounect.fr>

## Ultrasonic Analyzer for iPad and iPhone

Spectrogram, Spectrum, Oscilloscope, Octave RTA and SPL Meter

- Spectrogram analyzer
- Fast real-time response
- Variable between FFT computations time interval
- Fast Fourier Transform (FFT)
- ... and more



**Ultrasonic Analyzer**  
Sample rates up to 384kHz

Record, analyze and play back in slow motion ultrasonic sounds



# USB AUDIO RECORDER PRO & Audio Evolution Mobile DAW



eXtream Software Development

The Android app USB Audio Recorder PRO allows you to record audio using class-compliant USB audio devices on your Android phone or tablet!

<http://www.extreamsd.com/USBAudioRecorderPRO/>

## **Conformity declaration**

Serial number:

year of manufacture: 2014

model: LTRAMIC192K

ULTRAMIC200K

ULTRAMIC250K

Fiorentino A.M. declare under our responsibility that the Ultramic is in conformity with the protection and compliance requirements of the following EC Directives:

- 2004/108/CE
- 2006/95/CE

Roma

Fiorentino A.M. S.r.l.

---

Dodotronic di Ivano Pelicella  
via De Gasperi, 5  
00040 Castel Gandolfo RM  
Italy  
VAT IT07343571001

[www.dodotronic.com](http://www.dodotronic.com)  
[info@dodotronic.com](mailto:info@dodotronic.com)

MADE IN ITALY

rev.2.9 20140728

