

# About Ears

Our take on Tom Whitwell's *Mikrophonie* module, **Ears** is a perfect match for physical synthesis modules like Rings or Elements, but it can also be the gateway between external audio sources and your modular system.

## Installation

Ears requires a **-12V / +12V power supply (2x5 pin connector)**.

The ribbon cable connector must be aligned so that the red stripe of the ribbon cable (-12V) is on the same side of the module's power header as the "Red stripe" marking on the board. The module draws **5mA** from both the +12V and the -12V supply rails.

The full manual can be found online at

[mutable-instruments.net/modules/ears/manual](https://mutable-instruments.net/modules/ears/manual)

For help and discussions, head to

[mutable-instruments.net/forum](https://mutable-instruments.net/forum)



Please refer to the online manual for detailed information regarding compliance with EMC directives

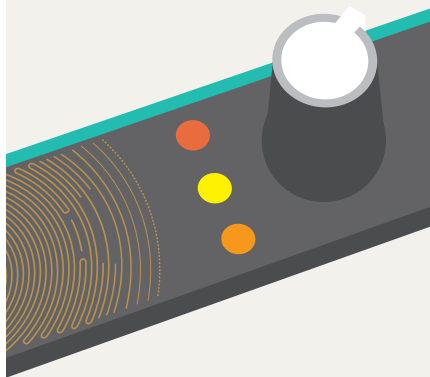


**Mutable** Instruments



# Ears

## Contact microphone





**A. Gain control**, 0 to 40dB (loud! may cause clipping).

**B. Contact microphone.**

**1. Hi-Z Audio input.** Amplifies an external source. Patching a cable here disconnects the contact microphone.

**2. Audio output.** The red LED indicates clipping.

**3. Envelope CV output.** The white LED indicates the envelope CV level.

**4. Gate output.** Emits +8V when the envelope exceeds a threshold. Indicator: orange LED.

The jumpers at the back of the module adjust the response of the envelope follower and gate detector.

**Envelope Follower**

**Gate Detector**



Attack  
Release



Threshold



fast



slow



med.



1V



2V



4V

The last setting is obtained by removing the jumper.