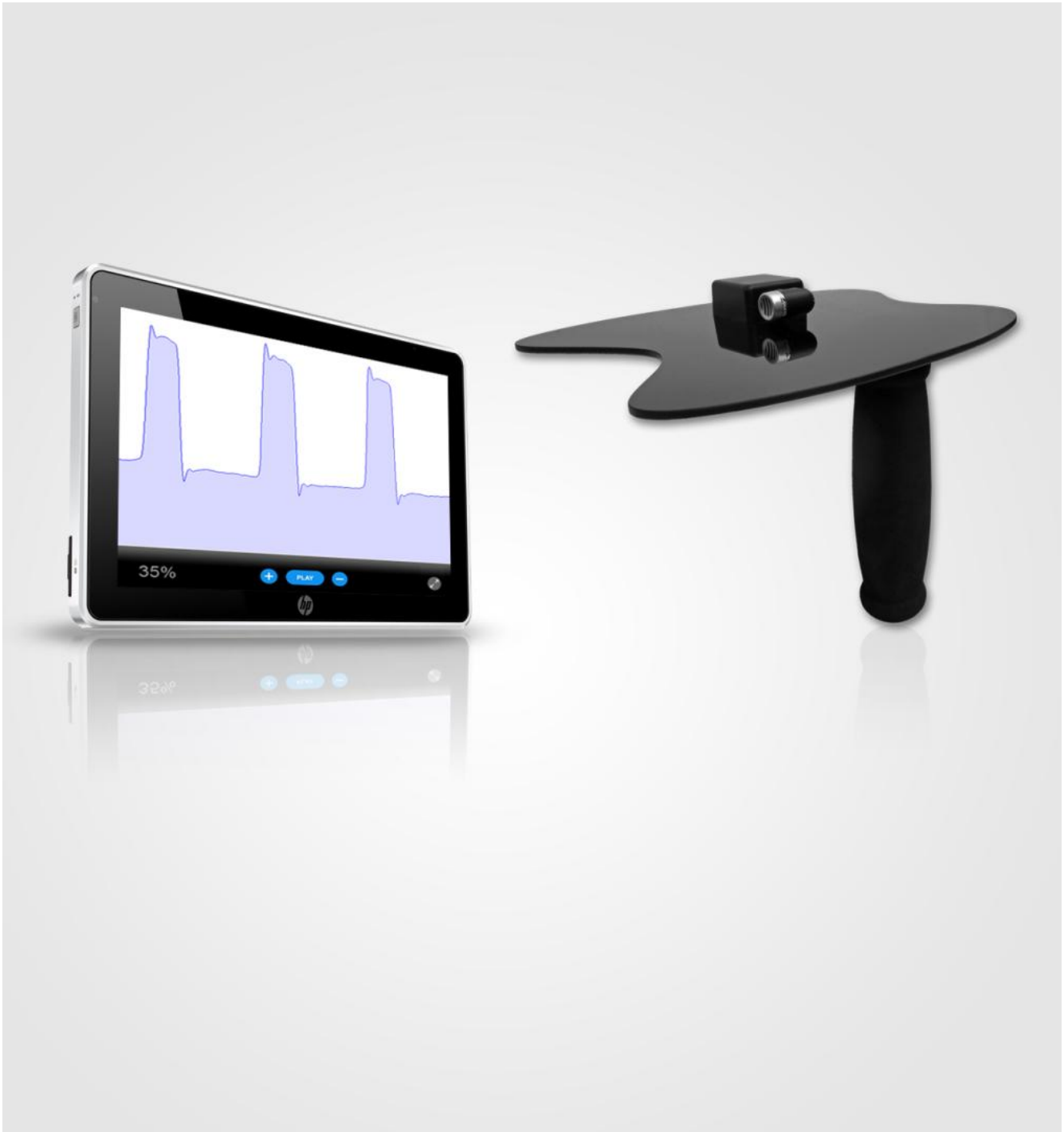
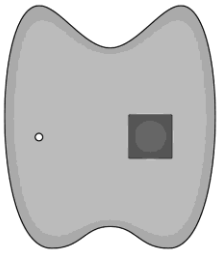
NASALITY MICROPHONE USER MANUAL



icSpeech
Speech Visualisation Technology

Thank you for purchasing the Nasality Microphone. Please take a moment to read this manual before using the equipment.

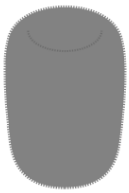
WHAT'S INCLUDED



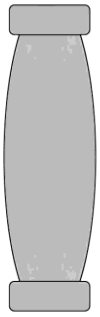
Acoustic separator



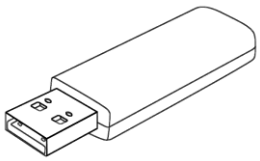
Microphone x 2



Microphone windshield x 4



Soft grip handle



USB audio adaptor



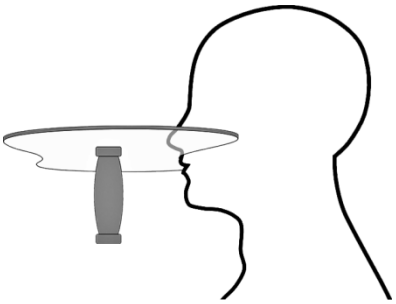
USB data card

THEORY OF OPERATION

The Nasality Microphone is a handheld device that monitors the nasality of voiced sounds. It uses a special lightweight acoustic separator that is positioned above the upper lip, and is fitted with independent nasal and oral microphones.

Nasality is represented by a numerical value called nasalance, which is defined as the percentage of the total acoustic energy that is nasal:

$$Nasalance = \frac{nasal\ acoustic\ energy}{nasal + oral\ acoustic\ energy} \times 100$$



Nasalance, which is calculated for voiced sounds only, can be viewed in real-time for visual feedback, or recorded for off-line analysis.

SOFTWARE INSTALLATION

If you purchased software with the Nasality Microphone, the installer and license keys can be found in the USB data card supplied.

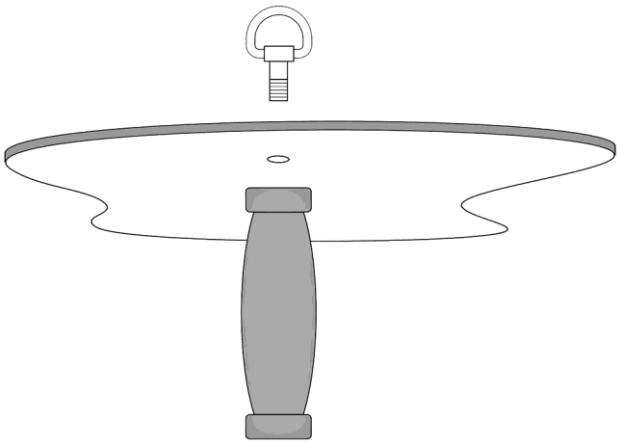
To install the software, double-click on the setup file and follow the installation wizard instructions. When prompted, enter the license key.

Full instructions on how to use the software can be found in the accompanying help document.

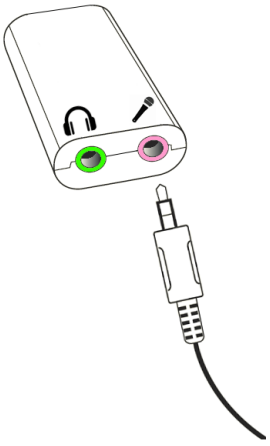
ASSEMBLY INSTRUCTIONS

STEP 1

Using the D-ring fixing screw, secure the handle to the underside of the acoustic separator.



STEP 2



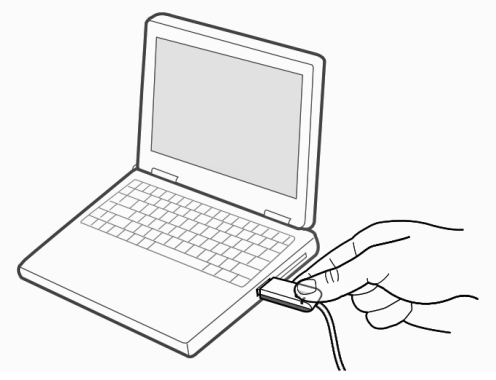
Insert the 3.5mm jack plug into the USB audio adaptor's microphone input socket (color coded pink).

`

HARWARE INSTALLATION

Insert the USB audio adaptor into a spare USB socket on the host computer.

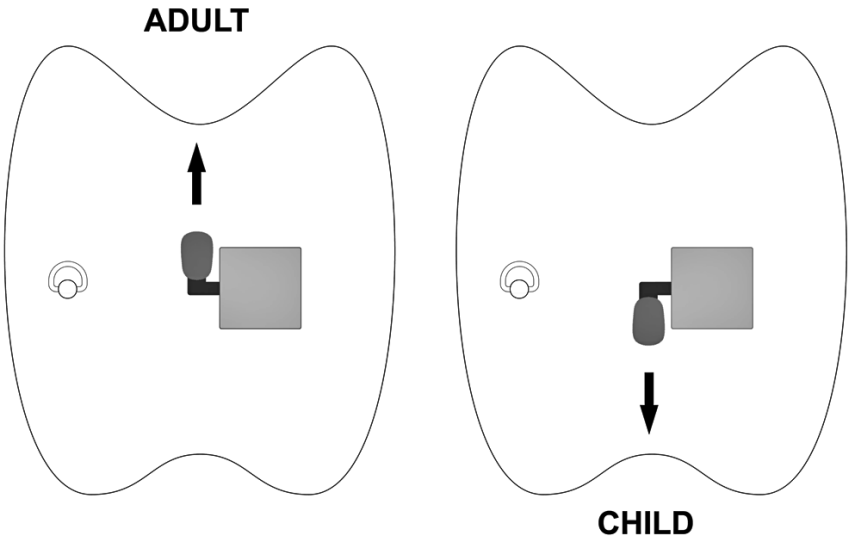
The device driver will install automatically.



OPERATION

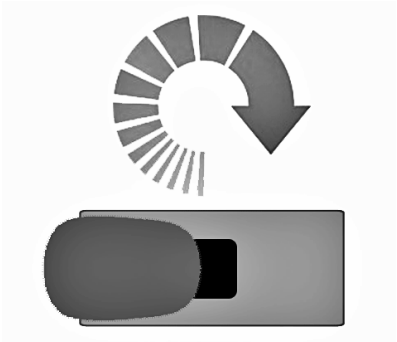
STEP 1

Select the side of the acoustic separator that best fits the contours of the face above the upper lip:



Step 2

Adjust the nasal and oral microphones so they point directly towards the nose and mouth respectively:



STEP 3

Place the acoustic separator above the upper lip, and hold it snugly against the skin to create a good acoustic seal:



Maintain this position whilst speaking into the microphones.

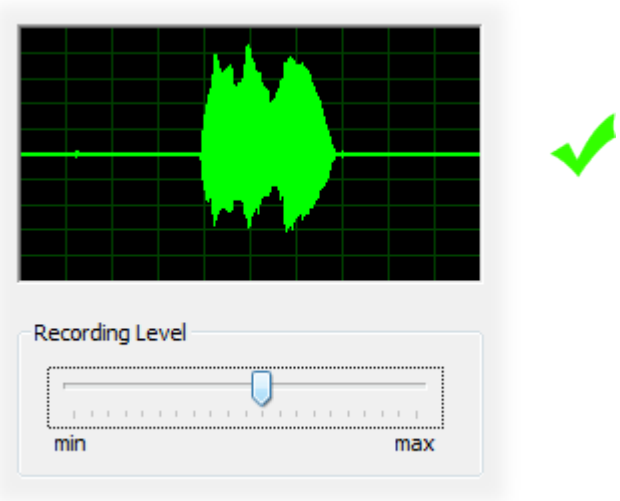
STEP 4

To confirm correct operation, launch your chosen software option. This example uses NasalanceViewer.

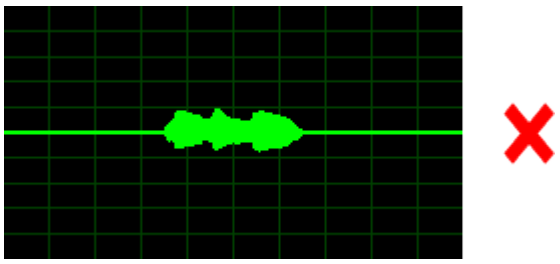
STEP 5

Speak into the microphone while adjusting the audio recording level:

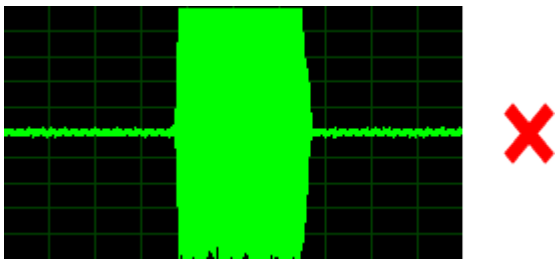
Optimum recording level



Recording level too low

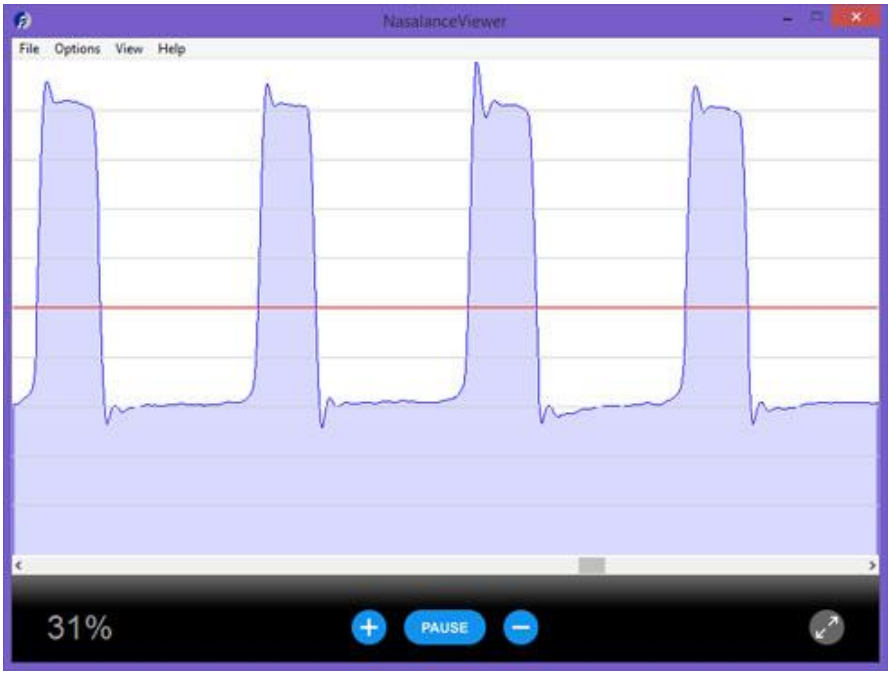


Recording level too high



STEP 6

The Nasality Microphone is now ready for use. For detailed instructions on how to use the NasalanceViewer software, click on Help Topics from the Help menu.



CARE AND MAINTENANCE

To ensure the microphone elements remain clean and free from contamination, it is recommended that you use a clean set of microphone windshields for each user. Additional windshields can be purchased from www.icspeech.com.

It is also recommended that you clean both sides of the acoustic separator with a disposable disinfection wipe before each use.

The Nasality Microphone should be stored in the original carry case and kept below 70°C.

SPECIFICATION

MICROPHONES

Left channel	Nasal speech
Right channel	Oral speech
Type	Electret condenser
Directionality	Uni-directional
Frequency response (band-pass filter disabled)	100 – 15,000Hz
Frequency response (band-pass filter enabled)	350 - 650Hz
Sensitivity	-40dB at 1kHz (0dB = 1V/Pa)
Output impedance	2.2k ohm
Power supply	1.5V – 10V

USB AUDIO ADAPTOR

Microphone input	2 channel stereo
Sample rates	48kHz, 44.1kHz. 16kHz and 8kHz
Resolution	16bit
THD	-90dB
Frequency response	20 – 20,000 Hz
Input range	0 – 1.25 Vrms
Dynamic range	96dB
Record gain range	-6 - 33dB
Supply voltage	4.5 - 5.5 VDC via USB
Total power consumption	33 mA

DIRECTIVES

This mark is a declaration by the manufacturer that this product complies with the relevant directives and standards as issued by the European Union.

This mark is a declaration by the manufacturer that this product complies with the applicable requirements for products sold within Great Britain.

PRODUCT DISPOSAL



At the end of its serviceable life, this product should not be treated as household or general waste. It should be handed over to the applicable collection point for the recycling of electrical and electronic equipment, or returned to the supplier for disposal.

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