



PORTABLE AUDIOMETER

TECHNOLOGY OVERVIEW

People who suffer from hearing problems need to monitor their hearing in real time, collect and analyze the acquired data and ensure instant access to the ENT specialist with this information.

Early identification of hearing impairment is not only required in children, but also in adults, particularly for the elderly. Although it is not possible to restore ailing hearing sensitivity, intervention by way of a variety of hearing aids is possible. It is therefore important to ensure that any loss in adult hearing sensitivity is detected at the earliest possible stage. This will also ensure that discomfort and associated disadvantages caused by deficient hearing capabilities are addressed and minimized as early as possible.

A disadvantage of known audiometers or screening devices is that these devices are usually of a relatively substantial weight and size. Furthermore, due to the relative complexity of existing audiometers, these audiometers are also fairly expensive.

KEY TECHNOLOGY FEATURES

Our solution uses a combination of a calibrated measuring device, smart phone, comprehensive methodology for telemetric examination and centralized management and evaluation software.

POTENTIAL APPLICATIONS

Unlike conventional medical devices used in medical practice and already available solutions for home screening based on the smartphone application, this solution offers the possibility of clinical examination without the need for professional staff assistance, at a lower price and while maintaining quality and evidence of the measurements, possibility of a real-time measurement at the point in time when the problem occurs, instant data processing and sharing of the platform with the otolaryngologist.

CUSTOMER BENEFIT

The device is available for licensing and further development. The main customers will be otorhinolaryngology departments and hearing evaluation services centers. Based on the statistics of IHIS (Institute of Health Information and Statistics of the Czech Republic), there have been approximately 600 ENT and phoniatic workplaces in the Czech Republic. There are on average 42 ENT workplaces per 1 million inhabitants in advanced countries of the world (EU, USA, CA, JP, RU). If the device is to be used in home hearing screening and diagnostics, the size of the market will grow significantly (60 million people).



TECHNICAL SPECIFICATIONS

Pure tone test frequencies: 125 Hz to 8 kHz
(optional max. frequency 20 kHz)

Rise/Fall time: ~ 50 ms

Total Harmonic Distortion: < 2 % at 1 kHz 0 dB
(increasing for lower frequencies)

Test intensity levels: -10 to 110 dB HL
(in optional steps 1 to 6 dB)

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