

HEARING SCAN PRO

Manual for iOS and MacOS

HearingScan Pro is an advanced software designed to evaluate hearing ability with professional precision. Tailored for use by General Practitioners (GPs), hearing care professionals, and institutions conducting collective company hearing tests, HearingScan Pro also serves well in home, hospital, or care home settings.

Key Features and Benefits:

Professional Quality Audiometry Tool

- **High Precision:** HearingScan Pro provides professional-grade audiometry, making it a reliable alternative to conventional audiometric equipment.
- **Calibration:** It is the only software tool that can be fully calibrated, setting it apart from typical consumer tests. This ensures accuracy and reliability in various environments.

Versatile and Affordable

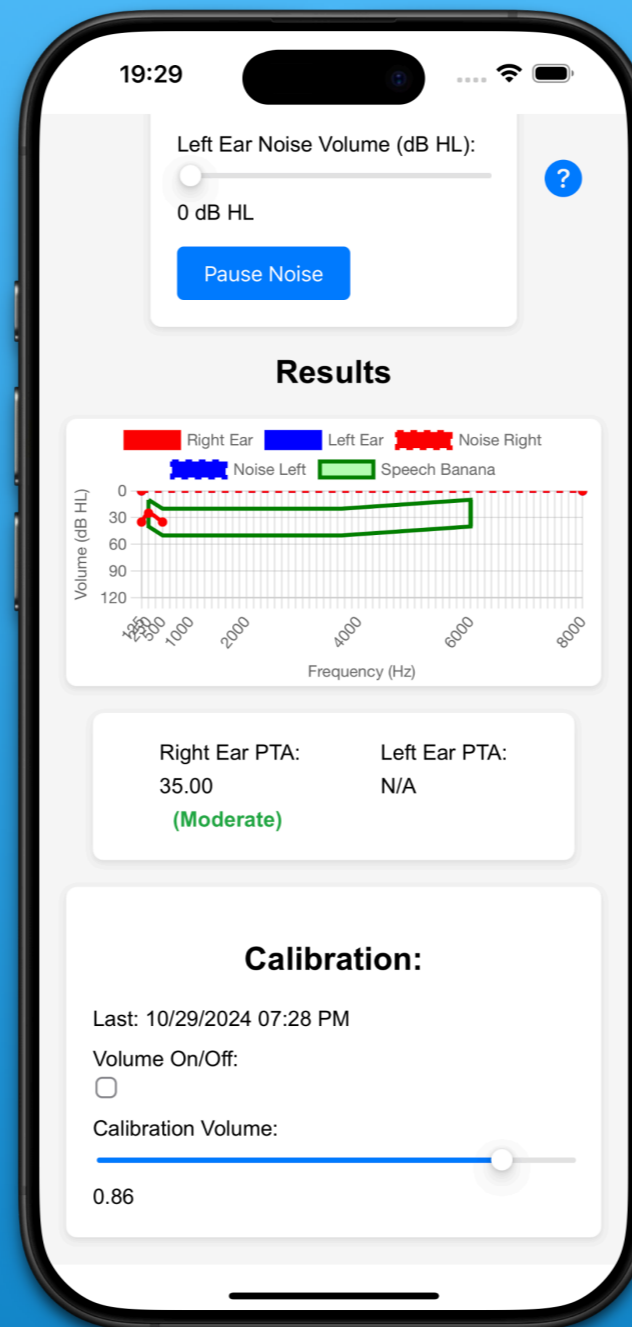
- **Platform Compatibility:** The software runs seamlessly on all Apple devices, including iPhones, iPads, and Mac computers, providing a cost-effective solution compared to traditional audiometric devices.
- **Portability:** Its portability makes it ideal for field assessments, allowing hearing care professionals to conduct tests in diverse settings, including on-site company assessments, home visits, and remote locations.

Professional Standards Compliance

- **Medical Compliance:** HearingScan Pro complies to ANSI and ISO standards for hearing test equipment, ensuring that the

equipment's performance is up to par with industry benchmarks.

- **AAO-HNS 2020 Compliance:** It also adheres to the standards set by the American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) for 2020, guaranteeing that the displayed values meet stringent medical criteria.



Ideal for Various Settings:

- **General Practitioners (GPs):** Enables GPs to perform accurate hearing assessments in their clinics without the need for bulky traditional equipment.
- **Hearing Care Professionals:** Offers a high level of detail and accuracy necessary for professional audiologists.
- **Company Hearing Tests:** Perfect for conducting collective hearing tests in workplaces, schools, ensuring employee and student health and safety.
- **Home Use:** Families can monitor their hearing health conveniently with professional accuracy.
- **Hospitals and Care Homes:** Facilitates hearing assessments in hospitals and care homes, improving patient care and accessibility to audiometric testing.

Conclusion

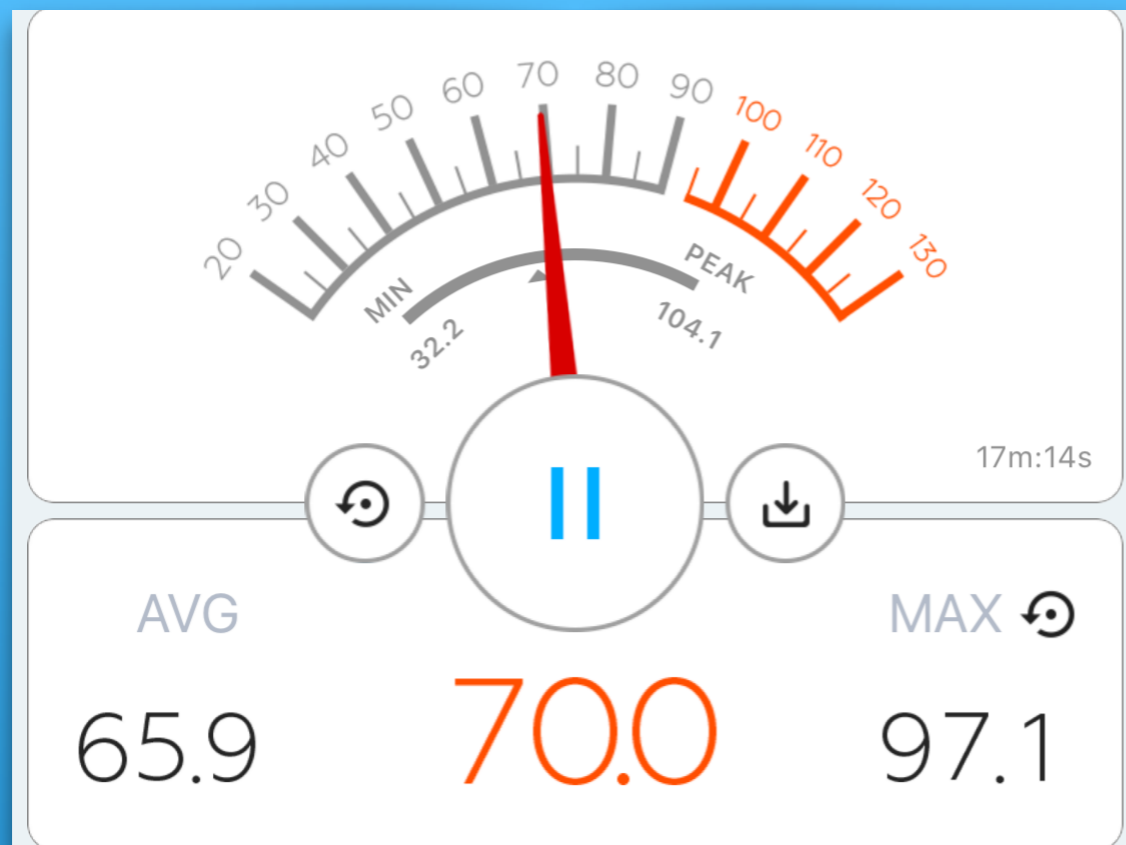
HearingScan Pro combines affordability, portability, and professional-grade accuracy, making it an indispensable tool for a wide range of users, from healthcare professionals to organizations and individuals. Its compliance with industry standards ensures that users receive reliable and precise hearing assessments every time.



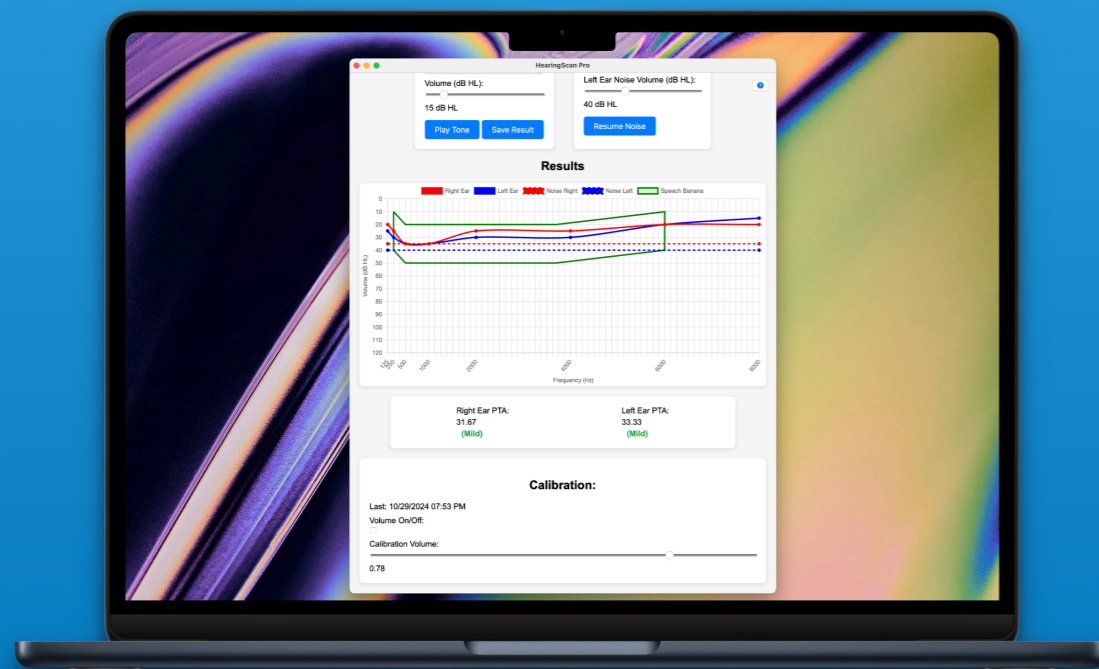
Obtain your HearingScan Pro license from the [Apple App Store](#).



It is best to use a high-quality pair of closed-back headphones with padded ear cushions that fully cover the ears. Verify that the headphones offer a flat response range of at least 125Hz to 8000Hz. HearingScan Pro is compatible with both wired and wireless headphones. Noise-canceling headphones may not always be sufficient; therefore, it is advisable to opt for other features. Confirm that the headphones are suitable for use with Apple products.



Buy a decibel meter that can measure frequencies between 125Hz to 8000Hz. For precise readings, opt for a hardware meter with a calibration certificate. You may also select a meter with a test tone generator for self-recalibration or schedule periodic recalibration with the supplier. Make sure the meter measures in dBA, as HearingScan Pro can convert to dB HL automatically. Software meters are also an option, but they are generally less accurate than hardware meters. The accuracy of the calibration significantly impacts the precision of the measurements done with HearingScan Pro. Software meters can be downloaded from the App Store.



HearingScan Pro requires an Apple device, such as a Mac, MacBook, iPad, or iPhone for operation. While the measurements and accuracy remain consistent across devices, larger screens enhance the readability of graphs. Users can run their license on multiple Apple devices linked to the same App Store user name.



Position the calibrated dB meter with the microphone in the headphone directly facing the driver. Ensure that the dB meter is configured to measure in dBA, and consider utilizing fast response and average settings if desired.

Calibration:

Volume On/Off:

Calibration Volume:

1.00

To calibrate HearingScan Pro, click on the calibration button at the bottom, set the fader to 1.00, adjust the system volume just above 70 dBA on your device, and then fine-tune the slider in HearingScan Pro until the dB meter reads exactly 70 dBA. Turn off the calibration volume to complete the process. Remember both the hardware and HearingScan Pro volume settings to avoid the need for recalibration every time you use the software. It is worthwhile to recalibrate the whole system regularly for best results.

Noise:

Right Ear Noise Volume (dB HL):



55 dB HL

Left Ear Noise Volume (dB HL):



0 dB HL

Pause Noise

If a dB meter is unavailable, an alternative calibration method can be employed. Set the noise level to 55dB HL in one ear while rubbing your hands together in front of your face. Adjust the volume to match, and the process is complete. Please ensure that you do not cover the opposite ear with headphones during this test. It is important to note that while this method may reduce the accuracy of HearingScan Pro, it can still provide sufficient results for quick indicative scans.



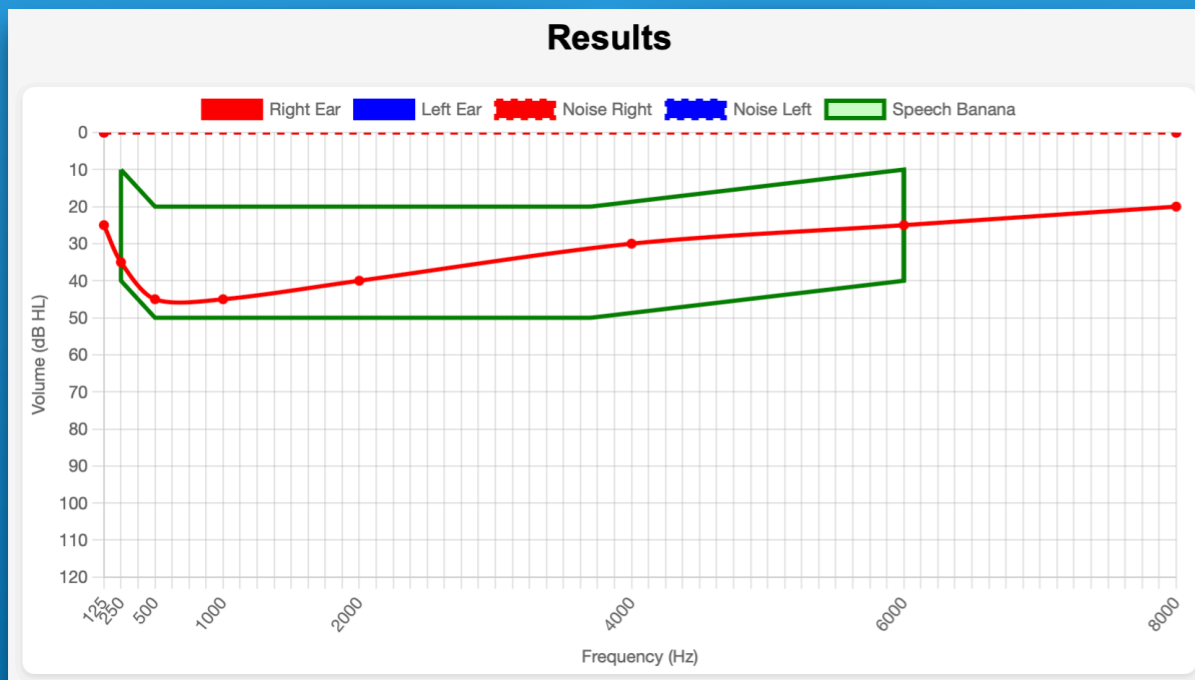
Ear:

Frequency (Hz):

Volume (dB HL):

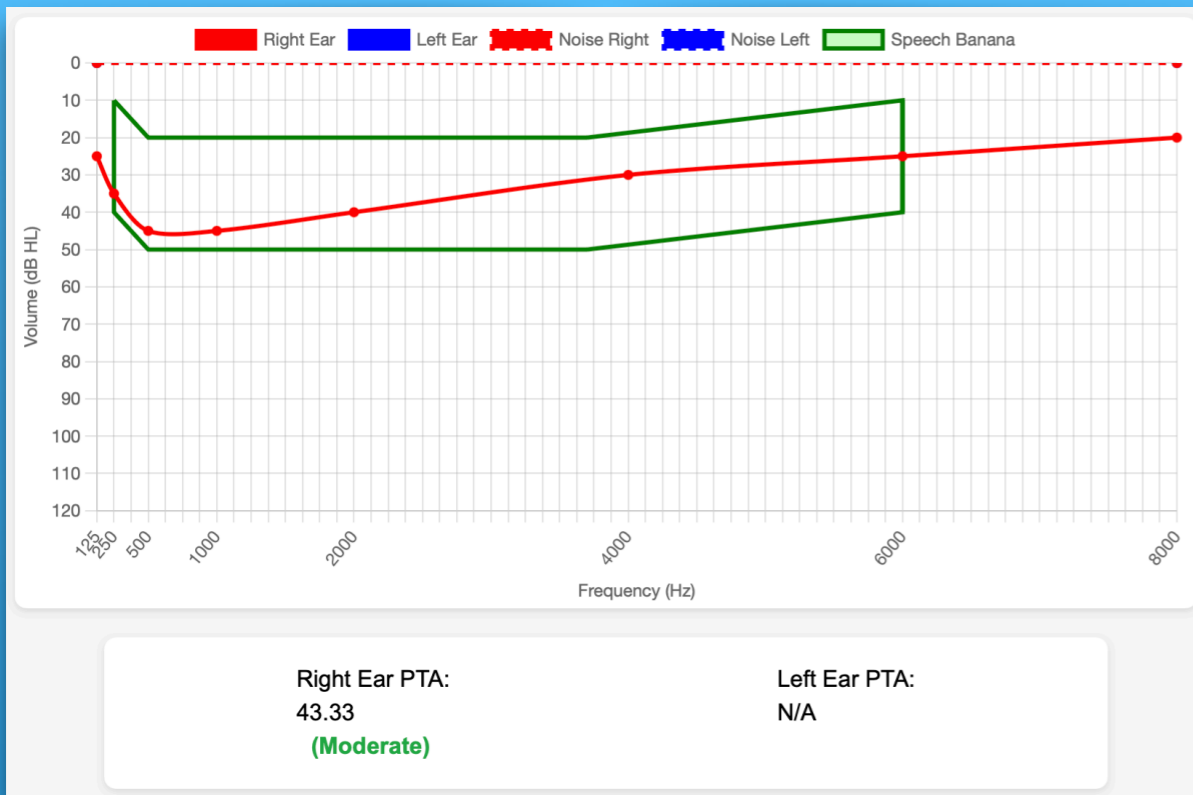
0 dB HL

Now the system is calibrated you can perform the hearing test. Always make sure that the tested person is wearing the headphone the right way around. Select the ear you want to test, select the frequency and move the slider up till the tested person just can hear the beeps, press Save Result to store the measurement. If you want to play the tone again just press Play Tone. Continue with the other frequencies and ear too. Additionally the test can be done with a noise level over the test tone. This test also can be performed separately to detect Tinnitus levels.



Always make sure that if you test someone that they understand that they need to give a visual gesture as soon as they just hear the sound.

Note: when starting the app no graph is visible. After saving the first measurement the graph appears.



Right Ear PTA:
43.33
(Moderate)

Left Ear PTA:
N/A

Following the measurements, the extent of hearing loss can be evaluated. The graph features a "hearing banana" highlighted in green. If the measurements fall within or below the banana, the individual being measured may experience challenges in hearing specific sounds corresponding to that particular frequency. The average Pure Tone Average (PTA) is indicated directly under the graph. In this specific test a person with Meniere is tested and his average PTA is 43.33 which puts him in the WHO category of moderate hearing loss. Left and right ear can be combined in one graph or in separate graphs.

The mean pure-tone average (PTA) is calculated based on measurements taken at 500 Hz, 1000 Hz, and 2000 Hz. This average is consistent with the AAO-HNS 2020 guidelines and is employed in the diagnosis of Meniere's disease. Always make your ENT doctor aware when the PTA number fluctuates.

Noise:

Right Ear Noise Volume (dB HL):

35 dB HL

Left Ear Noise Volume (dB HL):

30 dB HL

Resume Noise

HearingScan Pro offers precise measurements of an individual's tinnitus levels. By adjusting the slider until the tinnitus is no longer perceptible, users can determine the masking level required to alleviate their symptoms.

Noise:

Right Ear Noise Volume (dB HL):

30 dB HL

Left Ear Noise Volume (dB HL):

30 dB HL

Pause Noise

In specific situations, a comprehensive hearing assessment can be conducted when a particular noise floor is present. This evaluation can ascertain an individual's hearing capability under these conditions.



Measurements taken using HearingScan Pro serve as the initial step in your treatment. When conducting measurements on your own, be sure to share your graphs with your caregiver. This can aid in enhancing your hearing and preventing further deterioration. Graphs can be saved by taking a screenshot of the app. The date and testtime are also displayed.



HearingScan Pro has been meticulously crafted to assist both professionals and individuals with hearing impairments. If you have any suggestions for enhancing our software, please feel free to reach out to us at info@enlightenment.school.

As app developers, we lack the ability to control measurements, thus we cannot ensure their accuracy at all times. If you suspect any inaccuracies in the measurements, we recommend seeking assistance from a professional equipped with calibrated tools to verify the correctness of your setup.

HearingScan Pro	
dB HL step size	5
Range dB HL	0 - 120
Accuracy dBA*	±0.1
PTA frequencies Hz	125, 250, 500, 1000, 2000, 4000, 8000
Frequency accuracy	0.1%
Average PTA Hz	500, 1000, 2000
Calibration frequency Hz	1000
Calibration volume dBA	70
Supported OS	iOS & MacOS
Recommended headphone	Circumaural (over ear) closed housing with flat response from 125-8000Hz
* = depending on dB meter and calibration accuracy	

	HearingScan Pro	Conventional
Accuracy	±0.1dBA	±3dBA
PTA	YES	YES
Bone conducting	NO	Depends on hardware
Easy to calibrate	YES	NO
Time to calibrate (minutes)	1	30
Hear in noise	YES	Depends on hardware
Speech banana	YES	Depends on hardware
Test length (minutes)	5	10-45
Average PTA	YES	Depends on hardware
Mobile use	YES	NO
Self test	YES	NO
Combined graph	YES	NO
Extended PTA frequencies	YES	Depends on hardware
Can be used on multiple devices	YES	NO
Service Cost	NO	YES
Training level	EASY	DIFFICULT

HearingScan Pro: The Ultimate Hearing Test App Loved by Professionals Around the Globe!

