

AC40

Clinical Audiometer



*Save time on routine
Focus on results*



Interacoustics[®]

leading diagnostic solutions

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Clinical Audiometer

Two channel audiometer

The AC40 is an advanced clinical audiometer with high frequency capability. It features pre-programmed and automated testing with a large LCD screen to make testing easier. The AC40 comes standard with high frequency audiometry, multi-frequency, MLD, built-in free field amplifiers and more.

Applications

The front panel layout is intuitive with color coded buttons and light indicators to guide you through your day to day operations - even in a darkened examination room.

- Large LCD Display
- Audiogram or numeric view options
- Low profile for ease of patient viewing
- Click free attenuators
- Silent tone switches
- Synchronized masking
- Variable pulse & warble signals

In a modern healthcare setting the ability to interface clinical instrumentation with a computer is mandatory. The AC40 is easily interfaced with a variety of supporting software for this purpose, including NOAH 2.0 and 3.0.

Two independent channels

The true independent channels of the AC40 make it stand above other audiometers. The AC40 lets you simultaneously present different frequencies to opposite ears. This flexibility allows for tests like the MLB but more importantly for complex signal mixing situations like speech in noise simulations.

Multi Frequency

Test frequencies can be set in 1/24 octave increments up to 20 kHz. This makes the AC40 ideal for tinnitus measurements and ototoxicity monitoring.

High Frequency audiometry

A high frequency headset is standard on the AC40. High frequencies can be displayed alone or combined with the multi-frequency function. Thresholds can be plotted in dB HL or dB SPL.

Speech display

A tabular display for speech testing allows for quick data entry of SRT, multiple word recognition test scores with a variety of transducer selections. Two buttons on the front panel enable you to quickly score the tests and enter them into the display. All masking information is provided automatically. An alternate speech audiogram display is available for calculation of the PBI.

Pre-programmed tests

- **Loudness Scaling** for direct comparisons with standard curves for normal perceived loudness.
- **Auto Threshold test** follows the Hughson Westlake
- **Békésy** evaluations and more
- **Threshold Tone Decay** works automatically in a time window of up to 420 seconds. The test results are automatically calculated.
- **SISI test** includes a familiarization feature and automatic score calculation.
- **Masking Level Difference (MLD) test** offers a mixture of phase controlled tone and noise stimuli for testing retrocochlear function and CAPD.
- **ABLB** has its own dedicated screen where any recruitment can be shown in a clear, graphical manner.
- **Monaural Loudness Balancing (MLB)** is included for evaluating recruitment in binaural hearing losses.

Tests

- *High-Frequency (up to 20 kHz) – with zoom view*
- *Multi-Frequency (four selectable frequency resolutions)*
- *Stenger (pure tone and speech)*
- *TT decay*
- *Hughson Westlake automated threshold*
- *ABLB*
- *MLB (monaural loudness balancing)*
- *SISI*
- *DLI*
- *DLF*
- *Loudness scaling*
- *Békésy*
- *Lombard test*
- *Doerfler-Stewart test*
- *Weber*



AC40

- *Full clinical test battery with dedicated screen layouts*
- *PC integration for printing and storage*
- *Professional performance*
- *Pre-programmed, user-defined or automated test sequences*



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Live Voice

A built-in goose neck microphone is standard. An optional operator headset with boom microphone is available. Calibration of the output to the patient is controlled via adjustable potentiometers on the front panel with easy to view LCD VU meters. The talk-forward function is also adjustable for volume.

CD/Tape Inputs

The AC40 provides connections for commercially available CD and tape players. Functionality of the AC40 allows for all recorded speech materials including CAPD recorded materials.

Talk back microphone

A lapel microphone is standard on the AC40. An optional EMS400 microphone stand is available and can be placed on a table or mounted on a sound chamber wall.

Monitoring

Test signals, masking and talk-back are audible via the built-in speaker and both channels have independent volume controls. An optional monitor headset with or without a boom microphone is available for operator convenience.

Patient assistant monitor

The AC40 comes standard with a patient assistant monitor headset with independent volume control. This is an extremely useful function which allows the operator to communicate with an assistant when testing infants, children and difficult to test patients. An assistant can monitor the test signal presentations to help during play audiometry and conditioning.

Remote control tone presentation

The AC40 allows the operator to present test signals to the left or right ear by pressing the patient response switch. This is valuable when testing infants, children or difficult to test patients when conditioning is necessary and no assistant is available.

Optional sound field

The AC40 can be supplied with built-in free field amplifiers. When connected to high efficiency speakers, free field output levels of 90dB SPL for speech are typical. External amplifiers may be connected to increase output levels as high as 105dB SPL with warble tone and NB noise signals.

NOAH

The AC40 is ideally suited for hearing aid fitting applications as it will communicate directly with NOAH. Unlike many audiometers, the AC40 can transmit all test data to the NOAH audiometry module eliminating the need for time consuming manual data entry.

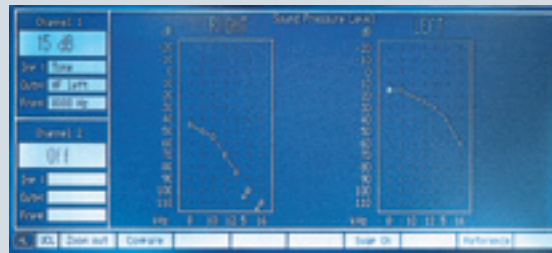
OtoAccess™

Interacoustics also offers OtoAccess™. This is an independent database program that can store and retrieve patient data, including audiometry. In addition, OtoAccess™ communicates with other Interacoustics products, allowing impedance, ABR, VNG and OAE data to be stored conveniently in the same patient file as the audiometry. Networking the software allows users secure access to patient data from other office computers at any time.

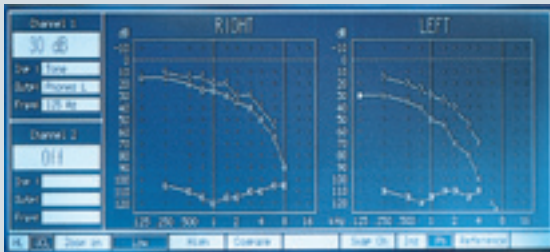
Color audiograms include appropriate audiometric symbols and clinic and patient information.

Other features

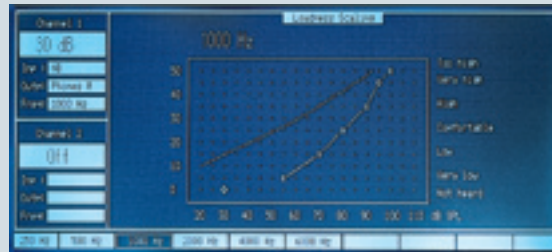
- Two independent channel audiometer, enabling complex signal mixing
- Speech testing and communication
- Remote control for paediatric testing
- Optional embedded sound field
- High-frequency and multi-frequency testing
- Built-in amplifier (option)
- Auto-threshold testing



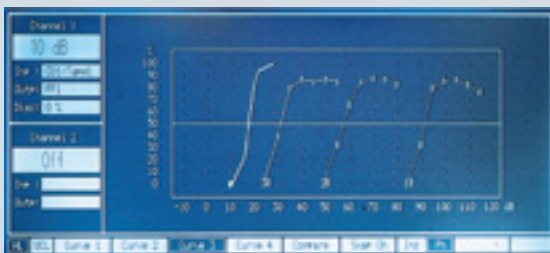
High frequency audiometry may be performed using its own dedicated screen. Please note the »not heard« symbols.



Full information on AC thresholds, BC threshold and Uncomfortable Levels can be displayed. Left and Right thresholds may also be shown on the same audiogram for comparison purposes (not shown).



A graphical representation of the results obtained from a loudness scaling test provides direct comparison with a standard curve.



Speech audiograms may be directly compared with normalized curves. Three speech audiograms may be recorded to allow easy comparison between aided and unaided performance.



Large digits are preferred by some users and are therefore provided as an alternative to displaying audiograms.



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Specifications

Channels:	Two independent channels.
Channel 1:	Input: Tone, Microphone 1+2, Tape/CD 1+2, NB,SN, WN, PN. Output: Left, Right, Bone L+R, Free Field 1+2,Insert phones, HF phones.
Channel 2:	Input: Tone, Microphone 1+2, Tape/CD 1+2,NB, SN, WN, PN. Output: Left, Right, Free Field 1+2, Insert phones, HF phones, Insert masking.
Tone stimuli:	Manual, continuous, single pulse, pulsing.
Speech:	Live, Tape or CD
Intensity :	125-8000 Hz: AC: -10 to 120 dB HL in 1 or 5dB steps. BC: -10 to 80 dB in 1 or 5 dB steps 8000-16000 Hz: AC: -20 to 105 dB HL in 1 or 5 dB steps 18000-20000 Hz: 0 to 110 dB SPL in 1 or 5 dB steps
Frequency range:	125-20000 Hz divided in two ranges: 125-8000 Hz (AC, BC, FF) and 8000-20000 Hz (AC). Warble 5 to 50 Hz, 0 to $\pm 25\%$
Frequency resolution:	Multi frequency, Programmable in 1, 1/2, 1/3, 1/6, 1/12, 1/24 octave steps.
Talk forward:	0-110 dB SPL.
Talk back:	Microphone input.
Monitor:	Built-in speaker or external loudspeaker.
Assistant monitor:	Output to external earphone.
Special test:	Auto Threshold, Békésy Test, Difference Limen Intensity, Difference Limen Frequency, Loudness Balancing, Difference Masked Unmasked, Weber, ABLB, TTdecay, Masking Level Difference (MLD), Monaural Loudness Balancing (MLB), SISI, Stenger, Lombard test, Doerfler-Stewart test
Free field:	
System FFAC40:	Built-in 2x12W amplifier AC40-APD and two ALS7 speakers. 95dB SPL.(Optional)
System FF105:	External 2x70W amplifier, AP70, and two ALS7 speakers. 105dB SPL. (Optional)
Computer communication:	Built-in RS232C two way computer interface which allows the computer to both monitor and control the AC40.
Display:	Graphic 640x200 monochrome LCD display with (CFL) back lighting. Electronic viewing angle adjustment.
Dimensions:	(LxWxH): 50x47x20 cm/ 20x19x8 inches.
Weight:	13 kg/29 lbs.
Power:	AC 50-60 Hz. 100-120 V, 220-240 V
Consumption:	Max. 180 VA.

Standards:	
Audiometer:	IEC 60645-1, IEC 60645-2, IEC 60645-4/ANSI S. 3.6.
Tone audiometer type:	1
Speech audiometer type:	A or A-E.
Safety:	IEC 60601-1, class 1, type B.
EMC:	IEC 60601-1-2.
Medical CE-mark:	Yes
Included parts:	TDH39 audiometric headset B71 bone conductor R-80 High frequency headset 2 APS3 Patient response button Power cable PCR-AC40 dust cover 200 AF12 audiogram charts Pen set Operation manual on CD Multilingual CE Manual
Optional parts:	AP70 2x70 Watt power amplifier ALS7 FF loudspeaker (AP70) EM400 electret microphone for talk back EMS400 wall mounted talk back microphone 21925 Audiocup enclosures 50250 Peltor noise reducing headset EAR-Tone 5A insert phones for audiometry HDA200 audiometric headset CIR22 insert earphone for masking and monitoring MTH400 monitor headset MTH400M monitor headset with boom mic. AFC 13 sound cabin connection panel APS3 patient signal (2 are included) IFC59/IFC69 RS232C computer connection cable OtoAccess™ database program IA-NOAH-Aud software program
Options:	AC40-APD Built-in 2x12 watt Power Amplifier for FF

Read more here:
www.interacoustics.com/com/AC40

Interacoustics – the best choice

With over 40 years of experience, Interacoustics is dedicated to supplying its customers with the best possible solutions for their audiologic needs. This is accomplished by maintaining a continuous dialogue with healthcare professionals working in all sectors of audiology. Our equipment meets the highest possible engineering standards and we provide design know-how that can only come from close contact with clinical practice.

Solutions on every scale

Designing equipment for every size of clinic in so many countries puts us in the unique position of being able to offer solutions that fit your requirements exactly. Audiometry, tympanometry, electrophysiology, hearing aid testing, balance investigation are all within our scope and can be integrated to suit your needs.

Design for diagnosis

We design equipment to make testing and interpretation easier. This means better interfaces, well designed screen layouts, printed reports and interaction over networks with databases and electronic records systems. In most cases, you can configure the settings and layout yourself.

Support worldwide

The Interacoustics name is not only your guarantee of quality and functionality, but also for support. We operate in over 100 countries worldwide through a well coordinated network of distributors and service centres to ensure that you receive total support and service.



Sales and service in your area:

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Other audiometers

- PA5 Pediatric Audiometer
- AS608 Screening Audiometer
- AD226 Diagnostic Audiometer
- AD229b Diagnostic Audiometer
- AD229e Diagnostic Audiometer
- AC33 Clinical Audiometer
- Equinox Clinical Audiometer

Audiometer and middle ear analyzer in one:

- AA220 Audio Traveller
- AA222 Audio Traveller



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Read more here:
www.interacoustics.com/com/AC40



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