

Affinity^{2.0}
Hearing Aid Fitting



The professional fitting solution



Interacoustics[®]

leading diagnostic solutions

Affinity^{2.0}

Hearing Aid Fitting

A complete service

The Affinity^{2.0} is a powerful and stylish instrument that interfaces with a full range of integrated audiologic software modules on your laptop or desktop PC. This combination of hardware and software make the Affinity^{2.0} the perfect instrument for hearing assessment, hearing aid fitting and patient satisfaction.

Modules – your security for the future

There are modules for audiometry, real ear measurement and hearing aid testing. There are sales and counselling tools for hearing aid dispensers and special modules for advanced audiometry. All software modules are fully integrated. As new hearing aid technologies evolve – so will the Affinity^{2.0}. The Affinity^{2.0} modules will be upgraded as new stimuli or other advanced techniques become available. All associated patient records in are stored through NOAH or through our own database program called OtoAccess™. Both programs are networkable.

Power in the hardware

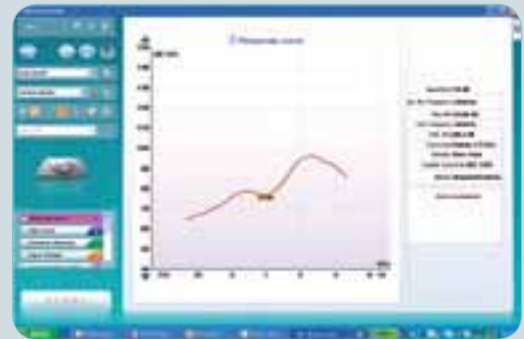
Affinity^{2.0} has speech, tone and noise stimuli with a wide range of options. All the necessary hardware accessories are included with each module and are engineered to the highest standards. Every accessory has its own dedicated outlet, so there is no need to unplug devices between activities.

Affinity^{2.0} is also portable (e.g. for home visits or exhibitions) in a purpose built hardcover case.

Input and Output – your own designs

Printed reports are user designed through a print wizard and include a complete set of default reports.

Data can be imported into the system, a feature used by dispensing chains to distribute standard tests to their stores and by dispensers to download specifications from a manufacturer. Output from Affinity^{2.0} is in PDF or XML format depending on the purpose.



The Affinity^{2.0} is available with audiometry, real ear measurement, visible speech and hearing aid testing software modules.

Sales and counseling

A Visible Speech module is available with the Affinity^{2.0} to assist you in educating the client and family members on the complexities of hearing aid amplification and the benefits they will receive. Client decisions on cost/benefit may hinge on their comfort level during the educational process and Visible Speech technology will have a positive influence on their total hearing aid selection experience.

Personal settings and protocols

The new generation of Interacoustics products permit personalized test configurations to match your clinical needs. The Affinity^{2.0} includes a set of tests that may be modified to quickly get you up and running to your own standards and stored for future use.

These user defined protocols are saved under a unique name for easy recall via a drop down menu. This enables multiple users to make test selections that are suitable for their own applications. Larger clinics or dispensing facilities will find this feature useful as these protocols can be downloaded and transferred to these sites over the internet.

Tracking changes

Adding your observations to test results is often valuable when clients make repeat visits or have special needs. In addition, the integrated database allows results from different dates to be displayed together. This saves time when troubleshooting a hearing aid and is important when monitoring the progression of hearing loss in a client. Comparisons can be both onscreen and printed in reports.



Affinity^{2.0}

- Modular and upgradeable
- User designed output
- Personal settings
- Sales & Counseling tools



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Hardware

Design and quality

The Affinity^{2.0} hardware unit combines form and function in a modern compact design. It looks just as good in your practice as on a home visit. And with every feature carefully thought through, you can have confidence in both the results and the service it provides.

All in one Solution

Integrating both the hardware and the software elements of REM, HIT and Audiometry makes Affinity^{2.0} a complete solution, which you experience as convenience and the customer experiences as professionalism. In a market where trust plays a major role, this aspect of Affinity^{2.0} should not be overlooked.

Easy access test chamber

The Affinity^{2.0} test chamber is ergonomically designed to that permit easy access for placement of hearing aids, couplers and accessories.

High quality parts

Couplers are engineered of high quality stainless steel to ensure a lifetime of use. A unique 'snap on' coupling ring allows quick and easy interchanges between couplers.

A rear storage compartment helps keep components organized and out of the way.

Dedicated outlets

Dedicated input and output connections reduce the need for swapping cables at any point in your evaluations. A hinged cabling cover maintains a professional appearance in your office.



Easy access built-in test chamber

Portable - Affinity^{2.0} travels

An optional hard cover case adds portability to Affinity^{2.0}'s many functions. Ideal for the dispensers who make home visits or distribute their time among a number of clinics or institutions. The specially designed case carries Affinity^{2.0} and all accessories.



Hardcover carrying case.

Affinity^{2.0} Hardware

- All in one solution
- Easy access test chamber
- High quality parts
- Dedicated outlets
- Portable

Affinity^{2.0}

HIT440

Hearing Instrument Testing

The HIT440 provides diagnostic measurement of the performance of all types of hearing aids. The supplied test protocols are based on customizable IEC and ANSI standards, but you can add your own tests as required. Manufacturer's data for new hearing aid models can be entered into the system easily so the system is always up to date. The Affinity^{2.0} also includes a wide range of stimuli including ICRAS which are designed for testing nonlinear hearing aids.

Endless loop testing

For aids with suspected intermittent faults you can set up a sequence of tests, specifying tolerances for each, and run the sequence in an endless loop until a tolerance is overstepped. This could be done overnight with results available next morning.

Testing directional microphones

HIT440 uses the special dual speaker set in the built-in test box for checking directional microphone function.

Built-in test sequences

HIT440 contains a number of built-in test sequences based on IEC and ANSI standards. This means the system is ready to go when you receive it. Each test has an embedded report that can be printed.

Compatibility with TBS25

HIT440 also supports the external test chamber TBS25 for situations where attenuation greater than the built-in test chamber is required.

Historical sessions

All test sessions can be saved and recalled at a later date for direct comparison with current performance. Results from both dates are displayed on the same chart, simplifying comparison. This objective measure of performance change is an invaluable reference tool in the client dialogue.

Report Page

Comments can be added to any session of tests and are stored with the results. This allows you to include important qualitative observations with the quantitative measures.

Customization

You can customize HIT440 to suit your personal needs. You can include new tests, enter data for new hearing aid models and save settings as new protocols to be called by selection from a drop down menu.

Other features

- Tests all types of hearing aids
- Compatible with external test chamber TBS25
- Endless loop testing
- NOAH compatible
- Variable smoothing of curves
- Telecoil testing
- Manual override
- Import/Export of protocols.
- Wide Range of test stimuli

HIT440

- *Directional microphones*
- *Customization of setup*
- *Report page*
- *Historical session*
- *Built-in test sequences*



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REM440

Real Ear Measurement

The REM440 software module performs real ear measurement and associated functions for the Affinity^{2.0}. The software has a wide range of functions for verifying hearing aids, including the increasingly popular open fit instruments. A powerful sales and counselling tool (VSP) is available to supplement fitting of hearing aids.

Open fit capability

The ability to test all hearing aids in one device saves you time and space and is part of a complete service to clients. REM440 meets that requirement. It provides a wide range of settings and stimuli for testing non linear hearing instruments. The Calibrate for Open Fit function (substitution method) handles the new trend of open fittings seen in products like Oticon Delta, Phonak Micro Savia and Widex Passion.

RECD and normative data

RECD is of increasing importance as more babies with hearing loss are identified because of neonatal hearing screening. Specially designed components enable a rapid test fitting of children whose attention span is very short. In cases where measurement of REUR and RECD is not practical, REM440 provides age related normative data to approximate these values. This can be used to avoid stress in the evaluation (e.g. with tired infants).

Concurrent operation

The REM440 can be open at the same time as other fitting applications to enable smooth adjustment and verification of the hearing aid.

Historical sessions

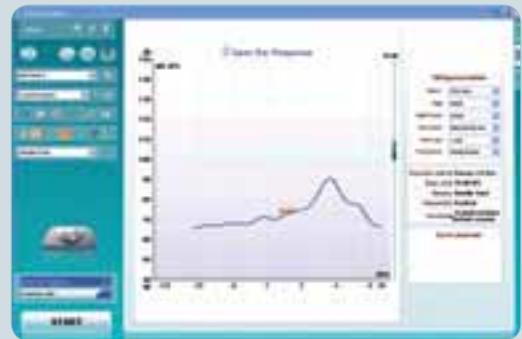
Test results are saved in sessions which can be recalled for comparison and transferred to the current session. Results from the audiogram or other REM sessions will serve as starting points for the current REM.

Report page

The Report Page function allows you to comment on the fitting process, including factors that might be relevant to future visits or when troubleshooting the hearing aids. This ensures that human observations are not lost. The report page is saved with the session in the database.

User protocols and customization of setup

You can design user protocols for different categories of client (e.g. adults and or children) or different clinicians using the Affinity^{2.0} can design their own protocols. Or you can use specific aid types. This will often save you significant time and is more convenient. User protocols are stored on a drop down menu and run by single click selection.



REM440

- Open fit capability
- Visible Speech
- RECD
- Normative data
- Concurrent operation
- Historical session
- Report page
- Customization of setup
- Open Ear Gain, Real Ear to Coupler and Insertion Gain

Affinity^{2.0}

VSP440

Visible Speech - Sales and counselling

The Visible Speech module is designed specifically for hearing aid dispensers. It addresses the task of explaining technical issues to non technical users. It is built around the features available in modern hearing aids and designed to simplify the process of explaining what the user gets for their investment. Visible Speech has shown itself to be one of the best support tools available.

As a sales tool

Visible Speech is interactive. It presents objective REM measurements in an easily understood way, reinforcing what your client experiences and providing the basis for a dialogue of the features they need. You can demonstrate and explain the difference between two aids or settings and answer their questions with onscreen displays.

As a counseling tool

Realistic expectations are the major psychological factor in use of the hearing aid. Visible Speech is a practical tool to that end. Explain compression, power output limitation and other advanced features in a simple way - also for the relatives who are often a motivating factor when people seek hearing assistance. Normal hearing view allows for comparing the hearing loss to normal hearing.



Twin Headset (both sides with probe and reference microphones)

Wave player

Stimuli in Affinity^{2.0} are not restricted to standard tones and speech. You can add files in WAV format containing any type of noise. You can even record a relative's voice and play it back through the WAV player to find out which of two settings work best.

Other features

- Demonstrate the benefit of two aids
- Explains advanced non linear aids
- Explain fine-tuning of hearing aid
- Better customer service
- Increased sales
- Fewer returns



VSP440

- Promotes sales
- Counselling tool
- Encourage binaural fitting
- Demonstrate hearing aid benefits



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AC440

Audiometry software

The AC440 software turns the Affinity^{2.0} into one of the most powerful diagnostic audiometers available today. Above and beyond the standard air, bone and speech capabilities, there are a wide variety of test applications that make it ideal for the high end clinical environment or for any active dispensing practice. Multiple methods of using the software allow previous experiences with stand alone devices to transfer easily. Historical data retrieval will display overlapping audiograms for diagnostic and educational purposes and even transfers immediately into the REM440 fitting software.

Report page

Each test session contains a report page which functions as a holding place for comments. This ensures that vital tester observations are not lost and can also function as a summary page for test results. The report page is saved with the test results and made available whenever the session is recalled.

Full-test battery

AC440 has a basic set of tests for speech and tone audiometry, but can be supplemented by a variety of licensed special tests from basic assessment level up to neurological investigations. This enables you to tailor the test battery to your needs by buying only those licences that you require.

Sales and counselling

The AC440 can be supplemented with modules for Hearing Loss Simulation (HLS440) or Master Hearing Aid (MHA440). These tools engage clients and relatives in the fitting process. This is especially important in establishing the trust and confidence of first-time users.

Historical sessions

Any historical audiogram can be retrieved for display while you are performing a test, or after you have completed the examination. It is an invaluable tool when assessing changes over time with your clients and aids in the counseling process.

User protocols and customization

User protocols are great time savers. They are collections of settings for a particular test procedure or clinician. They enable you to save your preferences or standard procedures on a drop down menu from where you can load or run them with a single click. There is no limit to the number of protocols you can save.

Dedicated keyboard

The AC440 has an optional dedicated audiometric keyboard to aid in the transition from stand alone equipment to PC based. Function keys may be customized to eliminate the cycle of menu driven selections and speed up your test time.

Data extraction and output

The modern era of electronic medical records requires methods of data extraction for condensing patient records and sharing information across clinics. The new generation of Interacoustics instrumentation is designed to streamline this process, thereby improving economy, efficiency and speed of data management. Data may be extracted in PDF and XML formats for printouts and email attachments.

High Frequency (HF440)

The high frequency option on the AC440 software module permits an extended frequency range out to 20KHz which is typically used for ototoxic monitoring. When used with the Multiple Frequency selection it becomes an even more powerful tool for discreet analysis of tinnitus.

Masking Level Difference (MLD440)

The MLD test is used as part of the CAPD test battery. Low frequency stimuli in combination with NB noise (binaurally) and acoustical phase differences will produce threshold shifts and may help identify persons with auditory binaural integration problems.

Speech tests from the hard drive (SFH440)

This feature saves time by eliminating the need for an external CD player for the majority of your speech tests. Choices for scoring methods allow you to customize the word presentations and view the chosen word lists.

Other features

- Print wizard: design your own reports
- Advanced sound field applications
- Full client communication connections
- Intuitive pre-programmed tests protocols
- Integrated database. All data in one place means all data is available to you.
- Results sharing: printed pdf, exported xml.
- Air, bone and speech
- Free field applications
- Full client communication connections
- Possibility for individual user profiles



AC440

- Report page
- Full-test battery
- Sales and counselling
- License-driven software
- Session history: compare audiograms
- Customization of setup / User protocols
- Dedicated keyboard
- Data extraction
- High Frequency
- MLD
- Speech from hddrive
- Professional appearance



Dedicated audiometer keyboard



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AC440 Specifications

Audiometer standards:	Tone: IEC 60645-1/ANSI S3.6 Type 1; Speech: IEC 60645-2/ANSI S3.6 Type A or A-E.
Calibration:	AC: ISO389-1, ISO389-2; BC: ISO389-3.
Extended range function:	If not activated, the AC output will be limited to 20 dB below maximum output.
Input:	Tone, Warble Tone, CD1, CD2, Mic1, Mic2, wave files, NB.
Masking stimulus:	Narrow Band Noise or White Noise or Speech Noise.
Outputs:	AC Left + Right, BC Left + Right, Insert Phone Left + Right, Insert Masking, FF1 and FF2. (Line/power 2x10W/4Ω).
Transducers:	TDH39 Audiometric headset, B71 Bone conductor, inserts.
Tone presentation:	Manual or Reverse. Single or multiple pulses.
Patient signal:	One or two (optional) hand held push button.
Patient communication:	Talk Forward and Talk Back.
Storage capacity:	Tone audiogram: dB HL, MCL, UCL, binaural, aided.
Speech audiogram:	WR1, WR2, WR3, MCL, UCL, aided, unaided, binaural.
Compatible software:	NOAH 3 compatible office systems, OtoAccess™.

Maximum hearing levels:	Hz	AC(dBHL)	AC(dBHL)	AC(dBHL)	BC(dBHL)	NB(dBHL)	Extern FF
		TDH39	HDA200	EARTone5A	B71	TDH39	(dBHL)
	125	90	100	95	-	75	80
	250	110	110	100	45	95	95
	500	120	115	110	65	110	100
	750	120	120	120	70	110	105
	1000	120	120	120	70	110	105
	1500	120	115	120	70	110	105
	2000	120	115	120	75	110	105
	3000	120	115	120	80	110	110
	4000	120	115	120	80	110	110
	6000	120	105	105	50	110	105
	8000	110	105	100	50	100	85



Included parts:

Affinity^{2.0} AC440 CD
OtoAccess™ database CD
TDH39 Audiometric Headset
MTH400 Headset
EMS400 Talk back Microphone
B71 Bone Conductor
APS3 Patient Response Button
Standard USB Cable
Power Cable 120 or 230V
Mouse pad
Operation and Multilingual CE Manual

Optional parts:

DAK70 Audiometer Keyboard with live voice mic.
EARTONE 3A Audiometric Headset (5As may be substituted)
ACC60 Affinity^{2.0} carrying Case
CIR22 Insert Masking Earphones
Audiocup Enclosures
Peltor Noise Excluding Headset
HDA200 Audiometric Headset
HDA280 Audiometric Headset
KOSS R80 high frequency headset
AP12 Power Amplifier 2x12 Watt
AP70 Power Amplifier 2x70 Watt
ALS7 Loudspeaker
AFC8 Sound Cabin Installation Panel
UCO15 Optical USB Extension Cable

Optional special tests:

High Frequency audiometry (HF440)
Masking Level Difference (MLD440)
Multi Frequency Module (MF440)
Speech from Hard-drive (SFH440)
SISI test
Master Hearing Aid (MHA440),
Hearing Loss Simulator (HLS440)
Loudness Scaling (LS440)



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



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REM440 Specifications

Real Ear Measurement:	IEC 61669, ISO 12124, ANSI S3.46.
Frequency range:	100-10000Hz.
Frequency distortion:	2%
Frequency accuracy:	± 1%.
Intensity range:	40 – 90 dB
Intensity accuracy:	± 1.5 % dB
Frequency resolution:	1/3, 1/6, 1/12 and 1/24 octave or 1024 point FFT.
Sweep speed:	1.5 - 12 sec.
Stimulus signal:	Warble Tone, Pure Tone, Random noise, Pseudo random noise, Band limited white noise, Chirp, ICRA, Real Speech, any other sound file (automatic calibration available).
Measurement intensity range:	Probe microphone 40-145 dB SPL ± 2 dB. Reference microphone: Intensity: 40 – 100 dB
PreProgrammed protocols:	REM440 module comes with a set of Test Protocols loaded. Additional Test Protocols can be designed by user, or easily imported into the system.
Compatible software:	NOAH 3, OtoAccess™.
Available tests:	REUR - REIG- RECD - REAR - REAG - REOR - REOG - REUG - Input - Output
Included parts:	Affinity ^{2.0} REM440 CD OtoAccess™ database CD IHM60 In-situ headset with probe microphone and reference microphone (double) IGT50 Insertion gain tubes 36 pcs. Standard USB cable Power cable 120 or 230V Mouse pad Operation and multilingual CE manual
Optional parts:	SPL60 Transducer Kit for RECD measurement incl. probes and eartips BET60 Box with Eartips for for RECD measurement. Calibration adaptor for insitu reference VSP440 Visible Speech Module UCO15 Optical USB Extension Cable ACC60 Affinity ^{2.0} carrying Case

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HIT440 Specifications

Hearing Aid Analyzer:	IEC 60118-0, IEC 60118-7, ANSI S3.22.
Frequency range:	100-10000Hz.
Frequency resolution:	1/3, 1/6, 1/12 and 1/24 octave or 1024 point FFT.
Frequency accuracy:	± 1%.
Sweep speed:	1.5 - 12 sec.
Stimulus signal:	Warble Tone, Pure Tone, Random noise, Pseudo random noise, Band limited white noise, Chirp, ICRA, Real Speech, any other sound file (automatic calibration available).
Stimulation intensity range:	40-100 dB SPL in 1 dB steps.
Intensity accuracy:	± 1.5 % dB
Stimulus distortion:	Less than 1 % THD.
Coupler microphone ranges:	40-145dB.
FF loudspeaker output:	Max 6 W into 8ohms, max 10 W into 4 ohms.
Telecoil drive in test box:	10 – 100 mA/meter.
Battery simulator:	Standard types are selectable, Custom types within 1.1 – 1.6 V, 0 – 25 Ohm range.
Test box:	Built-in test box holds telecoil drive as well as special dual speaker set for checking directional microphone function.
PreProgrammed protocols:	HIT module comes with a set of Test Protocols loaded. Additional Test Protocols can be designed by user, or easily imported into the system.
Compatible software:	NOAH 3, OtoAccess™.
Available tests:	IEC118, ANSI 3.22, Custom - OSPL90 - Full On Gain - Input/Output - Attack/Recovery Time - Reference Test Gain - Frequency Response - Equivalent Input Noise - Harmonic Distortion - Intermodulation Distortion - Battery Current Drain/Battery Life Time - Microphone Directionality - Coil Frequency Response - Coil Harmonic Distortion - Coil Full-On Gain Response
Included parts:	Affinity ^{2.0} HIT440 CD OtoAccess™ database CD 2CC coupler with microphone and adaptors for ITE, BTE and Body Style HA Coupler seal wax Reference Microphone Standard USB Cable Power Cable 120 or 230V Mouse pad Operation and Multilingual CE Manual
Optional parts:	Battery Adapters BAA675, BAA13, BAA312, BAA10, BAA5 Couplers 1.2CC and 0.6CC: ITE, BTE, Body Ear Simulator TBS25M External Test Chamber incl. cables. ACC60 Affinity ^{2.0} carrying Case Calibration Adaptor UCO15 Optical USB Extension Cable

Affinity^{2.0} Hardware

Safety standards:	IEC 60601-1, Class I, Type B, UL 2601-1, CAN/CSA-C22.2 No. 601.1-M90, IEC 60601-1-1. EMC: IEC 60601-1-2.
Computer communication:	Built-in USB1.1 computer interface. Optical isolation available.
PC minimum requirements:	General: 1.2 GHz Pentium 4 class CPU (or better) with at least 512 MB ram, CD-ROM drive, USB connector. Display: minimum resolution of 1024x768 with hardware accelerated DirectX/Direct3D graphics card. Disk Space: At least 1GB available space System RAM: 128 MB
Construction:	Painted metal cabinet bottom and moulded plastic top.
Weight:	5.5 kg / 12.1 lbs.
Dimensions:	(WxDxH): 42x38x15 cm / 16.5x15x5.5 inches

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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.



Products in this group:

- Affinity^{2.0} hardware
- HIT440 Hearing Instrument Testing module
- REM440 Real Ear Measurement module
- VSP440 Visible Speech counselling module
- AC440 Audiometry module

Optional special tests for AC440:

- High Frequency audiometry (HF440)
- Masking Level Difference (MLD440)
- Multi Frequency Module (MF440),
- Speech from Hard-drive (SFH440),
- SISI test (SISI440)
- Master Hearing Aid (MHA440),
- Hearing Loss Simulator (HLS440)
- Loudness Scaling (LS440)

Related products:

- TBS25 External Test Chamber



83003402 - 6 - 10/2008

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