Phonak Ambra



Created for first class hearing delight

Truly Binaural. Adaptive Intelligence. Contour Design.

PHONAK

life is on

Phonak Ambra – created for first class hearing delight

More than satisfaction – true delight

More than just wireless – true binaural benefit

More than spontaneous acceptance – ongoing personalization

More than reduced listening effort – effortless hearing

More than improved understanding – enjoying the conversation and savoring every detail

More than extended bandwidth – actual high frequency audibility

More than just streaming – connectivity with StereoSound

More than fitting – fitting your way

First class hearing delight. It's effortless. It's ongoing. It's real. It's Phonak Ambra.





There's always room for improvement

Thanks to consistent technological innovation, user satisfaction with hearing instruments has improved substantially in recent years. However, it is well documented that in certain areas, optimal performance has not yet been achieved. Evidence-based analysis of client satisfaction data revealed five key areas where expectations have not yet been met. We set ambitious goals for each of these.

- For very challenging listening environments, we wanted to lay the foundation for distinctly improved communication.
- Then we aimed to empower clients to personalize the performance of their hearing instruments in real time in their own environment.
- We also strove to enhance cosmetics, ergonomics and reliability without compromising on performance.
- We endeavored to provide the most comprehensive control and connectivity solutions to broaden wireless accessibility.
- Finally, we sought to give you the tools to unlock the potential of sophisticated technology, easily and intuitively.

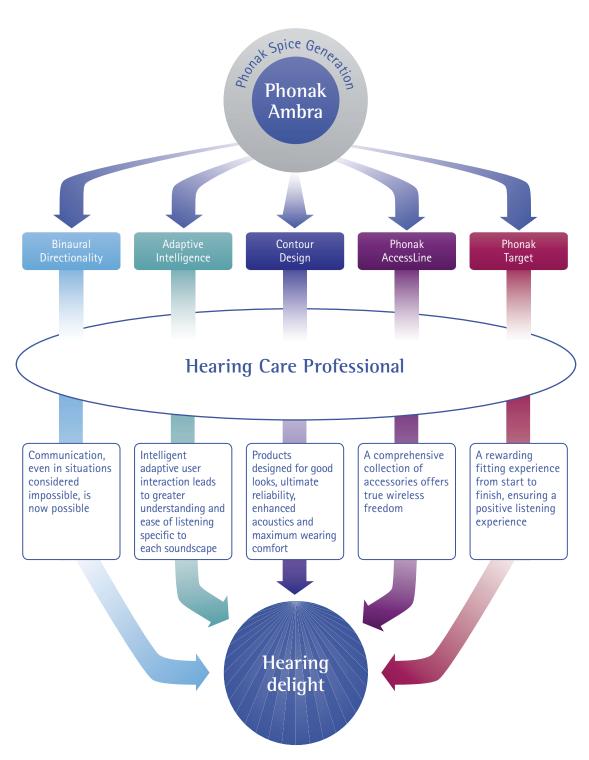
With Phonak Ambra, we present a new set of trailblazing solutions that uniquely and effectively address these key challenges.

"I am fortunate to have a very experienced, interdisciplinary team of highly motivated professionals. We took it upon ourselves to create innovative solutions that make a real difference in areas where we know there is still room for improvement."

Dr. Stefan Launer, Vice President, Advanced Concepts and Technologies



Key solutions for hearing delight





StereoZoom focuses on a single voice in a noisy crowd

Enhanced focus

Since they all have a wide front focus, monaural directional systems do not sufficiently address the challenge of one-to-one communication in high levels of surrounding background noise. StereoZoom enables the wearer to narrow the beam further and focus on a single speaker, while suppressing other interfering sounds. StereoZoom is the most significant innovation in binaural signal processing, further driving our long-standing technology leadership in directional beamforming. Communication, even in situations which were considered impossible, is now possible.

Full bandwidth audio streaming

StereoZoom employs exclusive wireless full bandwidth audio streaming and sophisticated binaural processing technologies to create a bi-directional network of four microphones. StereoZoom simultaneously streams the full audio signal from one instrument to the other and vice versa. The ipsilateral and contralateral signals for each side are analyzed and processed in real time to create a very highly focused beam which effectively zooms in on a single voice.

Standard directionality



Monaural directional microphones have a broad forward focus (gray beam) enabling improved audibility for all sounds within the beam.

StereoZoom



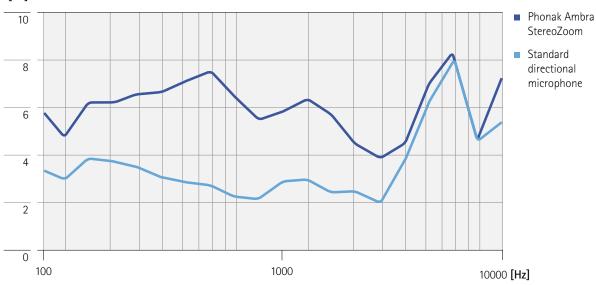
StereoZoom creates a highly focused beam (green beam) to the front to focus on a single voice in a crowd.

StereoZoom - measurable benefits

StereoZoom significantly improves the Directivity Index (DI) across the entire frequency range, beyond what can be achieved by a standard directional microphone. With its highly focused beam, it is designed to perform best when the listening goal is to understand a single voice in a noisy crowd. In such situations, StereoZoom achieves a valuable additional improvement of up to 3 dB signal-to-noise ratio.

Directivity Index improvement with StereoZoom

DI[dB]



StereoZoom significantly enhances the Directivity Index for the frequencies most important for speech understanding.

Wherever speech comes from, auto ZoomControl automatically focuses on it

The introduction of ZoomControl revolutionized directional hearing and set a benchmark for binaural processing. auto ZoomControl harnesses the power of our unique full bandwidth audio exchange and advanced binaural processing. It automatically tracks and focuses on speech, regardless of the direction, without the need to face the speaker.

Once activated, auto ZoomControl automatically selects the direction of the dominant speech source. When focusing to one side, the speech signal is picked up and amplified by the instrument on that side; simultaneously the entire signal is streamed to the other ear. As a result, the desired signal is heard in both ears, dramatically improving the signal-to-noise ratio (SNR). This unique feature provides natural binaural listening with all of its advantages.

Measurable benefits

Field study results show that compared to omnidirectional mode, ZoomControl provides an SNR improvement of 2–4 dB for signals coming from either side and an amazing 4–6 dB for signals coming from the back.

auto ZoomControl



auto ZoomControl employs the full bandwidth audio exchange to automatically track and focus on speech, regardless of the direction (front, back, left or right). This enables understanding without the need to face the speaker.

DuoPhone makes phone conversations as easy as they should be



DuoPhone is yet another benchmark binaural feature demonstrating the outstanding capabilities of our exclusive full-audio transmission. As soon as the phone conversation starts, the signal is streamed in real time to the other ear, so the caller's voice is heard in both ears. The microphone of the receiving instrument is attenuated so background noise is reduced and SNR is significantly improved. The phone can be used with confidence and listening becomes enjoyable again.

Measurable benefits

Independent research using the Just Follow Conversation (JFC) Test has shown that with DuoPhone, users experienced, on the average, a 3 dB signal-to-noise ratio improvement compared to monaural aided phone use.

DuoPhone



DuoPhone streams the voice of the caller in real time to the contralateral hearing instrument, allowing the call to be heard in both ears, significantly improving the signal-to-noise ratio.

UltraZoom with SNR-Boost – directional microphone technology reinvented

The foundation for our sophisticated binaural beamforming features is UltraZoom with SNR-Boost. It is the first and only dual-microphone system to incorporate a unique spatial noise cancellation algorithm designed specifically for directional applications.

SNR-Boost

The key innovation of UltraZoom is SNR-Boost. SNR-Boost is a spatial noise canceller designed specifically for directional applications. Traditionally, regardless of microphone mode, the noise cancellation algorithm is always applied in the same conservative manner, based on temporal cues. However, when in directional mode, the source of interest is actually known, so a different approach can be applied. SNR-Boost uses spatial cues to

distinguish between speech from the front and surrounding noise. With this clear distinction, noise cancellation can be more appropriately applied to further enhance the signal-to-noise ratio for speech coming from the front.

Consistent, long-term performance

To ensure optimal performance of the dual-microphone technology, sophisticated microphone matching and calibration are performed. These crucial steps are essential for consistent, long-term performance.

Measurable benefit

UltraZoom with SNR-Boost automatically improves understanding in background noise by an additional 15% over traditional directional microphones.

UltraZoom



UltraZoom with SNR-Boost effectively cancels noise, enhancing SNR for speech coming from the front.



FlexControl – a breakthrough in intelligent user interaction

FlexControl is a landmark feature which further enhances and personalizes the SoundFlow automatic system. Far beyond mere volume adjustments, FlexControl influences a host of parameters in an intelligent and targeted manner.

Instead of just making sounds louder or softer, real time classification of the soundscape enables the system to understand the intention of a manual action. For example, when listening to music, "up" means a desire for fuller sound, while this same action when conversing in noise means the need for more clarity. So, even though the user action is the same, the ensuing FlexControl adjustments are quite different.

FlexControl selectively activates an amazingly broad range of highly effective tools, including:

- Frequency dependent gain
- Compression characteristics across multiple channels
- UltraZoom with SNR-Boost
- NoiseBlock
- EchoBlock
- WindBlock

FlexControl intelligently responds to the wearer's desire for more hearing comfort, increased listening pleasure or enhanced speech intelligibility.

FlexControl

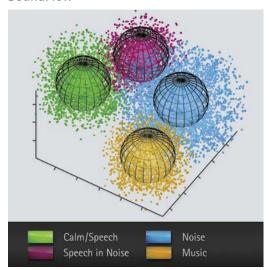


Each manual adjustment adapts a host of SoundCleaning parameters together with frequency dependent gain. Changes vary, depending on the listening situation, for greater understanding and ease of listening.

SoundFlow - the only automatic system that can be personalized

A truly effective hearing system is more than just an impressive collection of features. The benefit for the wearer is how they work together as an integrated whole. SoundFlow revolutionized automatic functionality in hearing systems by adaptively activating a host of comfort and clarity enhancing features at optimum levels to create a unique program, specially suited to each situation.

SoundFlow



SoundFlow employs a high-definition, multi-dimensional sound classification system to accurately identify changes in the sound environment for precise, seamless automatic adaptation.

Multi-dimensional sound classifier

Thanks to the increased processing power of the Spice chipset, second-generation SoundFlow employs a high-definition, multi-dimensional sound classification system. The resolution of the classifier has nearly quadrupled and now uses up to 46 distinctive properties of the incoming sound to accurately analyze the soundscape. Similar to the improved sharpness of a photo when the number of pixels is increased, this allows extremely accurate identification of even subtle changes in the sound environment.

This more natural mapping of the soundscape enhances the ability of SoundFlow to generate an infinite number of situation-specific automatic programs. Furthermore, FlexControl adjustments made by the wearer, personalize the settings in real time in the real world, offering rich, clear sound as natural and full as life itself.

User Preference Learning – the fusion of interactive control and automatic adaptation

Phonak Ambra remembers adjustments made by the wearer and the optimization of parameters accomplished by FlexControl. User Preference Learning captures the myriad of parameter adjustments of FlexControl and intelligently applies them within SoundFlow. So, over time, Phonak Ambra responds as desired without the need for manual adjustments.

By personalizing the automatic functionality with FlexControl and User Preference Learning, Phonak Ambra takes intelligent adaptation to a whole new level, guaranteeing personalized hearing delight for every soundscape.



ContourDesign – so much more than good looks

Phonak Ambra looks great, feels great, sounds great, and is built to last. The BTEs will delight your clients with their attractive shape and surprisingly small size, designed to completely disappear behind the ear. We call this design breakthrough ContourDesign. Clients who prefer Custom Products will be thrilled with the choice of expertly crafted, highly cosmetic solutions.

"Our mission was to design housings that are not only significantly smaller but also more reliable and ergonomic. At first this seemed impossible. But we did it!" Dr. Basil Dubs, Industrial Designer



Designed for high style and minimal visibility

Visibility of a BTE is determined by its overall dimensions and especially what can be seen from the front and side. In designing the new Phonak Ambra housings, special attention was paid to these aspects. As a result, each of the new Ambra BTEs has been shrunk by an amazing 20–30% and is now one size smaller than the previous generation. In fact, each is the smallest in its gain category. When incorporating FM, the new design integrated FM receiver complements the elegant look without compromising visibility.



Phonak Ambra microM completely disappears behind the ear.

Size 1:1







Each new Phonak Ambra BTE has been shrunk by 20–30% and is now one size smaller than the previous generation.

Designed for reliability - moisture protected

The biggest threat to reliability is moisture and debris. To keep these out, all gaps in the housing have been reduced to an absolute minimum, especially around the most critical area of the battery compartment. In addition, we have designed a new microphone protection which provides the best possible protection while being easy to clean and replace. Finally all housing parts are thoroughly nano-coated to ensure that moisture pearls off without entering the housing. These thorough measures of protection ensure hassle free hearing enjoyment.

Designed for superior acoustics

Advanced acoustics and mechanical design are very important, even in the digital age, because they have a significant impact on overall performance and user delight.

SlimTube with horn effect – achieving the broadest frequency response is a key development objective. In addition to state-of-the-art transducers and algorithmic processes, coupling acoustics can further enhance high frequency signal transmission. SlimTubes offer great cosmetic benefits. However, they have only been available with a fixed internal diameter. The new Phonak SlimTube HE culminates in a flared tip to provide the desirable horn effect, even for open fittings. This effectively boosts high frequency amplification, up to an amazing 5 dB at 6000 Hz!

Microphone alignment – to maximize directional performance, Phonak Ambra has been specifically designed to ensure optimum placement and alignment of the microphones. This is especially important given the wide range of directional and binaural options available in Phonak Ambra.



All the colors of delight



Phonak Ambra Custom Products – precision engineering and custom craftsmanship

We are committed to offering the most attractive Custom Product range in the industry. Phonak Ambra custom instruments have also been redesigned from scratch, with the goal of further miniaturization and increased fit rate. Use of the tiniest, state-of-the-art components provides the flexibility to make instruments smaller or include a larger vent.

Phonak Ambra Custom Products boast the cutting-edge technology of the Spice platform and dependable Phonak performance, complemented by the most complete set of options. At the same time, we strive to make it easier for you to select and configure your orders to ensure each individual client is truly delighted.

Significantly reduced size



High flexibility with the custom matrix

The comprehensive Custom Product matrix offers a wide choice of options:

- Selection of product by battery size
- 5 shell styles (CIC, MC, ITC, HS, FS)
- 3 receivers, M, P and SP for each shell and battery size
- Wireless and non-wireless (Petite) models
- Directional and omni microphone choices
- A variety of user control options e.g. volume control, program switch, telecoil or remote control
- 8-15 color choices
- Wax protection options

All of these elements can be mixed and matched to configure the ideal Phonak Ambra Custom Product.

Custom Power

A Custom Product is the ideal hearing instrument form factor but in the past we were limited to more moderate hearing losses. Now with Phonak Ambra we offer 3 distinct gain/output choices. These accommodate the widest range of hearing losses.

- "M" is ideally suited for mild to moderate hearing losses, open fittings and large venting
- "P" is a great choice for moderate to severe hearing losses
- "SP" further extends the fitting range for hearing losses of greater severity

The new SP receiver uses specially designed double receivers for greater stability, improved feedback free listening and better shock resistance. The small receiver size permits an impressive anatomic fit rate of over 75% for CICs and ITCs.

Small and beautiful

Attractive cosmetics, small size and long term wearing comfort are key in the successful fit of Custom Products. With the Phonak Ambra Custom Products we are using completely new, exclusive to Phonak, optimized components. The end result is a collection of the smallest Custom Product range with the greatest flexibility of choice.

Digital laser customization

Phonak uses the most modern 3D software and advanced laser tools to design and cut each individual custom instrument for the ultimate small size and most comfortable fit.

Acoustically Optimized Venting (AOV)

The clinically proven Acoustically Optimized Venting (AOV) technology, a Phonak exclusive, ensures the right sized vent for each instrument to deliver the ideal balance between gain, sound quality and occlusion. Hundreds of thousands of successfully fitted endusers have confirmed that they have benefited from this Phonak innovation.

Computer aided design for precision fitting

Phonak Ambra Custom Products take acoustic and anatomic individualization to the next level. Our unique 3D modelling process takes into account important aspects, such as the Microphone Location (MLE) and the size and shape of the product. This results in optimized first fit precalculation and increased user delight.

Worldwide, Phonak operates the most advanced, fully integrated, all-digital Custom Product manufacturing process in the industry. This ensures that Phonak Ambra Custom Products are consistently small, cosmetically appealing and of highest quality. You and your clients will appreciate our fast, reliable delivery, consistency and outstanding product performance.



Phonak AccessLine – wireless freedom

Enjoying life to the fullest requires the freedom to connect to the world of modern communication. Phonak AccessLine opens up the world of connectivity for wearers of Phonak Ambra.

An impressive collection of wireless accessories covering the complete range of needs will exceed your clients' expectations for extra delight.

"Isn't it amazing that with wireless connectivity, hearing instrument wearers, at times, now have an advantage over those of us with normal hearing? A good example is the use of a mobile phone in noisy environment."

Steffi Kalis, Senior Validation Team Manager



Phonak PilotOne

PilotOne focuses on the essentials when it comes to discreet control of Phonak Ambra. This new remote control was designed for maximum impact and ease of use. The clever simplicity and ergonomic design make it the most user-friendly remote control ever. PilotOne is compatible with the entire Ambra family, including non-wireless models.

myPilot

myPilot, with full color display, is a great choice for clients who want access to a multitude of functions, including status information. It can be configured to be either menu driven or with direct control, to match the needs of each client.

iCom - the communication interface

iCom, with true StereoSound, offers unmatched sound quality. Whether the input comes via Bluetooth, cable or FM, it doesn't matter. One-button control makes it the simplest streaming device in the industry. iCom works right out of the box, no programming required. Phonak Ambra offers up to four dedicated iCom programs, so you can customize the streaming functionalities.

Phonak TVLink - the ideal TV experience

The dedicated Phonak TV solution offers an unrivalled listening experience. The low latency transmission and StereoSound provide excellent sound quality. True plug and play and one-step set-up make it ready to go in less than 60 seconds.

Click'nTalk – the intuitive mobile phone link

Click'nTalk is the clever solution for mobile phone users, combining best sound quality with convenient and intuitive use. Click'nTalk is a unique approach to enhance clients' mobile phone experience.

No charging, no programming, no fitting required – just click and enjoy.

Dynamic FM - a Phonak FM bridges the gap

When it comes to understanding speech in noise or from a distance, nothing beats the performance of an FM system. Dynamic FM has set a new standard in FM technology. The design-integrated receivers offer optimal cosmetics and unrivaled performance. The universal receiver is also an option. Phonak Ambra with Dynamic FM provides the ultimate in speech understanding.



Phonak Target™ is great to work with

The beauty of the new fitting software, Phonak Target™, is that you can go with your flow, rather than follow rigid procedures demanded by older software. Hearing care professionals worldwide helped us develop and perfect Phonak Target™. We kept at it until we achieved the ideal combination of fitting sophistication and ease of use. Prepare to be delighted.

"In my experience, interaction design is an integral part of the development of good software. It was my pleasure to bring this expertise into the development of the new Phonak fitting software. I am convinced that this approach has led to a new benchmark in the hearing industry."

Daniel Demel, Interaction Designer

New - but easy to get used to

Phonak Target™ is user-centered design at its best. The graphical user interface and transparent architecture were created in close collaboration with over 200 hearing care professionals. Using state-of-the-art interaction design development tools, it was possible to closely monitor fitter actions while they used prototype versions of the software. The feedback was thoroughly analyzed and improvements were applied to subsequent versions. This process was repeated until no further changes were deemed necessary. These pioneering efforts resulted in software that we know you will find delightful to work with. It supports your individual workflow, leaving you free to focus on your client.

CableFree Fitting

The iCube fitting interface provides fast, smooth and reliable cable-free programming. iCube offers consistent convenience for you and your clients. If you prefer NOAHlink and HI-PRO fitting interfaces, these are also supported by Phonak Target™.

Phonak Target™ is the culmination of groundbreaking design and development efforts. We are certain you will quickly embrace this landmark new fitting software which lets you truly customize the fitting procedure to suit you and your clients. Thank you for your help with Phonak Target™!

Phonak Target™



A Phonak Ambra has it all

A host of additional high-performance features perfectly complements the revolutionary new capabilities of Phonak Ambra. Many of these features were significantly enhanced by the new Spice chipset and algorithmic platform.

Add understanding to hearing with SoundRecover

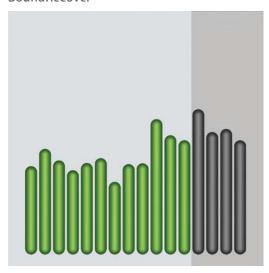
The exclusive SoundRecover technology has triggered a paradigm shift in the approach to amplification of high frequency sounds for all degrees of hearing loss. SoundRecover picks up where extended bandwidth leaves off. It employs non-linear frequency compression to ensure audibility of high frequency sounds that can otherwise not be made audible. SoundRecover expands perceptual bandwidth, improving intelligibility, while maintaining natural sound quality and comfort, so wearers can now enjoy the full spectrum of sounds.

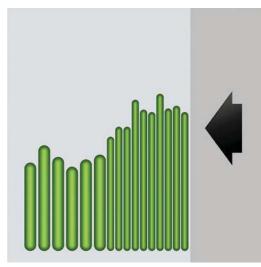
Scientific evidence

But don't take our word for it. SoundRecover is one of the most studied and published features in the industry. Numerous researchers around the world have explored its performance. This has resulted in over 20 industry and peer-reviewed publications and countless conference presentations. For a full list of publications, please visit www.phonak.com/soundrecover

SoundRecover is available in every single Phonak Ambra model. This Phonak signature feature has been established as the most significant innovation of the last decade.

SoundRecover





By compressing and shifting high frequency sounds into an area of better audibility, SoundRecover expands perceptual bandwidth to provide access to the full spectrum of sounds.

WhistleBlock – the benchmark in feedback cancellation

Enhanced WhistleBlock is now even more effective thanks to the addition of continuous behind the scenes monitoring and adaptation. Instead of applying the same levels of feedback cancellation for all situations, WhistleBlock now adjusts the feedback suppression levels adaptively and continuously, applying just the right amount of suppression needed for each specific situation. This results in a significant improvement in sound quality while feedback is always under control.

NoiseBlock

The enhanced high-resolution NoiseBlock algorithm is faster and more accurate in measuring the signal-to-noise ratio in each channel. Gain is decreased without delay, and only in channels with a poor SNR, so that noise is suppressed without reducing essential speech information. The result is increased comfort without compromising clarity.

EchoBlock

Reverberation diminishes clarity by blurring and distorting sounds. EchoBlock instantly removes the disturbing reflections of the reverberant signal. Sound remains natural and undistorted. EchoBlock provides a better listening experience in large halls, places of worship, rooms with reflective surfaces and other reverberant environments.

WindBlock

Being outdoors is part of everyday life. The adaptive WindBlock algorithm suppresses wind noise without changing microphone settings. Unlike other systems, the instruments can remain in directional mode while still effectively managing wind noise. With WindBlock, end users can really enjoy the great outdoors.

SoundRelax

Sharp, abrupt sounds like slamming doors and clanging dishes are an obvious irritation, made even worse when amplified. SoundRelax identifies these sounds and reduces gain appropriately. The result is effective cushioning of otherwise unpleasant sounds.



Quick reference guide

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					Max. Gain	Max. MPO	Max. Gain	Max. MPO	
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	Co		Phonak Ambra microP	13	64	131	60	129	
			Phonak Ambra SP	13	75	135	70	133	
			Phonak Ambra 10 Petite	10					
			Phonak Ambra 312 Petite	312					
			Phonak Ambra 312 UZ Petite		M: 50 P: 60	M: 120 P: 123	M: 40 P: 50	M: 112 P: 117	
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									Phonak AccessLine												Features																
Acoustic Coupling					ng		Accessories				FM Receiver			FM Transmitter			Binaural Directionality				Adaptive Intelli- gence			A Phonak has it all													
SlimTube HE	Hook	SlimTip/SlimTip soft	Open/closed/power dome	Mild hearing loss	Moderate hearing loss	Severe hearing loss	Profound hearing loss	Phonak PilotOne	myPilot	iCom	Click'nTalk	Phonak TVLink	iCube	MyLink	MLxS or MLxi	ML13i	AS13	inspiro	SmartLink+	ZoomLink+	EasyLink+	StereoZoom	auto ZoomControl	ZoomControl	DuoPhone	UltraZoom Premium	QuickSync	FlexControl	SoundFlow Premium	User Preference Learning	SoundRecover	Real Ear Sound	WhistleBlock	NoiseBlock	WindBlock	EchoBlock	SoundRelax
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Requires iCom Requires remote control option Requires telecoil option



Phonak Ambra – the premium flagship of the Phonak Spice Generation

- The Phonak Ambra binaural features open the door to communication even in situations previously considered impossible.
- FlexControl empowers wearers to personalize their hearing experience with intelligent, interactive adaptation to each soundscape.
- ContourDesign expresses on the outside the sophistication inside.
 Phonak Ambra is designed for high style, minimal visibility, reliability and superior acoustics.
- Phonak AccessLine, a comprehensive collection of wireless accessories, will exceed your client's expectations.
- The new fitting software reflects our belief that you are key to achieving hearing delight. Phonak Target™ is the ideal combination of fitting sophistication and ease of use.

First class hearing delight. It's effortless. It's ongoing. It's real. It's Phonak Ambra.

