

sound SHD stream

Combines binaural hearing intelligence with 2.4 GHz technology

Life is connection. A lively conversation at lunchtime or a video call on the Bluetooth®-enabled* tablet – communication is versatile nowadays and new media are increasingly finding their way into our everyday life. Therefore, the hearing system wearer's connection with their environment was especially important to the development of the sound SHD stream. Just one click on the hearing system allows for hands-free calls, video calls or streaming of your favorite TV series to the ear.

Because natural hearing connects:

- Binaural hearing intelligence features create a very natural hearing experience for an ideal connection to the world
- 2.4 GHz technology enables a connection with Bluetooth®-enabled smartphones, tablets or computers*
- Make hands-free calls with any Bluetooth®-ready telephone (MFA - "made for all")
- Stream TV shows directly to hearing systems (using a TV Connector)



2.4 GHz

2.4



HEAR Intelligence™



sound SHD S13 stream
Especially easy-to-locate pushbutton for fast acceptance of telephone calls. The optimally shaped battery door enables quick battery exchanges.



4 cm
3 cm
2 cm
1 cm
0 cm



* With Bluetooth® 4.2 wireless technology and most of the older Bluetooth® wireless technology enabled phones.

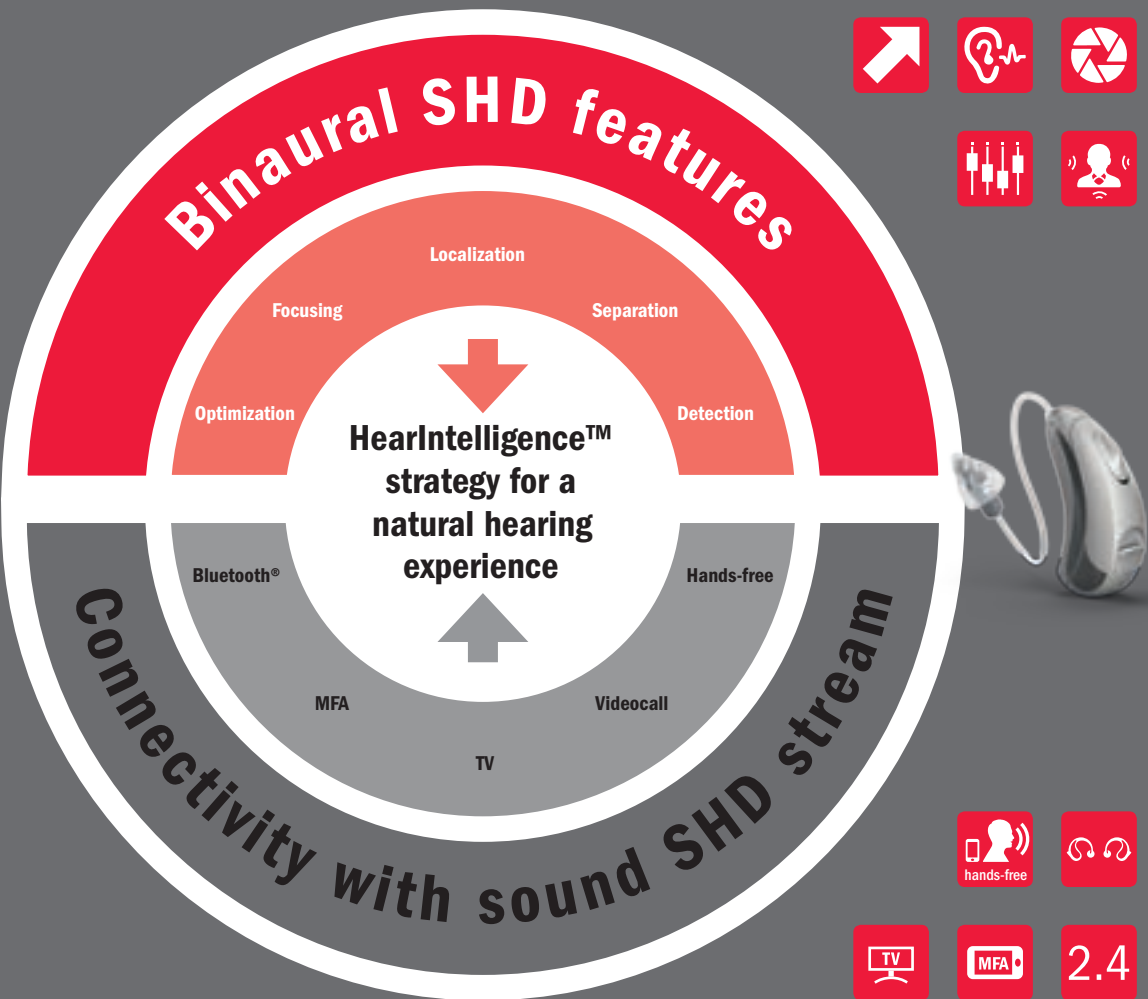
Binaural

Binaural hearing intelligence meets 2.4 GHz technology

Because natural hearing connects

sound SHD stream can be automatically connected to the TV, and you can also easily receive phone calls and video calls. Safe, hands-free operation, for example, in the car, is now a reality with virtually any Bluetooth®-enabled* phone. This is not only safe and convenient, but thanks to Bluetooth® wireless technology, it allows for a quick connection to various kinds of consumer devices, and thus the world of the hearing system's wearer.

Binaural hearing intelligence features create a very natural hearing experience. Just as all of HANSATON's HearIntelligence™ hearing systems, the latest external receiver system is also capable of taking into account the complexity of hearing through innovative functions. For people with hearing loss, this means not just a better, but also a natural hearing experience, and with it, a whole new enjoyment of life.



* With Bluetooth® 4.2 wireless technology and most of the older Bluetooth® wireless technology enabled phones.



SurroundSupervisor SHD

HANSATON's SurroundSupervisor SHD uses more than 30 high-resolution sensors to analyze the acoustic environment nearly 700 times per second, providing a realistic model of the surrounding area as a starting input value for signal processing.

AutoSurround SHD

AutoSurround SHD is a program that automatically adjusts hearing system settings to fit the current environment. The best part: instead of relying upon preset programs, AutoSurround SHD generates the perfect mix of parameters for the individual acoustic situation at hand.



SphereSound SHD

Hearing systems use SphereSound SHD to recreate the way the ear and head influence sound, providing a natural overall sound experience and allowing precise localization of speech and signal sources.



SpeechBeam SHD

Regardless of which direction speech is coming from, SpeechBeam SHD focuses in on that speaker. In combination with innovative localization algorithms, the result is crystal-clear speech and greater ease of hearing.



SurroundOptimizer SHD

SurroundOptimizer SHD combines speech amplification, background noise suppression, and intelligent directional microphone characteristics in various acoustic environments to ensure that ideal, natural hearing is always the end result.



Your favorite TV series – from the TV straight to the hearing system

Using the TV Connector, TVs and other audio devices can be connected directly to the sound SHD stream. With an outstanding binaural sound experience, an unlimited number of hearing system wearers can stream movies and series to both their hearing systems together at distance of up to 50 feet from the TV Connector.

Because natural hearing connects.



Hands-free calls thanks to 2.4GHz technology

"Made for all" – meaning across operating systems of a wide range of Bluetooth®-enabled devices in the world – virtually any Bluetooth®-enabled* phone can be used to make hands-free calls thanks to the 2.4 GHz technology, with just one click on the sound SHD stream. This is especially practical during a car ride or while cooking.

Because natural hearing connects.



Easily make video calls using the hearing system

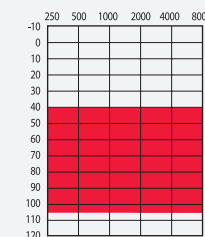
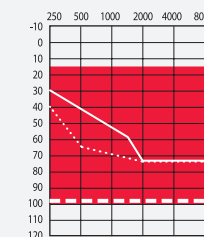
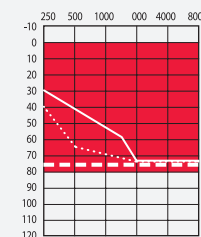
The sound SHD stream can communicate with some smartphone voice assistants, such as "Ok Google" or Siri on Apple products. To stay in touch regularly with people who are far away, video calls can be received on the smartphone, tablet or computer very easily with just one click on the hearing system.

Because natural hearing connects.



¹ With Bluetooth® 4.2 wireless technology and most of the older Bluetooth® wireless technology enabled phones.

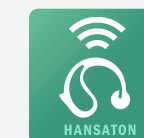
Open dome —
Closed dome
Slim Tube (Power dome) ---



Fitting Range	S13	S13	S13
Receiver type RIC	Standard xS	Power xP	Super Power xSP plus
Output / gain	111 / 47	124 / 57	127 / 66
Open dome	•		
Closed dome	•		
Power dome	•		
Sleeve mold	•		
cShell (hard / soft)	•	•	•

Control the SHD stream sound via app

Download the HANSATON stream remote app to your smartphone – simply scan the QR code provided or search the Apple app store³ or Google Play³ store for the **HANSATON stream remote**, and you'll be set.



Simply scan and download the app:



TV Connector for the latest sound SHD stream external receiver system

Using the TV Connector, TVs and other audio devices such as stereo systems can be connected directly to the sound SHD stream. With an outstanding binaural sound experience, an unlimited number of hearing system wearers can jointly stream movies and series to their hearing systems at a distance of up to 50 feet from the TV Connector. Because natural hearing connects.

NEW: Our TV Connector now transmits not only stereo signals, but Dolby² signals as well.



² Manufactured under license from Dolby Laboratories. Dolby, Dolby Audio, and the double-D symbol are trademarks of Dolby Laboratories.

³ Bluetooth® word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. Apple, iPhone, iOS and App Store are trademarks of Apple Inc. Android™, Google Play, and the Google Play logo are trademarks of Google Inc.

RIC: sound SHD

Ideal speech clarity, brilliant sound, elegant design

sound SHD, the hearing systems with external receivers, are aesthetically appealing and acoustically impressive. With their elegant design, soft, rounded shapes, and range of available colors, these new "lead singers" are a design hit in every way. Binaural hearing intelligence functions create a very natural hearing experience. Not only that, but AutoSurround and SpeechBeam provide optimum speech clarity and brilliant sound in all sound SHD systems – with a naturalness never before achieved. The hearing systems are plasma-coated and IP68 certified. They are especially robust and resistant to external influences such as dirt and water.

HearIntelligence™ by HANSATON

HANSATON hearing systems support natural hearing intelligence thanks to binaural features: the high-speed detection, the innovative automatic program as well as with precise speech, localization, and optimization features. For a natural hearing experience.

sound SHD S312
Convenient: This small, award-winning housing ensures ease of operation.



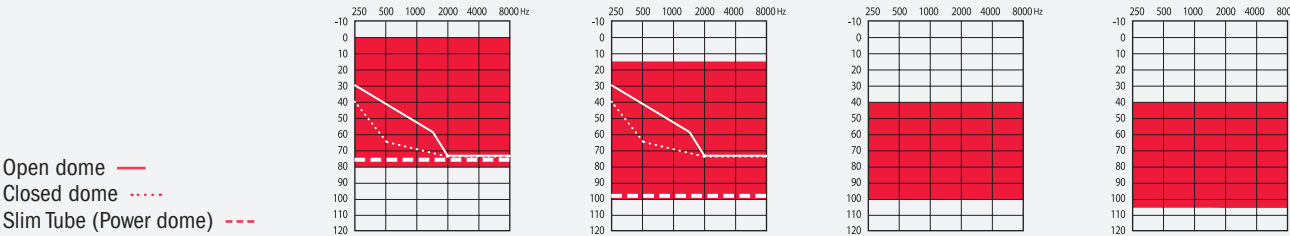
sound SHD 10
Great performance, small package: This tiny marvel measures just 19 mm.



sound SHD S13
Impressive: This powerful sound SHD S13 is equipped with an audio input.



sound experience
Designer housing



Fitting Range	S312, 10, S13	S312, 10, S13	S312	S13
Receiver type RIC	Standard xS	Power xP	Super Power xSP	Super Power xSP plus
Output / gain	111 / 47	124 / 57	125 / 62	127 / 66
Open dome	•	•		
Closed dome	•	•		
Power dome	•	•		
Sleeve mold	•	•		
cShell (hard / soft)	•	•	•	•

Showpiece in sound and design

The sound SHD S312 has won multiple awards for its modern and innovative designer housing. With its small size and rounded, appealing shape, the hearing system fits the wearer's ear perfectly and is hardly visible as an inconspicuous everyday helper. At the same time, the sound SHD S312 offers maximum convenience: the easy-to-open battery compartment and easy-to-operate pushbutton make it a handy companion in any life situation.



reddot award 2017
winner



Cutting-edge technology, beautifully packaged

The sound SHD 10 allows spatial hearing in a new dimension. As HANSATON's smallest hearing system with an external receiver, it offers exceptional functionality in the tiniest of spaces – and naturally offers the ease of use and comfort HANSATON wearers are accustomed to. With its innovative housing featuring soft, rounded shapes, it is not only pleasant to wear: the battery compartment is also designed to make the hearing system easy and convenient to open, despite the small housing – a clear advantage for this size.



RIC and BTE: AQ SHD

Limitless Freedom. Hearing without batteries*

As rechargeable external receiver systems with integrated SHD Technology, the AQ sound SHD (RIC) and the new AQ jam SHD RS (BTE) redefine limitless hearing in natural sound quality. Thanks to SurroundSupervisor SHD, AutoSurround SHD, SphereSound SHD and SpeechBeam SHD, the little marvel of engineering ensures clear speech recognition and an exceptional spatial hearing experience. And as a rechargeable external receiver system, also offers maximum comfort without requiring battery replacement.

The powerful rechargeable lithium-ion batteries provide 24 hours of guaranteed running time with a maximum of three hours of charging time. The program pushbutton’s large surface and LED feedback (blinks during charging; lights up continuously when the hearing system is fully charged) makes operating the system a piece of cake.

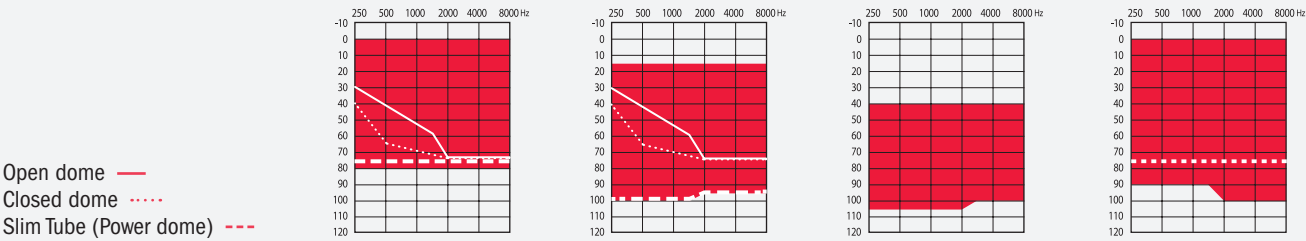
HearIntelligence™ by HANSATON

HANSATON hearing systems support natural hearing intelligence thanks to binaural features: the high-speed detection, the innovative automatic program as well as with precise speech, localization, and optimization features. For a natural hearing experience.



* Rechargeable battery with lithium-ion technology.

24 hours
running time



Fitting Range	S		S		S	RS
Receiver type RIC	Standard xS		Power xP		Super Power xSP plus	Power P
Output / gain	111 / 46		124 / 57		130 / 66	
Open dome	•		•			
Closed dome	•		•			
Power dome	•		•			
Sleeve mold	•		•			
cShell (hard / soft)	•		•		•	
LA _{max} /V _{max} 2cc (Filtered earhook)						131 / 66
LA _{max} /V _{max} 2cc (Slim Tube)						126 / 58

Hearing in a new dimension. Hearing without batteries*.

A new dimension of hearing: Thanks to the intelligent combination of innovative hearing system features, the AQ SHD from HANSATON is able to map its acoustic environment realistically and recreate a natural sound experience. And with its powerful rechargeable lithium-ion batteries, the system guarantees 24 hours of optimum hearing – with a maximum of three hours of charging time. For environmentally friendly hearing.



You can count on the rechargeable AQ SHD series:

- Available as BTE or RIC
- IP68-class water resistance
- Smart charging accessories, such as a charging station with auto-drying or a Power Pack for mobile use
- Available in all four performance levels
- Five-year warranty on lithium-ion batteries

AQ SHD accessories

Intelligent, highly sustainable charging management

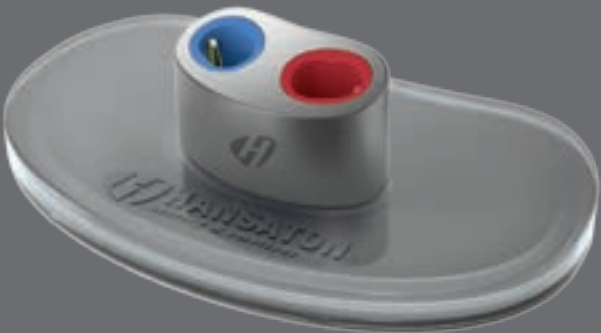
HANSATON thinks ahead. As a future-oriented company, we make valuable contributions to environmental protection by manufacturing eco-friendly rechargeable battery technology. HANSATON's Light Charger and Comfort Charger stations are the perfect addition to the AQ SHD hearing systems. Users can rest easy knowing they are making environmentally conscious choices without sacrificing comfort.

HANSATON offers two different charging stations to meet hearing system users' individual needs even more effectively. The Light Charger is a compact charging station and an ideal workplace solution. HANSATON's exclusive Light Charger Base keeps it secure on smooth, slippery surfaces. The Comfort Charger is a charging station and a secure storage case. Together with optional HADEO desiccant capsules, it can charge hearing systems and remove moisture at the same time. Practical: The Comfort Power Pack can charge one pair of hearing systems up to seven times.

HANSATON charging systems are energy-efficient and completely automatic. These high-tech solutions ensure that hearing system users will always have access to well-charged systems. A maximum of 3 hours charging time is all the hearing systems need to be able to provide another 24 hours of exceptional performance*.

Light Charger

Practical side markings. Clearly visible colored markings (left: blue; right: red) aid users in inserting the hearing systems correctly.



Light Charger Base

Charging indicator light on the back.

Light Charger Base. The Light Charger Base, developed exclusively by HANSATON, provides a secure stand for the Light Charger on slippery surfaces.

* Rechargeable battery with lithium-ion technology - expected running time of 24 hours when fully charged, including 80 minutes of wireless streaming.



Tightly closed. The cover of the Comfort Charger can be closed during charging.

Comfort Charger

A real powerhouse. Charging time depends on the hearing system batteries' remaining capacity, up to a maximum of three hours.

Cleaning brush. Practical: The cleaning tools included in delivery make it easy to clean the hearing systems.

Dries hearing systems. With the help of a HADEO desiccant capsule (optionally available), the Comfort Charger also dries hearing systems when closed.



Energy-saving operation. The charging process ends automatically when the batteries are fully charged.

Space for receivers or ear molds.

Clear side markings. Clearly visible colored markings (left: blue; right: red) aid users in inserting the hearing systems correctly.

Comfort Power Pack

Charging to go. The Comfort Power Pack has a built-in, non-removable lithium battery that stores enough power to charge a pair of hearing systems up to seven times. The status indicator on the back clearly indicates the Power Pack's remaining battery capacity.



Battery status indicator			
0 % - 29 %	●	30 % - 59 %	● ●
		60 % - 100 %	● ● ●

BTE: jam SHD

Intelligent technology packaged attractively and comfortably

Optimally elaborated control elements turn jam SHD hearing systems into attractive and comfortable behind-the-ear assistants. Binaural hearing intelligence functions provide the hearing system wearer with an especially natural hearing experience.

With its high-speed recognition, optimal signal processing and the innovative SphereSound SHD feature, SHD hearing systems create a new dimension of spatial hearing. The hearing systems are plasma-coated and IP68 certified. They are especially robust and resistant to external influences such as dirt and water.

HearIntelligence™ by HANSATON

HANSATON hearing systems support natural hearing intelligence thanks to binaural features: the high-speed detection, the innovative automatic program as well as with precise speech, localization, and optimization features. For a natural hearing experience.

jam SHD S312
94 % of subjects in a 2016 HANSATON study specified being able to immediately feel the battery door. 100% of participants were able to open this door more easily than with previous models.



jam SHD RS13
Convenient: Optimized control elements make the jam SHD RS13 a convenient behind-the-ear helper.

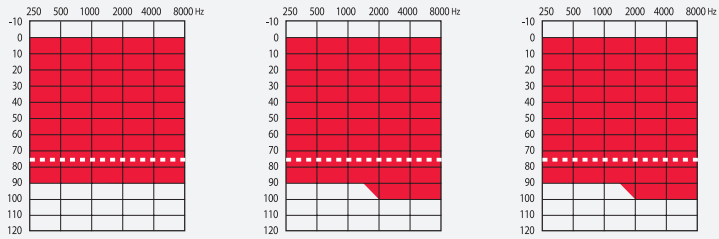


jam SHD S13
Impressive in any situation. The jam SHD S13 has an audio input.



Easy
to use

Slim Tube (Power dome) ---



Fitting Range	S312	RS13	S13
Receiver type BTE	Moderate M	Power P	Power P
LA _{max} /V _{max} 2cc (Filtered earhook)	129 / 63	131 / 66	131 / 63
LA _{max} /V _{max} 2cc (Slim Tube)	122 / 56	126 / 58	123 / 55

Rich color palette guaranteed

Its small, ergonomically shaped housing ensures that the jam SHD S312 is particularly comfortable to wear, and the soft, transparent tube nestles so perfectly to the ear that it is scarcely noticeable from the outside. The hearing system thus integrates both optically and acoustically into the life of the hearing system user. The jam SHD S312 features the modern HANSATON logo and is also available in the elegant special Black Edition color.



Dynamic in form and function

The jam SHD RS13's wave design gives it a modern, dynamic look that never fails to impress. It also wins points for versatility in its color range: jam SHD RS13 is available in seven different color combinations.



ITE: jam SHD

Intelligent technology: individual and practically invisible

Smaller, more stable, and more individually adapted to their wearers than ever: Just a few of the ways to describe HANSATON's new jam SHD ITE hearing systems with SphereHD signal processing.

Individual Acoustic Modeling (IAM): A hearing experience that is more individual than ever

Directionality, individually adapted to the hearing system user: Thanks to the Individual Acoustic Modeling (IAM) it is possible to adjust the coordination behavior in the production to the personal ear shape. The result is a significantly improved directionality and a sense of natural hearing since the directional microphone feature can thereby take full effect.

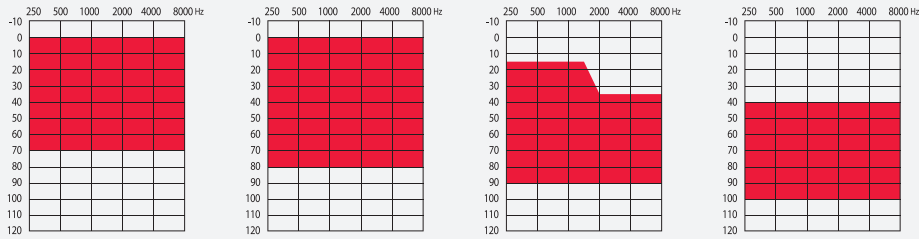
HearIntelligence™ by HANSATON

HANSATON hearing systems support natural hearing intelligence thanks to binaural features: the high-speed detection, the innovative automatic program as well as with precise speech, localization, and optimization features. For a natural hearing experience.

Fits perfectly into the ear.
Soft shapes and an enhanced design
for maximum comfort.



IAM
Mini-Hybrid



Fitting Range	Moderate M		Power P		Super Power SP		Ultra Power UP
Receiver type ITE	13 Dir W	312 Dir W	10 Dir W	10 W	10	IIC	
Ultra Power (127 / 70)	•	•					
Super Power (119 / 60)	•	•	•	•	•		
Power (115 / 50)	•	•	•	•	•		
Moderate (109 / 40)	•	•	•	•	•	•	

More individual, intelligent, and natural

On the basis of the individual acoustic modeling, jam SHD In-the-ear hearing systems can take their full effect. Features for maintaining the hearing intelligence such as speech, localization and optimization features are able to work even more precisely and provide the hearing system user with a particularly natural hearing experience.

Great things come in small packages.

Thanks to the 60% smaller hybrid and the efficient arrangement of the individual components, the jam SHD IIC and CIC hearing systems are smaller. A sealed battery compartment protects the hearing system's technology against water and dirt. And they are also robust: the jam SHD IIC and CIC hearing systems are equipped with new microphones, which not only impress by their performance, but also by their longevity.



Perfectly protected.
The plasma-coated surface protects the
system from external influences such as dirt
and moisture.

Power hearing systems: beat SHD

Power for hearing intelligence, thanks to SHD technology

Products in the high-performance beat SHD family are dynamic and powerful, providing impressive volume without sacrificing sound or speech quality. The beat SHD is a secure, optimized solution designed especially for users with significant hearing loss. It's pure power. These "extra-strength" models are available in two battery sizes: beat SHD RS13 and beat SHD RS675. As with all of HANSATON's hearing systems with SHD technology, they follow our HearIntelligence™ strategy - thanks to precise speech, localization, and optimization functions, they give wearers a comfortable, individualized spatial-acoustic experience. Turn to Page 25 for more information on the power features specially developed for our two beat SHD hearing systems.

SurroundOptimizer SHD Power

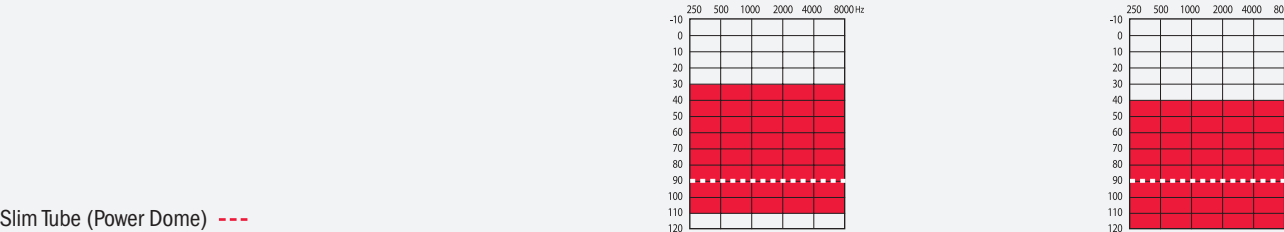
For people with severe to profound hearing loss or residual hearing, being able to hear noises around them can be particularly important. With power hearing systems, the fitting process focuses on audibility along with speech clarity. The SurroundOptimizer SHD Power supports hearing intelligence by decoupling interference noise reduction from speech amplification. The goal is to provide the wearer of the Super Power hearing system with more realistic or expected audibility of speech and background sounds. Greater speech amplification puts the focus on speech and suppresses less noise at the same time to maintain greater awareness of the surroundings.

beat SHD RS13
The hearing system has been developed for moderate to significant hearing loss. The modern designer housing features an easy-to-open battery compartment and an easy-to-find button.

beat SHD RS675
The beat SHD RS675 is a particularly powerful model designed for users whose hearing loss borders on deafness as per the WHO classification system (WHO4).



Super Power Pre-Sets



Slim Tube (Power Dome) ---

Fitting Range	RS13	RS675
Receiver type Power	Super Power	Ultra Power
LA _{max} /V _{max} 2cc (Power tube)	137 / 75	139 / 82
LA _{max} /V _{max} 2cc (Earhook with filter)	132 / 68	133 / 75
LA _{max} /V _{max} 2cc (Earhook without filter)	137 / 75	139 / 82

beat SHD Super Power Pre-Sets put more power into your fitting process

Each customer's needs and priorities are different, especially when it comes to high-powered hearing systems. So HANSATON has developed three presets for you to use as baselines and starting points when fitting power hearing systems. Simply start your adjustment with one of the three Super Power pre-sets and benefit from quicker adjustment success and spontaneous acceptance.

How the individual Super Power pre-set differ

Using presets helps audiologists automatically adjust hearing system settings to fit customer needs. Whether Classic, Active, or Modern (a mix of the first two), the parameters are optimally coordinated to one another.

Classic	Modern	Active
Your customer is a long-time power hearing system wearer. The modern signal processing does not generate any directionalities. The amplification focuses on the audibility of ambient sounds and speech.	Your customer tends toward modern signal processing and reduced directionality. He prefers greater amplification, the focus lies on speech intelligibility and reduced ambient sounds.	Your customer prefers modern signal processing and maximum feature effect as pertains to the fully comprehensive directionality. The focus lies on speech intelligibility at the highest level of comfort.

SoundRestore Power

Developed with the needs of hearing system wearers with severe hearing loss in mind, SoundRestore Power supports hearing intelligence by using new adaptive processing through the use of lower cut-off frequencies to enable lower compression ratios and thus make high-frequency sounds audible again without impairing the sound quality of vowels.

Performance Level

From First to Economy Class

HANSATON hearing systems are available with various power settings, in performance levels 9, 7, 5, or 3, depending on your preferences and needs.



RIC



sound SHD S312



sound SHD 10



sound SHD S13

stream



sound SHD S13 stream

BTE



jam SHD S312



jam SHD RS13



jam SHD S13

Akku



AQ sound SHD S



AQ jam SHD RS

ITE



IIC



CIC



Mini Canal



Canal



Halbconcha



Concha

Power
New



beat SHD RS13



beat SHD RS675



White Pearl



Cloudy Grey



Sterling Silver



Space Titan



Carbon Black



Sparkling Bronze



Sandy Beige



Black Edition

Detection	9 – First	7 – Business	5 – Comfort	3 – Economy
SurroundSupervisor SHD	•	•	•	•
Localization and focusing	9 – First	7 – Business	5 – Comfort	3 – Economy
SphereSound SHD Dynamic	•			
SpeechBeam SHD-3	•			
SphereSound SHD Personal	•	•		
SpeechBeam SHD-2		•		
SphereSound SHD Static	•	•	•	
SpeechBeam SHD-1			•	
Separation	9 – First	7 – Business	5 – Comfort	3 – Economy
Music	•	•		
Noise	•	•	•	
Conversations in a small group	•	•	•	
Conversations in a crowd	•	•	•	
Conversations in noise	•	•	•	•
Conversations in quiet	•	•	•	•
Quiet	•	•	•	•
AutoSurround SHD	7	7	6	3

9 – First	7 – Business	5 – Comfort	3 – Economy
Spatial acoustics and speech comprehension at the highest level: with SphereSound SHD Dynamic and SpeechBeam SHD-3, the hearing system wearer can localize sounds and in addition to SphereSound SHD Static and Personal, focus on and localize speech – even in extremely challenging acoustic situations. More natural than ever before.	Personalized hearing experience: with SphereSound SHD Personal and SpeechBeam SHD-2, the hearing system wearer can perceive sounds and focus precisely on speech. In addition to SphereSound SHD Static, the personal size of the ear canal is taken into account – for a natural hearing experience in a variety of situations.	The feature SphereSound SHD Static enables a natural hearing experience by taking the natural way that the shape of the user’s head and ear affect sound into consideration. SpeechBeam SHD-1 makes it possible to focus on the relevant speakers.	Innovative technology ensures listening comfort and speech comprehension in the most important acoustic situations.

Optimization and comfort	9 – First	7 – Business	5 – Comfort	3 – Economy
SurroundOptimizer SHD	•	•	•	•
SurroundOptimizer SHD Power ¹	•	•	•	•
AcclimatizationManager	•	•	•	•
AcclimatizationManager Power ¹	•	•	•	•
ConversationLift+	•	•	•	SpeechLift
ConversationLift+ Power ¹	•	•	•	SpeechLift Power
SoundRestore	•	•	•	•
SoundRestore Power ¹	•	•	•	•
Super Power Pre-Sets ¹	•	•	•	•
NoiseReduction	•	•	•	•
FeedbackManager	•	•	•	•
Sound Impulse Manager SHD	•	•	•	•
Active Wind Block	•	•	•	•
DataLogging	•	•	•	•
Tinnitus Manager	•	•	•	•
PhoneConnect ²	•	•	•	•
BiLink	•	•	•	•
BiPhone ²	•	•	•	•
Bluetooth ^{®3}	•	•	•	•

Channels and programs	9 – First	7 – Business	5 – Comfort	3 – Economy
Channels (G/AGC)	20	16	12	8
Programs (AutoSurround SHD/Manual/Wireless)	7/3/3	7/3/3	6/3/3	3/3/3
Programs sound SHD stream (AutoSurround SHD/Manual/Wireless)	7/3/2	7/3/2	6/3/2	3/3/2

¹ Applies only to beat SHD
² Not applicable for sound SHD stream
³ Direct connection without accessories with sound SHD stream

For more detailed information, please contact your audiologist.

Awaken your natural hearing intelligence

With HearIntelligence™ hearing systems from HANSATON

HearIntelligence™ hearing systems from HANSATON are able to take into account the complexity of natural hearing with innovative features. For people with hearing loss, this means not only a better but also a natural hearing experience and thus a whole new outlook on life.

Hearing impairment/Hearing loss



Modern hearing systems with HearIntelligence™ support natural hearing intelligence

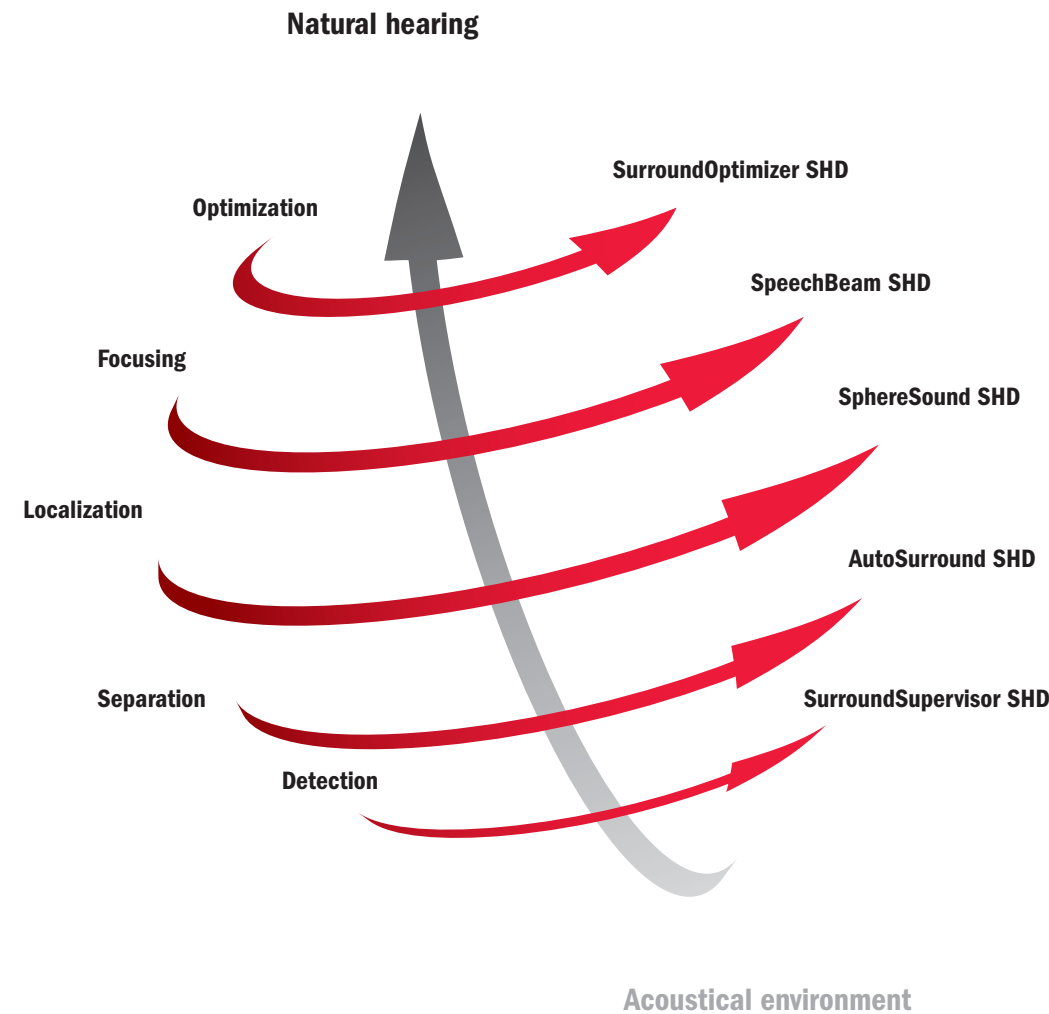


HEAR TM **Intelligence**

Binaurality

The basis for natural hearing

Human hearing depends on complex interactions between the ear and the brain. This cooperation of functions is necessary for localizing signals, hearing spatially and for orientation. The most important binaural processes are binaural redundancy, binaural noise suppression and binaural focusing. These brain processes allows us both to sum up noise impressions from both ears and to differentiate between them. This combination permits the optimum processing of signals in a way that is far more productive than processing two signals separately. Particularly in difficult acoustic environments, binaurality is essential. It helps us to differentiate speech from background noise and to focus on certain audio signals which our brain deems to be important. As natural hearing intelligence - and thus, binaurality in particular – is the basis for natural hearing, the HANSATON HearIntelligence™ strategy builds on the natural binaural functions and processes of the human ear in order to render the acoustic environment as naturally as possible.



Detection of the acoustic environment

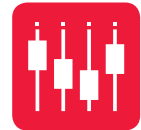
Quickly and precisely

The natural hearing process involves capturing and assessing the acoustic environment quickly and precisely at each moment. Our brains do this completely automatically and without our being aware of it at all. This is the only way that the brain can process and evaluate the auditory experience. Speed plays a decisive role in the detection of the acoustic environment because the input signal serves as the basis for all further processes.

HANSATON feature: SurroundSupervisor SHD

The SphereHD chip from HANSATON is able to detect the environment practically in real-time. It uses more than 30 high-resolution sensors to analyze the acoustic environment nearly 700 times per second. As a result, the hearing system not only detects the acoustic environment quickly, but also very precisely. This creates a realistic model of the acoustic environment, which is passed on to signal processing as a starting input value. By optimizing our algorithms and storage capacity management, we have made our environmental detection program significantly faster, and improved the precision of our speech detection module. This allows the detection process to happen imperceptibly, thereby conveying a natural auditory experience.





Automatic adjustment

Exact and unnoticeable

The automation function of natural hearing intelligence refers to acoustic versatility whereby the ear receives, passes on to the brain as information and can produce correspondingly appropriate reactions. Thus no acoustic situation is the same as another. Our acoustic environment not only consists of speech, sounds or noises. It is composed of many of these individual components. There is no single standard situation. Instead, there is a mixture of the individual components, which reflects the actual acoustic situation. Since acoustic situations can change abruptly, the natural hearing intelligence reacts automatically to these changes and for humans, completely unnoticeably.

HANSATON feature: AutoSurround SHD

HearIntelligence™ hearing systems aim to reproduce these natural conditions with their signal processing in order to make the hearing experience natural. The high speed and precision of the SphereHD chips make it possible to model the environment quickly, precisely and in a multi-faceted way. In order to restore hearing intelligence, HearIntelligence™ hearing systems do not work with fixed programs, but are able to detect and mix different acoustic features – automatically, infinitely variably, and naturally.



Localization of acoustic signals

Naturally and surely

When we cross a road, we hear a car approaching before we see it. And good hearing is also important for our orientation. So we know not only that a car is approaching us, but also where it's coming from. Thus, while the eyes only report to our brain whatever is precisely in our field of vision, hearing plays a large part in the orientation of spatial hearing, and even completely takes that role over in difficult viewing conditions or in the dark. The localization of sound sources helps with spatial orientation and is the prerequisite for being able to focus on certain sound sources. The outer ear is of great importance in this ability because of the different ways high and low frequencies influence it. And at the same time, it also compresses and amplifies the sound. Also, the pinna and concha as well as the individual shape of a person's head have an influence on the sound impression.

HANSATON feature: SphereSound SHD

Accounting for these circumstances so that hearing system users can once again localize sound signals, and thus hear naturally, is a central aspect of the HANSATON hearing system development process and is a central aspect of HearIntelligence™. Thanks to SphereSound SHD, the way the ear and head individually and acoustically influence sound is recreated. This results in more natural sound and makes it possible to localize sound sources more easily.





Focusing on speech

Understanding without distraction

Properly functioning hearing ensures that we feel comfortable in conversation and during leisure activities. It is able to eliminate noise so that we are able to focus very intensively on a different signal source. This works, for example, at the movies, when you understand the film perfectly, even though the people sitting next to us are rustling their bag of popcorn, or, in the case of the best-known acoustic example, when you're at a party with loud music, where despite that, you have no problem understanding the person you are talking to. In the case of a hearing loss, the hearing system technology has assumed this function. In the natural hearing process, listeners can automatically localize speakers and focus in on their words, while at the same time other, non-relevant sources of noise are simply blocked, regardless of what direction they are coming from. This is the only way to ensure impeccable understanding without unnecessary distraction.

HANSATON feature: SpeechBeam SHD

HANSATON hearing systems with HearIntelligence™ help the hearing system user to focus on conversation partners in challenging situations such as loud family celebrations or restaurant outings. Regardless of which direction speech is coming from, SpeechBeam SHD focuses in on that speaker. In combination with innovative localization algorithms, the result is crystal-clear speech and greater ease of hearing.



Signal optimization

Hearing and enjoying

The human body is capable of ignoring disruptive noise and concentrating on speech or sounds, or of identifying the signals it deems relevant and then perceiving them clearly and brilliantly. The HANSATON hearing systems with HearIntelligence™ also make it possible to optimize the incoming sound, thereby enabling natural hearing.

HANSATON feature: SurroundOptimizer SHD

SurroundOptimizer SHD combines speech amplification, background noise suppression, and intelligent directional microphone characteristics in various acoustic environments to ensure that ideal, natural hearing is always the end result.



SurroundSupervisor SHD

High speed and precision

SurroundSupervisor SHD acts as an interface between the hearing system and its surroundings while replicating its acoustic environment realistically. Speed and precision are the keys to its success, since the hearing system’s signal processor can only fully realize its abilities to restore natural hearing if it knows the acoustic environment exactly. By optimizing our algorithms and storage capacity management, we have made our environmental detection program significantly faster, and greatly improved the precision of our speech detection module.

The powerful, highly sensitive SurroundSupervisor SHD is able to analyze the acoustic environment precisely and map it quickly. In fact, it does this about 700 times per second, with the help of more than 30 high-resolution sensors. Intelligent signal processing ensures natural hearing practically in real time.

High-speed detection

More than 30 high-resolution sensors analyze the acoustic environment nearly 700 times per second.

Real-life reproduction

SurroundSupervisor SHD generates a precise map of the acoustic situation by determining the current proportional mix among seven standard situations.

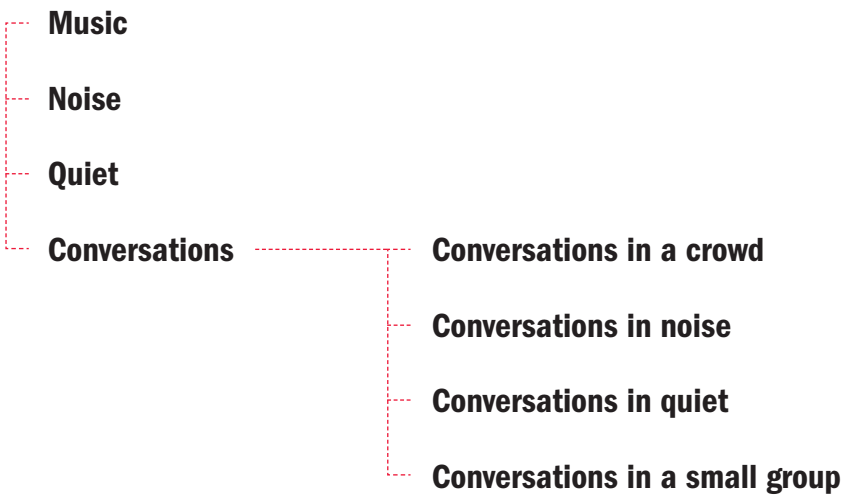
Automatic results

Based on this precise input, the automatic AutoSurround SHD program can adjust signal processing to compensate hearing loss effectively, while also restoring natural hearing.

High-tech features – coordinated perfectly

The classifier’s input is crucial in enabling HANSATON hearing systems with SHD Technology to replicate acoustic situations more naturally than ever. AutoSurround SHD automatically adjusts the hearing system to its acoustic environment, taking audiological considerations into account. Both SurroundSupervisor SHD and AutoSurround SHD refer to seven standard situations when making their calculations.

Acoustic situations can be broken down into four standard components: speech, music, background noise, and silence. From an audiological perspective, it makes sense to differentiate among speech components more precisely.



HANSATON hearing systems are capable of replicating any acoustic environment, using these seven standard situations as a reference. SurroundSupervisor SHD analyzes the current acoustic environment and precisely measures the proportions of each standard situation – establishing the perfect basis for the automatic AutoSurround SHD program. The result: a realistic map of the acoustic environment.

AutoSurround SHD

The natural situation mix

The precise input supplied by SurroundSupervisor SHD is the key to ideal hearing system adjustment: the AutoSurround SHD program automatically adapts hearing system settings to fit the current environment.

Here's the best part: Rather than simply using fixed programs, AutoSurround SHD can recreate a practically infinite variety of acoustic situations. AutoSurround SHD automatically generates a perfect mix of settings for any given acoustic situation, based on how SurroundSupervisor SHD has weighted the seven standard situations (see figures 1 and 2).

For the ultimate in music enjoyment: If SurroundSupervisor SHD detects that a majority of the sound input is music, AutoSurround SHD will gently shift hearing system settings to the parameters defined for music (see figure 3).

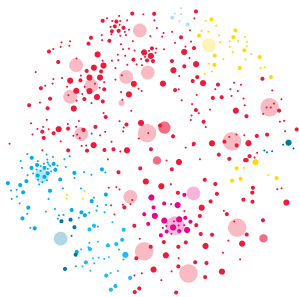


Figure 1

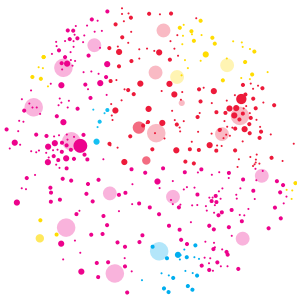


Figure 2

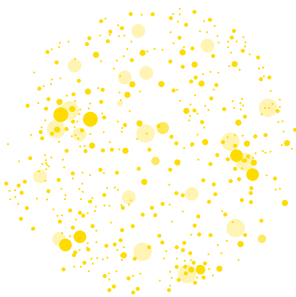


Figure 3

Functions	Ex. Noisy environment	Ex. Speech with ambient noise	Ex. Music
Music	5 %	5 %	>60 % = 100 %
Noise	65 %	15 %	0 %
Quiet	0 %	0 %	0 %
Conversations in a crowd	20 %	15 %	0 %
Conversations in noise	3 %	60 %	0 %
Conversations in quiet	0 %	5 %	0 %
Conversations in a small group	7 %	0 %	0 %

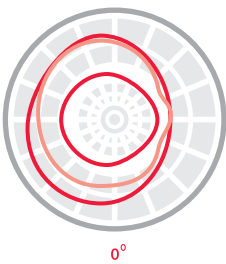
SphereSound SHD

Perfectly optimized spatial acoustics

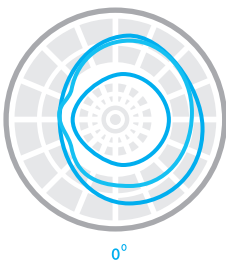
SphereSound SHD is a core hearing system function, and one of the key components of the chip platform SphereHD. SphereSound SHD makes it possible to localize and spatially perceive sounds and speech, and also to focus in on speech. In three different levels, the hearing system uses SphereSound SHD to imitate the natural functions of the ear that influence sound to localize, bundle and amplify sound.

SphereSound SHD Static

When using measurements to determine the influence that the ear and head have on sound, frequency-specific differences are easily identifiable. The characteristics of the measurements, represented by the Head Related Transfer Function (HRTF), are the basis for SphereSound Static.



0°



0°

HRTF, from the inside out:
low, medium, high frequencies



The high-frequency, maximum sensitivity for each ear is somewhat outside the 0° direction. With SphereSound SHD, this factor can be taken into account. Intelligent control of microphone directionality makes it possible to simulate natural sound reception, in other words to recreate how the ear and head influence sound. Influencing effects caused by the position of the hearing system are eliminated. Spatial, natural hearing is the result. This makes it possible to localize the sources of sound again.



0°

Low frequencies



0°

Medium frequencies



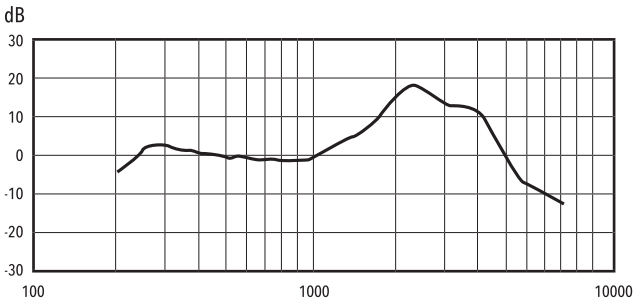
0°

High frequencies

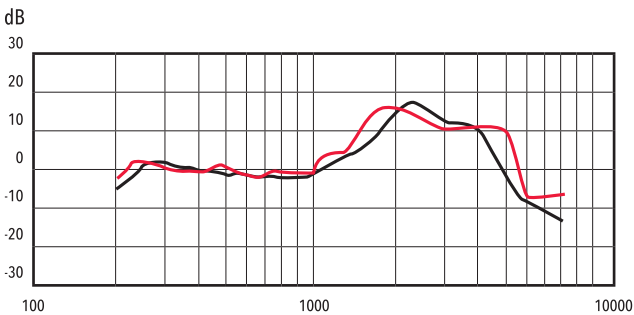
SphereSound SHD
directionality
(for the right ear, for
example)

SphereSound SHD Personal

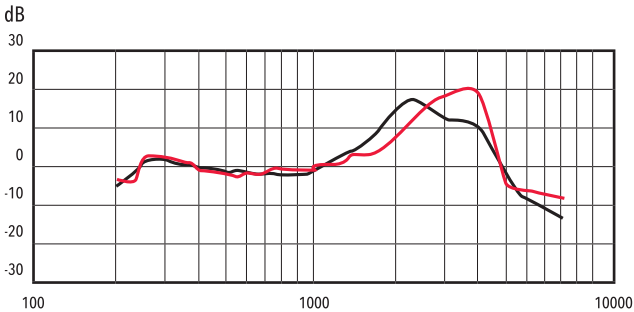
SphereSound SHD Personal takes the size of the ear canal into account, as this influences natural hearing. Depending on the size of the ear canal, the maximum amplifications, with slightly differing frequencies, appear when measuring the REUG. By selecting the canal size in scout, this frequency shift can be taken into account when creating the microphone orientation characteristics, thus optimizing the natural, personal perception further.



Medium REUG



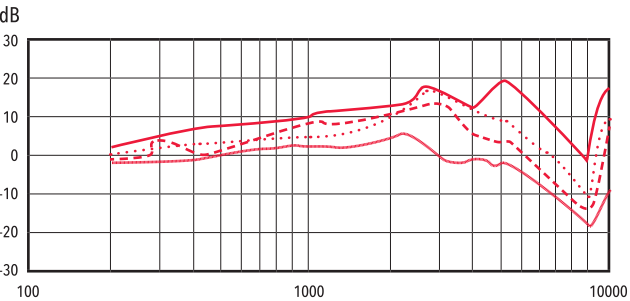
Longer auditory canal – Peak lower



Shorter auditory canal – Peak higher

SphereSound SHD Dynamic

SphereSound SHD Dynamic works with the SpeechBeam SHD-3 algorithm and comes into action in all challenging speech situations. It is based on natural sensitivities' dependence on sounds coming from various directions.



SpeechBeam SHD-3 identifies the direction of the speech in real time and controls the orientation characteristics of the microphone for optimum speech clarity. With SphereSound SHD Dynamic, the correct, natural, frequency-dependent amplification values for signal processing are added, based on the orientation information. This means that how the ear and head influence sound can be simulated. In challenging speech situations, the hearing system user can now understand speech and at the same time localize the speaker.

SphereSound SHD is available in each performance level

SphereSound SHD	Performance Level 9	Performance Level 7	Performance Level 5	Performance Level 3
Static (HRTF)	•	•	•	
Personal (Ear Canal Resonance)	•	•		
Dynamic	•			

SpeechBeam SHD

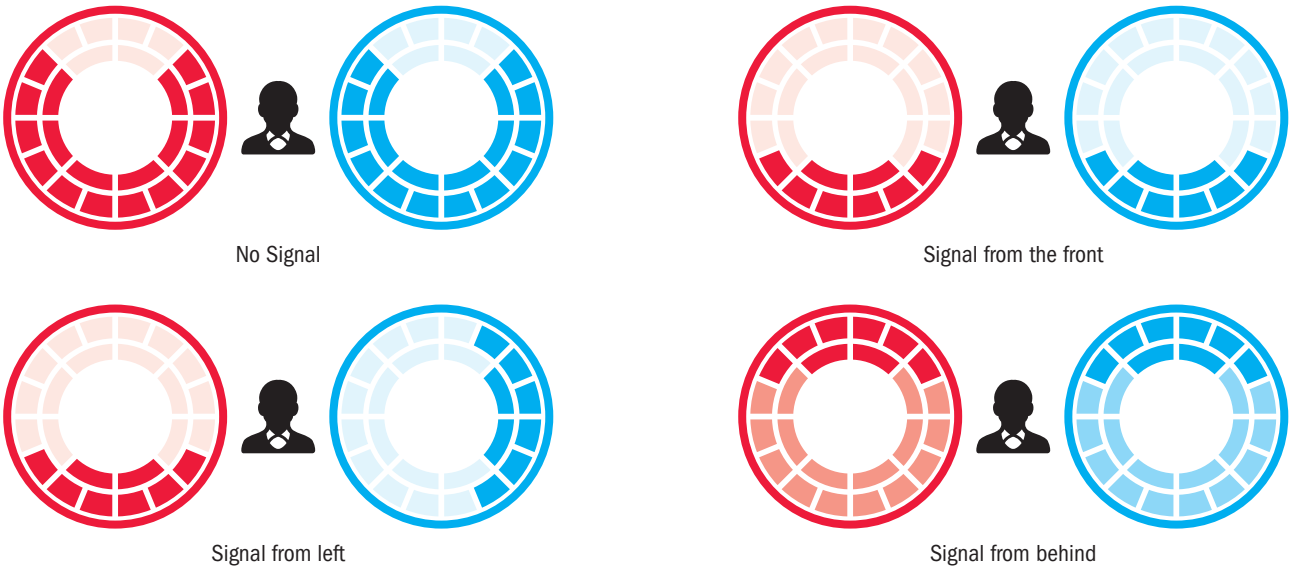
Speech clarity in any situation

In the hearing system user’s personal acoustic environment, the direction of speech changes relative to the wearer. SphereHD hearing systems use the SpeechBeam SHD function to focus in on whoever is speaking.

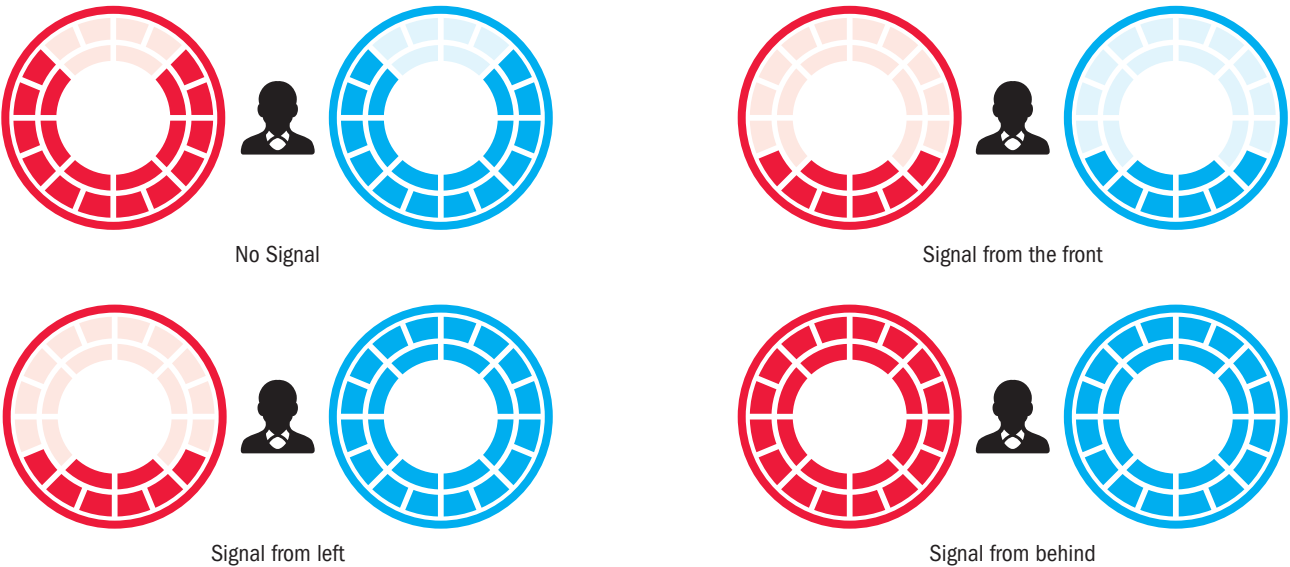
SpeechBeam SHD generates a variety of microphone orientation characteristics to determine the exact direction speech is coming from, 360° around the hearing system user. This means that, thanks to cutting-edge binaural signal processing, the hearing system can focus in on speech coming from the front, from the back, or from either side (SpeechBeam SHD-1 and -2). SpeechBeam SHD-3 also generates directional characteristics oriented to the back and sides. The left and right hearing systems work together to ensure maximum precision and optimum speech clarity.

SpeechBeam SHD-3 also has the dynamic support of SphereSound SHD to ensure that, even in challenging acoustic situations, the system will not only ensure excellent speech clarity, but localize the speaker precisely as well.

SpeechBeam SHD-3 (Performance Level 9)



SpeechBeam SHD-2 (Performance Level 7)



SpeechBeam SHD-1 (Performance Level 5)



Success pre-programmed with scout

The key to the new ease of hearing

The innovative fitting software scout allows precise adjustments to any personal or audiological parameters relevant to an individual hearing system user and distinguishes itself through its logical, thematically oriented structure. That means quick and easy access to the different features during the fitting process and, thus, efficient programming.

Intuitive initial adjustment with scout

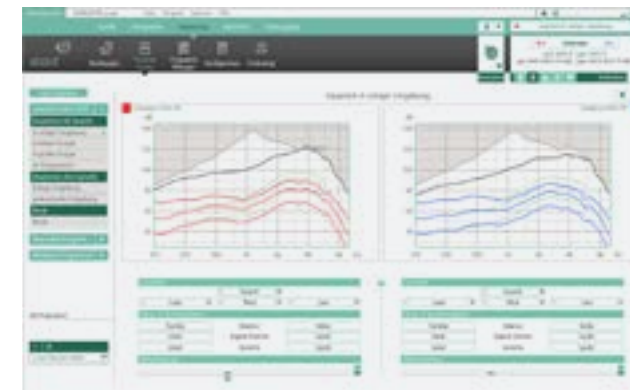
scout supports the initial adjustment for your customers with a display interface which combines the most important information for you, with important customer information and the audiogram visible at a glance. A simple selection of hearing experience suffices. scout flows your selection into FirstFit and AcclimatizationManager – intelligently and in the optimum way for your customers. For you this means that you can continue the adjustment with just one click.



Personal Tuning

Personal Tuning makes the fitting process faster, more efficient, and more personalized than ever before. You'll reach your goals in just a few clicks, while still responding to your customer's individual needs. The Personal Tuning user interface bundles access options for key parameters, giving you the most efficient support during the fitting process. It saves you a lot of tiresome searching and clicking around by optimizing pathways and minimizing the number of clicks necessary. All relevant parameters can be specified in all three areas (amplification, sound, and acclimatization) without negatively affecting quality. The advantage: Achieve high-quality fitting more quickly, leaving you more time to talk to your customers.

Achieve high-quality fitting more quickly, leaving you more time to talk to your customers



Personal Tuning makes the fitting process even more efficient. By optimizing the digital fitting process, it reduces the amount of clicking you need to do by 50 %. So you have more time for one-to-one counseling.

New: Optimization of sound perception, language and own voice.

Extra power for your fitting process

with Personal Tuning and Super Power Presets

Fitting our hearing systems is as easy as a few clicks of a mouse, and that goes for our high-powered systems as well. The Personal Tuning menu lets you select Super Power Presets quickly and easily (Page 44).



beat SHD

Super Power Pre-Sets

Each customer's needs and priorities are different, especially when it comes to high-powered hearing systems. So HANSATON has developed three presets for you to use as baselines and starting points when fitting power hearing systems.

Typ	Classic	Modern	Active
Fitting formula	DSLv5	BalanceFit	BalanceFit
Amplification strategy	WDRC	WDRC	WDRC
Microphone input strategy	Omni	Fixed ¹	Adaptive ²
SurroundOptimizer SHD Power	Noise Reduction = Off	Noise Reduction = On	Noise Reduction = On
Conversation In Quiet ³	4	2	3
Conversation In small Group ³	5	3	4
Conversation In crowd ³	6	5	6
Conversation In Noise ³	7	6	7
Quiet ³	2	1	2
Noise ³	7	5	6
Music ³	3	1	2

Other Signal Processing

Sound Impulse Manager SHD	Moderate	Moderate	Moderate
SoundRestore Power	Calculated	Calculated	Calculated
BassBooster	Mild	Off	Off
AcclimatizationManager Power	100 %	100 %	Calculated

¹ Fixed dir. wide, SphereSound ² SpeechBeam, SphereSound
³ The numbers given show the SurroundOptimizer SHD Power settings for that preset.

Clear Speech Comprehension (CSC)

Ideal speech clarity in challenging situations

Clear Speech Comprehension (CSC) is a signal processing strategy available for the Balance Fit fitting formula. It is especially recommended for experienced hearing system users. CSC reduces listening strain, improves speech clarity in challenging situations, and provides natural sound. From a technical perspective, this is achieved through less compressive behavior on the part of the hearing system. Increasing MPO vs. NAL-NL2 and raising the overall volume gives the customer more dynamics.



The scout customer view

Clear overview during consultation

Consulting is even clearer thanks to HANSATON. With the customer view in scout, you receive added value during the consultation and can use it as a visual aid. The latest version of scout lets you integrate your own company logo and company name directly into the customer view.

During the fitting process, the end user can now be integrated more actively in the process of hearing system support. On the second screen, the audio program, various hearing systems, or the remoteHD app are displayed and explained. However, details and sensitive technical information are concealed on this screen. For discretion on one hand, for a prepared and clear overview on the other hand. In combination with expert consultations, this can make it easier for customers to decide to get a hearing system. The contact through this consulting instrument also enhances the connection between you and the customer.

Illustration with images



Personalized welcome screen. The personalized welcome screen welcomes the customers and emphasizes once more the personal touch of a hearing system fitting. It conveys appreciation and a very special preparation to an upcoming appointment.



Images for support in the fitting process. During the demonstration of various signal sounds, hints are shown at the same time to facilitate the instruction on hearing system handling.



Helpful for measuring critical amplification. During the feedback test, the patient is instructed not to speak.



Hearing systems comparison. With the visualized accompaniment of the fitting process, the customer remains motivated and participates more intensively.

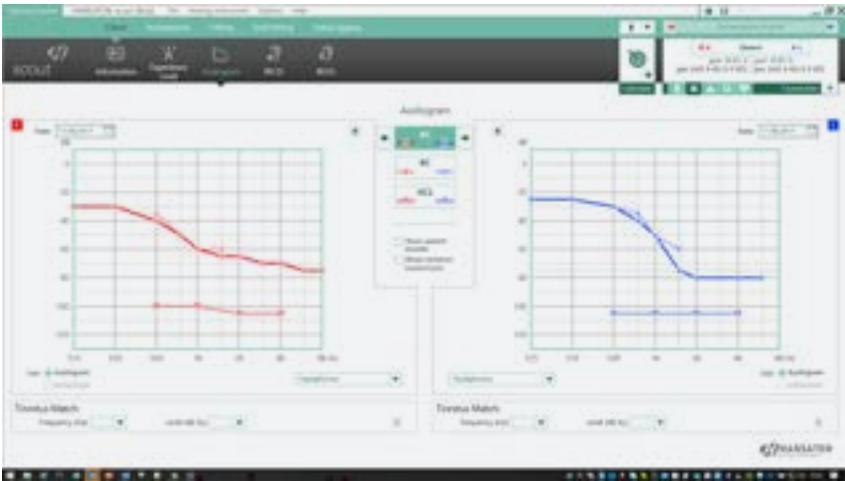


Practical support. The screens show the customers how the remoteHD app is installed in particular.



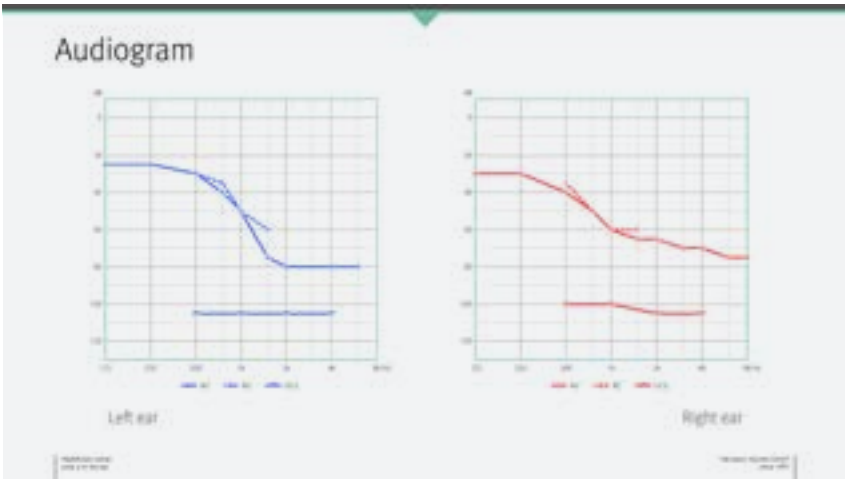
Screensaver. During breaks, the waiting time is made more relaxing with appropriate screensavers.

Hearing professional view



This is what the hearing professional sees. Detailed presentation of all the audiometric measurements.

Hearing system user view



This is what the hearing system user sees. A simplified form of the audiogram that the hearing professionals can implement in consultations.

HANSATON remote controls

Total comfort and pure multimedia

Most HANSATON hearing systems can be controlled by remote control. These allow the volume to be discreetly adjusted or the hearing programs on your hearing systems to be switched. However, Bluetooth®-enabled remote controls offer much more. For example, they allow direct, wireless contact with the TV or stereo system and make it possible for the hearing system to operate like a headset.



TV Connector for the latest sound SHD stream external receiver system

Using the TV Connector, TVs and other audio devices such as stereo systems can be connected directly to the sound SHD stream. With an outstanding binaural sound experience, an unlimited number of hearing system wearers can jointly stream movies and series to their hearing systems at a distance of up to 50 feet from the TV Connector. Because natural hearing connects.



Download the app **HANSATON stream remote** to your smartphone – simply scan the QR code provided or search the Apple App Store or Google Play for the "HANSATON stream remote", and you'll be set (for iOS version 10.2 and higher, for Android version 6.0 and higher). Simply scan and download the app. The app is specially designed for the new RIC system sound SHD stream, which combines binaural hearing intelligence with 2.4 GHz technology.



Full TV enjoyment with uTV3. Via Bluetooth® uTV3 easily sends audio signals from the television set, the stereo system or any other audio source (e.g. a computer) through uDirect3 and uStream to the hearing systems. uTV3 enables wearers to gain maximum enjoyment from watching TV. uTV3 by HANSATON is also used as a charging unit and mount for the streamers uDirect3 and uStream.

uMic2 – Understanding conversation partners more easily. uMic2 is a wireless microphone system which enables hearing system users to understand conversation partners considerably more easily and clearly even in difficult acoustic situations. uMic2 can be attached via an integrated clip on the clothing of a conversation partner. Speech signals from the other person are transferred in a clearly understandable manner via uDirect3 or uStream to the hearing system user.



Smart streaming with uStream. The uStream from HANSATON means maximum freedom for your customers as they can use this to modify the volume and programs of their hearing systems and also connect Bluetooth®-enabled devices, such as smartphones. And uStream's special benefit is that you hardly notice it. It is simply and discreetly clipped to your clothes – with not a wire in sight.



Apple iTunes Store Google Play Store
remoteHD – Control via Smartphone. The remoteHD app allows your customers to easily and discreetly control their hearing instrument with their smartphone (uStream or uDirect3 needed).



Simply comfortable: RCV2 remote control discreetly controls the volume and the hearing system programs. Its big and specifically marked keys make it particularly easy to use.



Dr.H counseling app. With six high-quality recorded acoustic situations, you can demonstrate various hearing system performance levels for untreated hearing loss, treated hearing loss, and support.

Multimedia hearing enjoyment with uDirect3. uDirect3 stands for pure multimedia. It enables connections to mobile telephones, television sets, FM-receivers and MP3 players, with or without cables depending on personal preference. It therefore ensures a particularly clear and interference-free hearing experience during many different activities. The highlight is the particularly long streaming time which gives your customers even more freedom.



Easy data transfer with iCube II. More lightness with adjustments. iCube II uses the wireless ability of the hearing systems enabling a completely wireless adjustment and simplifying the transfer of adjustment data between the computer and the hearing system.

Power for hearing intelligence

More self-confidence, greater well-being

Together with you, we can help more and more people discover optimum hearing experiences every day. With beat SHD, our new "power" hearing system, you offer your customers ideal care for significant to profound hearing loss, helping them enjoy everyday life with greater self-confidence.

That makes us proud, and it also motivates us day after day to make sure that, with every product we develop and every service we provide, we're offering you and your customers ideal solutions. Let's work together to shape the future of hearing.

Best regards from Hamburg
Your HANSATON team

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