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pleasure of hearing
mind440
The pleasure of hearing

Widex is proud to introduce mind440 – the world’s smartest hearing aid. A hearing aid with both the user and dispenser in mind.

The pursuit of exceptional sound has always been an ongoing Widex ambition. With the mind™440 series we have again refined and improved the latest technology to take sound quality to new heights. And with great innovations, mind440 aims to give users peace of mind.

Exceptional sound
At the centre of mind440 is a more powerful and more efficient signal processing platform – Dual ISP – taking the proven success of our exclusive Widex Integrated Signal Processing platform even further.

Central to Widex thinking is varied gain for varied input levels. To this end, with our new TruSound™ compression system and the ClearBand receiver, we aim to ensure full audibility and unencumbered speech intelligibility.

Peace of mind
mind440 offers a dedicated relaxation and tone program. The unique Zen, a revolutionary harmonic sound program, provides a choice of soothing tones and chimes.

mind440 also features the innovative SmartSpeak™, a signalling mechanism that informs users of various hearing aid functions such as low battery power and program mode. SmartSpeak gives users control of their hearing aid.

Exceptional sound and peace of mind. All this adds up to the ultimate in hearing pleasure.
exceptional sound
**Dual ISP**

Taking sound to a new level

Widex® hearing aids have a world-class reputation for their unsurpassed sound. And with the mind™440 series we have taken sound quality to a completely new level. By refining and vastly improving our unique Integrated Signal Processing (ISP) technology, we have created **Dual ISP** – a more powerful and more efficient platform.

**Improved technological platform**

Widex ISP technology continuously controls and coordinates all functions in the hearing aid automatically in response to changes in the user’s listening environment. With Dual ISP, it is no longer simply a question of analysing and processing sound individually according to the individual hearing loss. It is now possible to combine features with a listening focus and an awareness focus.

Dual ISP consists of two layers – the listening layer, combining high definition sound analysis and sound processing with system optimisation - and the awareness layer, which includes the fractal generator and SmartSpeak signalling mechanism.

**Seamless integration**

Coordinating both these layers is the **Dynamic Integrator**, the core of the Dual ISP platform. The Dynamic Integrator stores audiological and program data, as well as user profiles such as needs and preferences.

When using the Widex fitting software **Compass™**, all individual tailoring of the fitting parameters is integrated in the Dual ISP platform through the Dynamic Integrator.

Unparalleled sound quality has always been an ambition of Widex. With Dual ISP, we offer a new and innovative platform for hearing and listening in even more challenging environments.
Dual ISP
Taking sound to a new level

Listening layer – because hearing is important

The listening layer combines high definition sound analysis and sound processing in 15 channels with system optimisation. The listening layer includes the new TruSound™ compression system, where enhanced dynamic range compression aids the perception of soft, normal speech and loud inputs.

Sound analysis
– allows a detailed analysis of the input signal
  • Speech and noise tracer
  • S/N ratio tracer
  • Spatial feedback tracer
  • Spatial sound tracer

Sound processing
– emphasises natural and clear sound reproduction
  • HD Locator
  • Audibility Extender
  • Speech Enhancer
  • Multidirectional Active Feedback Cancelling
  • TruSound compression system with EDRC

System optimiser
– ensures the best performance, all the time
  • Multi-point microphone matching
  • EcoTech II
Awareness layer – because listening may be challenged

With Widex mind440 we have added an extra layer – the awareness layer – because listening may be challenged. This extra layer is made up of the fractal generator, signal integrity and speech and sound synthesis.

Dual ISP – Taking sound to a new level

- **Fractal generator**
  - provides the tones of mind440
  - fractal computation
  - melody composition (Zen styles)

- **Speech & sound synthesis**
  - lets the hearing aid speak to the user
  - SmartSpeak speech message generator
  - SmartTone beep generator

- **Signal integrity**
  - provides clearly audible external inputs and individual program profiles
  - DAI, Tele, FM
  - high definition program management for listening and awareness
TruSound
Balance of mind and body

Better compression and wider bandwidth

Brilliant sound requires balance. A balanced focus of sound processing throughout the dynamic range.

One of the key performance indicators for sound quality in hearing aids is how well the hearing aid handles input levels well above normal speech level. The Dual ISP platform in mind440 allows Widex to redefine the amplification strategy for loud inputs, resulting in the new TruSound compression system.

In the audio world, the broader the frequency range of a loudspeaker extends into the high frequencies, the clearer the musical experience.

With our new ClearBand hi-fi two-way receiver, we extend our already broad frequency range to over 10kHz.

With TruSound, mind440 sounds like no other hearing aid.
**TruSound**
*Balance of mind and body*

**TruSound compression system**
The foundation of our amplification rationale is that soft sounds must be audible but remain soft in character, normal speech must be audible and intelligible and loud sounds must be perceived as loud without being uncomfortably loud.

Now with mind440, our **TruSound compressors** and the new **TruSound AOC** (Automatic Output Control) have refined the handling of loud input levels as well - in the pursuit of good sound quality.

Hearing aid users are exposed to different listening environments and varying speech and sound sources in daily life. All sounds and environments vary in frequency composition and in level. The challenge is to deliver a stable and audible speech signal with a hearing aid that also changes the degree of amplification when rapid changes in the input level occur.

To meet this double challenge the TruSound compression system in mind440 is a predominantly slow acting compression system in combination with the **TruSound stabilisers**. The aim of these is to secure swift change in the compression attack and release times in changing listening environments while allowing predominantly long release times in stable listening situations.

With the TruSound compressors, the TruSound AOC and the TruSound stabilisers, Widex aims to provide better audibility, intelligibility and comfort in communication with others.

**ClearBand**
With ClearBand, mind440 extends bandwidth to over 10kHz.

The ClearBand hi-fi two-way receiver* combines wide bandwidth with low distortion, producing superb sound quality across the whole frequency range and giving clear and transparent sound.

**TruSound – balance of mind and body**
peace of mind
mind440 aims to give users peace of mind with our Zen tone program and the innovative SmartSpeak speech synthesis system.
Zen program

Peace of mind

Relaxation and tone program

mind440 is the first hearing aid ever to offer the user a dedicated relaxation and tone program. The positive emotional and psychological effects of music are well documented, particularly in aiding in relaxation and reducing stress.

Inspired by this, Widex has developed the Zen program – a revolutionary, harmonic sound program. Zen offers a choice of soothing tones and chimes.
Zen program
Peace of mind

Based on fractal technology

The Zen program is based on fractal technology. Fractals are geometrical structures that have details no matter how much you magnify them. They can generate self-similar structures that do not repeat themselves.

In Zen, fractal technology is used to generate random numbers to produce tone, pitch, timbre and intervals. Zen has an in-built generator that plays random, non-repeated and infinite tones. This ensures that the tones heard are both harmonic and random while never repeating themselves. Similarly, fractal technology means there are no sudden changes in tonality or tempo with the Zen program.

And as with fractals, the closer you look, the more details you see:

- 5 different choices of Zen styles in minor and major keys
- Zen styles can be tailored to suit users’ individual needs by adjusting tempo, volume and pitch with Compass

Fractals have details no matter how much you magnify them
Verbal messaging

Using a sophisticated hearing aid with state-of-the-art features can sometimes be challenging - for both experienced and first time users. mind440 helps take the guesswork out of hearing aid use with our innovative SmartSpeak™.

SmartSpeak™ is a signalling mechanism that uses actual recorded speech to inform users of various hearing aid functions, such as low battery power and program mode.

SmartSpeak is available in a wide range of languages. A wide variety of verbal messages are delivered clearly and are automatically adjusted to take into account background noise.

- Easier to use and fewer distractions
- Users’ preferred language can be selected from among 22 common languages in Compass
- Possible to switch between tones and speech
- Volume adjustable in Compass; individual message preferences can also be customised in Compass
Fitting features
Control and freedom

Precision fitting – a Widex trademark
The successful fitting of a hearing aid is crucial for both professional and user alike. Widex has long had a reputation for excellence in fitting and fitting procedures, in particular with Sensogram. Now mind440 takes precision in fitting a step further. It is the first Widex hearing aid to offer in-situ RECD, a new and improved version of our logging function, Sound Diary II and an in-built performance monitor, ServiceTracker.

Precision in fitting means more peace of mind for the professional and the user.

Sensogram
Sensogram, the established in-situ fitting method for Widex hearing aids, measures the user’s hearing thresholds in either four basic frequency bands, or in an expanded mode in up to 14 frequency bands.

By measuring hearing thresholds directly through mind440, Sensogram takes into account all the acoustic effects of the hearing aid and its coupling to the ear canal, giving a more precise basis for a successful fitting.

In-situ RECD
The challenge when fitting hearing aids is to provide the right amount of amplification for the individual hearing aid user. While the mind440 fitting procedure takes into account all the acoustic aspects of the hearing aid and its coupling to the ear, the precision of the fitting may be enhanced by performing an individual RECD (real-ear-to-coupler difference) measurement. This ensures that the hearing aid delivers the exact amount of sound pressure at the eardrum prescribed for the given hearing loss while taking into account the shape of the individual user’s ear canal.

Using a special RECD probe mounted on the hearing aid, in-situ RECD is measured as part of the standard fitting flow in Compass. The integration of the RECD (into the standard fitting process) ensures a correct implementation of measured RECD values in the fitting and without the errors that might otherwise occur when applying values obtained with external equipment.

In-situ RECD provides distinct advantages for the professional:

- **Precise** – in-situ RECD measurements increase the precision of the fitting by correcting the fitting according to the individual shape of the client’s ear canal
- **Reliable** – in-situ RECD measurements are performed using only the hearing aid and a special RECD probe. This eliminates measurement errors that occur when using RECD values obtained with external clinical equipment
- **Simple** – the in-situ RECD measurement is an easy two-step procedure. Only the real ear component of the RECD needs to be completed in the clinic. The 2-cc coupler measurement is already stored in the fitting software

In-situ RECD fitting
Fitting features

Control and freedom

Sound Diary II

For professionals, accuracy is of vital importance when fitting a hearing aid. But for users it can be difficult to precisely describe acoustic situations when in consultation. With the Widex Sound Diary II™ logging function, the professional is provided with insight into the acoustic characteristics of the user’s listening environment, as well as program usage and other instrument functions such as volume control.

This means that they can easily monitor data and fine-tune while gaining a clearer understanding of how mind440 is actually being used.

All of which make for a better fitting and a better consultation.

- Facilitates improved dialogue with the user on everyday use of hearing aid
- Allows for better individual fine tuning
- Real-time short term and long term logging of environment
- Focus on latest events and more detailed coverage in log reports

Sound Diary II logs vital data and improves fittings
ServiceTracker

The unique ServiceTracker is an in-built performance monitor that automatically tests electronic parts within mind440.

- Test for all acoustic transducers and telecoil
- External indication of result by LED or SmartSpeak/SmartTone
- More detailed response in Compass

Fitting features
– control and freedom
Colours and models

Colour your mind

With mind440, Widex introduces three new and fashionable colours to complement our wide range of basic colours. The addition of the unique campaign colour Burnt Orange, and two stunning and strictly limited gradient colours, Black Gradient and Cappuccino Gradient - to colours ranging from Jet Black to Tan Silk - means that there is a colour to suit all tastes.

*Limited edition colours only and subject to availability. See www.widex.com or contact your local Widex distributor for more information on available mind440 Limited Edition colours.
mind440 m4-m, mind440 m4-m-CB

mind440 m4-9

Suggested Fitting Range

-10 dB

0

10

20

30

40

50

60

70

80

90

100

110

120

125

250

500

1k

2k

4k

8kHz

mind440 m4-19 microphone grids

6 microphone grid colours

3 housing colours (Warm Beige, Winter Silver, Dark Grey)

Available in mind440 m4-19 only

mind440 m4-19

mind440 m4-X

Suggested Fitting Range

-10 dB

0

10

20

30

40

50

60

70

80

90

100

110

120

125

250

500

1k

2k

4k

8kHz

mind440 m4-CIC
Accessories
Makes mind simple

**mind440** features a range of accessories designed for simpler and more convenient use.

**RC4 remote control**
The RC4 remote control enables the user to switch off the sound without turning the hearing aid off. Sound can be simply muted by holding down the volume button.

RC4 also allows users to change listening programs, adjust volume control and control the Zen functions, as well as logging.

- Easy access to programs, volume control etc.
- Communication with visual indicator
- SmartToggle button for Zen

**LED visual indicator**
The LED visual indicator displays programs in use as well as RC signal input.

- Visual indication on the HA displaying the actual program in use
- Useful for small children and the elderly

**SCOLA™ FM system**
**mind440** is fully compatible with our SCOLA FM assistive listening device system, which gives both adults and children opportunities for hearing and understanding speech in noisy environments.
NanoCare™

The new, revolutionary NanoCare™ super wax guard system from Widex provides ITE and CIC hearing aids with long-term resistance to earwax. NanoCare prevents matter from permeating the opening of the receiver and safeguards the sound path.

This makes for enhanced performance, longer hearing aid life and increased user satisfaction.
## Technical details

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It is our mission, through originality, perseverance and reliability, to develop high quality hearing instruments that give people with a hearing loss the same opportunities for communication as those with normal hearing.

WIDEX, mind, COMPASS, SCOLA and NanoCare are trademarks of Widex A/S.
It is our mission, through originality, perseverance and reliability, to develop high quality hearing instruments that give people with a hearing loss the same opportunities for communication as those with normal hearing.