



Neuro Sound Technology 2.0
Simplifying the complex process of hearing better

Starkey

Options for audio include computer speaker or dial-in and enter access Code: 2864 109 7856
Australia +61 2 85181923, NZ +64 9 9291750, Singapore +65 31581414

For technical questions or log in information please contact Steven Le at 0437 622 596. Steven_Le@Starkey.com

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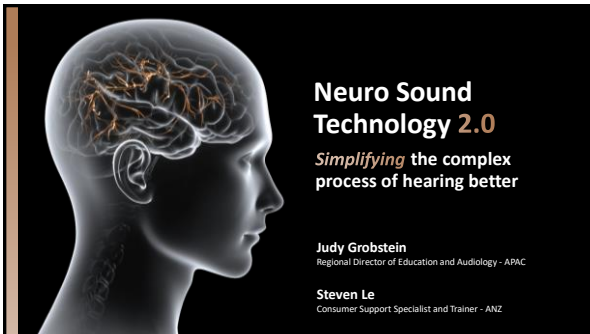
Neuro Sound Technology 2.0
Simplifying the complex process of hearing better

Starkey

The webinar will start in.....
00:05:00

For technical questions or log in information please contact Steven Le at 0437 622 596. Steven_Le@Starkey.com

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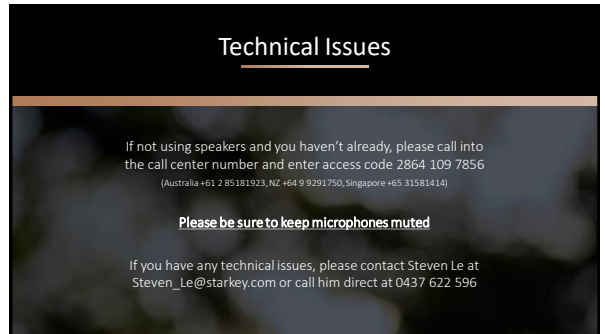


Neuro Sound Technology 2.0
Simplifying the complex process of hearing better

Judy Grobstein
Regional Director of Education and Audiology - APAC

Steven Le
Consumer Support Specialist and Trainer - ANZ

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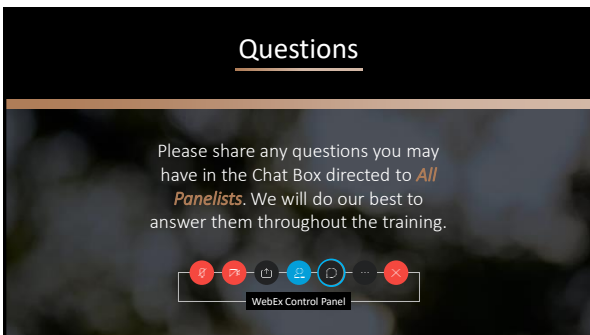
Technical Issues

If not using speakers and you haven't already, please call into the call center number and enter access code 2864 109 7856
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Please be sure to keep microphones muted

If you have any technical issues, please contact Steven Le at Steven_Le@starkey.com or call him direct at 0437 622 596

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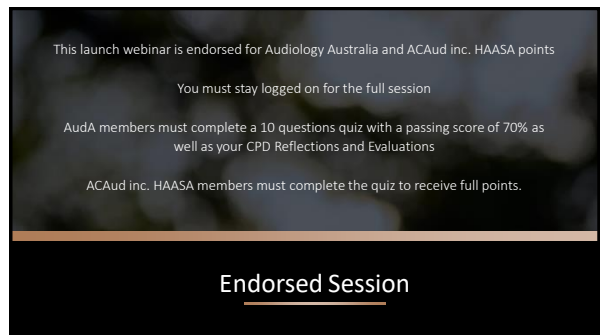


Questions

Please share any questions you may have in the Chat Box directed to **All Panelists**. We will do our best to answer them throughout the training.

WebEx Control Panel

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This launch webinar is endorsed for Audiology Australia and ACAud inc. HAASA points

You must stay logged on for the full session

AudA members must complete a 10 questions quiz with a passing score of 70% as well as your CPD Reflections and Evaluations

ACAud inc. HAASA members must complete the quiz to receive full points.

Endorsed Session

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Learner Outcomes

- 1 Identify how Starkey utilizes DNN in the current Edge AI products
- 2 Identify at least two updates to the Pro Fit software
- 3 Discuss the new Multiflex Tinnitus Pro stimulus options in Edge AI devices

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EDGE AI

9

Listen with ease
Enjoy every little sound that matters

10

INDUSTRY ONLY
Integrated **Neural Processing Unit** embedded in the chip

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Neuro Sound Technology 2.0
Encodes a wearer's acoustic environment, senses movement, digitizes intent and then adapts to it all to deliver a sound experience rivaled only by perfect hearing

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30% MORE ACCURATE
AT IDENTIFYING SPEECH

6dB ADDITIONAL REDUCTION
IN LOW-LEVEL NOISE

APPROPRIATELY CLASSIFIES MULTI-TALKER BABBLES

13 UP TO dB SNR IMPROVEMENT
IN NOISY ENVIRONMENTS

CLEANER PURER SIGNAL

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An unrivaled sound experience

Edge AI mimics the human brain to better replicate how a "normal" hearing system works

- Sensory**
Takes in the acoustic, motion, and listening intent information to map out a perceptual topology of the listener's environment
- Subconscious**
Effortlessly processes tasks that happen in the background without needing input or effort from the listener
- Conscious**
Provides additional control and flexibility to the wearer

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Sensory

- Additive Compressor
- Dynamic Range
- eSTAT 2.0
- REM Target Match
- IMU Sensor technology
- ALL NEW** Deep Neural Network

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Neuro Sound Technology 2.0

Additive Compressor

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Slow Compressor

Fast Compressor

Additive Compressor

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e-STAT 2.0 Proprietary Fitting Formula

e-STAT 2.0 was developed with the additive compressor architecture to provide more gain for soft speech and better audibility at higher frequencies

Frequency (Hz)	e-STAT	e-STAT 2.0	NAL-NL2
150	~10	~10	~10
500	~15	~15	~15
1000	~20	~20	~20
2000	~25	~25	~25
3000	~25	~25	~25
4000	~20	~20	~20
5000	~15	~15	~15
6000	~10	~10	~10
7000	~5	~5	~5
8000	~0	~0	~0

18

~4-6 dB more gain for soft sounds*

10% higher speech intelligibility scores for soft speech vs. previous technology

More gain at higher frequencies** (> 3kHz)

Improved vent modeling

eSTAT 2.0
Proprietary Fitting Formula

Designed to complement the compression architecture

*Varies with the audiogram and acoustic stimuli
**Varies with audiogram and with frequency

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Dynamic Range

20 dB improvement to circuit dynamic range

Legacy Platform

EDGE AI

Increased input saturation level

Decreased noise floor

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Starkey's Deep Neural Network

DNN processing runs parallel with the sound management system for more efficient processing — both in speed and battery life

INDUSTRY FIRST

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Artificial Intelligence (AI)
A program that can *learn* and *reason*

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Artificial Intelligence (AI)
A program that can *learn* and *reason*

Machine Learning (ML)
Algorithms that improve given rules and data and make predictions without being explicitly programmed to do so

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Artificial Intelligence (AI)
A program that can *learn* and *reason*

Machine Learning (ML)
Algorithms that improve given rules and data and make predictions without being explicitly programmed to do so

Deep Neural Network (DNN)
Subset of machine learning algorithms that can learn by itself based on vast amounts of data

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INDUSTRY FIRST

The Next Big Thing in Sound

Deep Neural Network Enhanced Speech in Noise

Industry's first Speech Probability Predictor

30% more accurate at identifying speech

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Starkey

G2

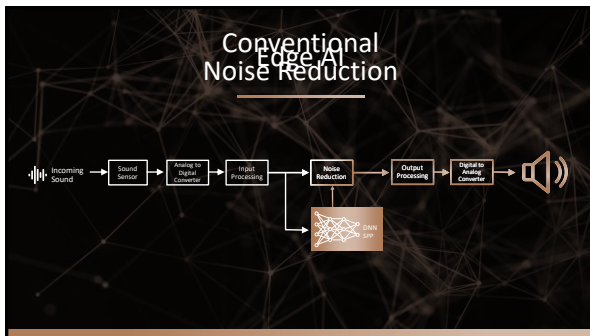
NPU

Embedded DNN

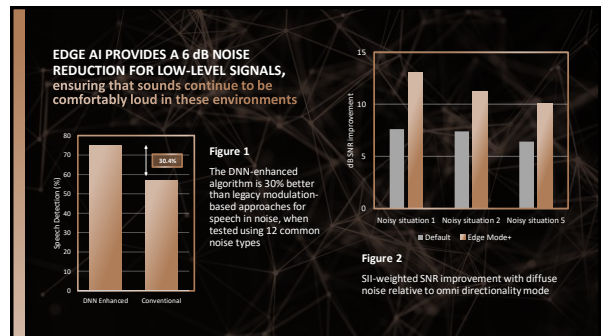
Integrated Neural Processing Unit (NPU) dedicated to DNN processing, runs in parallel with our G2 Neuro Processor

Dedicated AI chip

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Subconscious

Sound Manager
Sound Enhancement
Situational Sound Management
Directionality

Feedback Canceller

Frequency Lowering

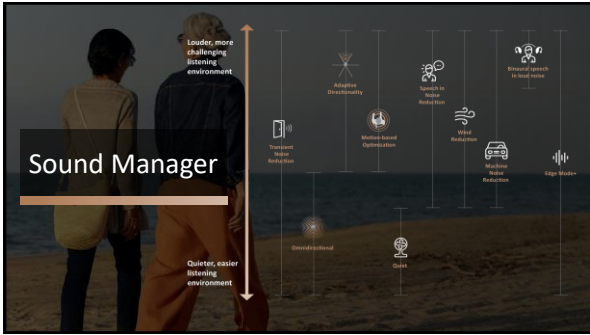
ALL NEW Streaming

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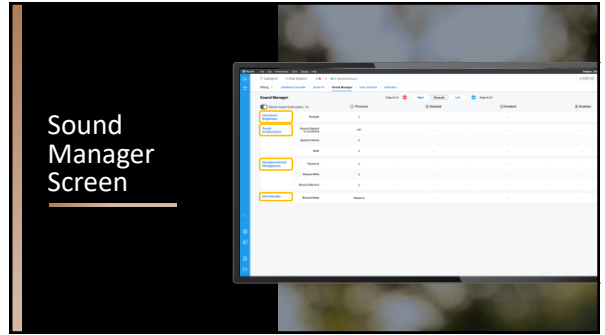
Making Better Hearing a No-Brainer

Enhancing sound processing with DNN capabilities

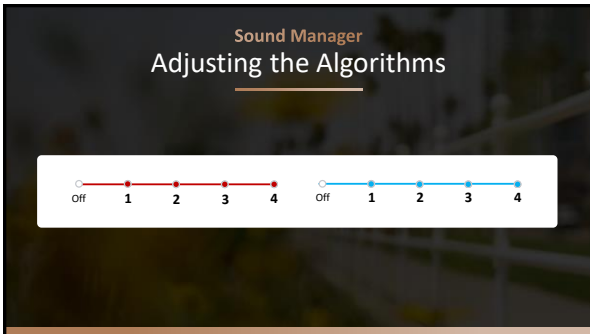
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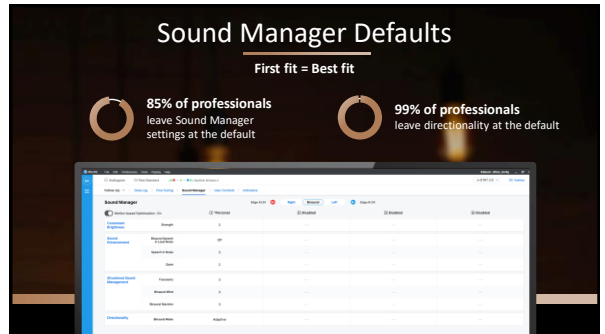
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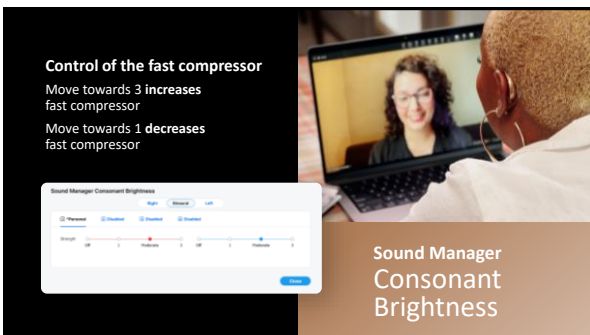
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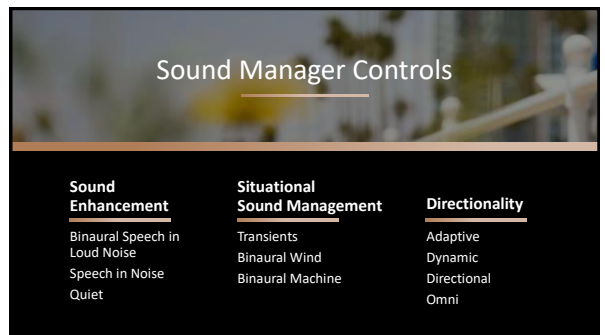
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Sound Manager Sound Enhancement



Speech in Noise

Adapts on a channel-by-channel basis to ensure that noise is reduced, while maintaining the signals of interest.

Binaural Speech in Loud Noise


Uses the Near Field Magnetic Induction (NFI) radio to have a true ear-to-ear streaming comparison in loud environments.

Quiet

Adapts to low-level noises.

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Sound Manager Situational Sound Management



Transients

Binaural Wind

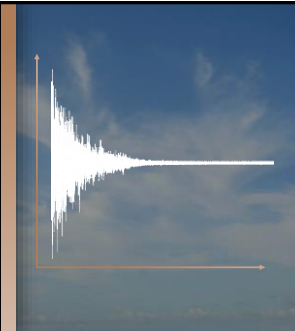
Binaural Machine



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Transients

Made to combat sharp, sudden sounds



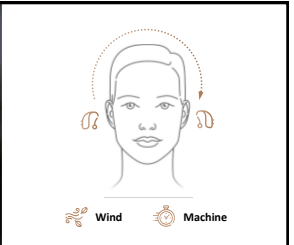
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Binaural Wind

Quickly identifies and tackles continuous wind noise.

Binaural Machine

Identifies steady-state, repetitive noise like road noise, and provides a reduction.




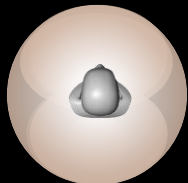
Wind **Machine**

Ear-to-ear communication for these systems ensures coordination between the two ears for a cohesive listening experience.



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Directionality







Automatic






Fixed

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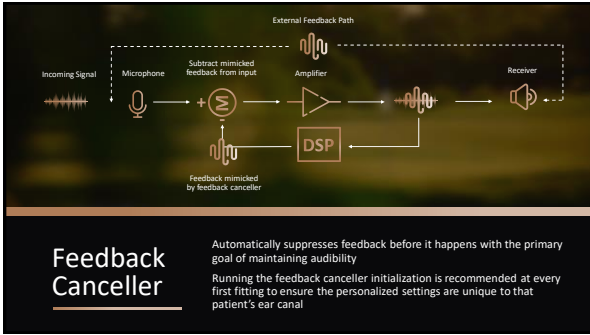
Fitting Precision


+


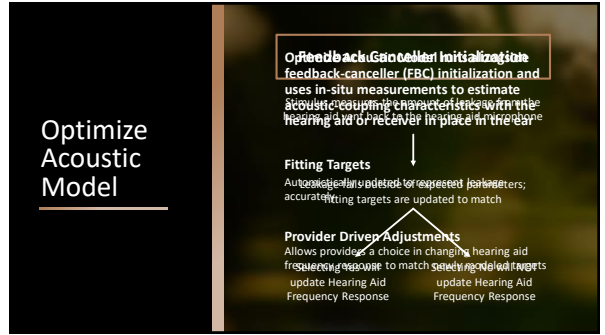
Feedback Cancellation Optimize Acoustic Model

Personalizing the hearing aid fitting using the Feedback Cancellation Initialization (FBCI) measurement

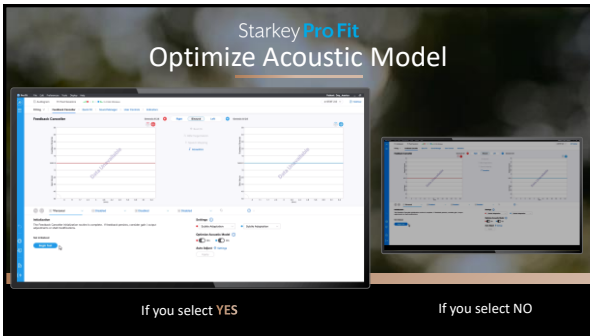
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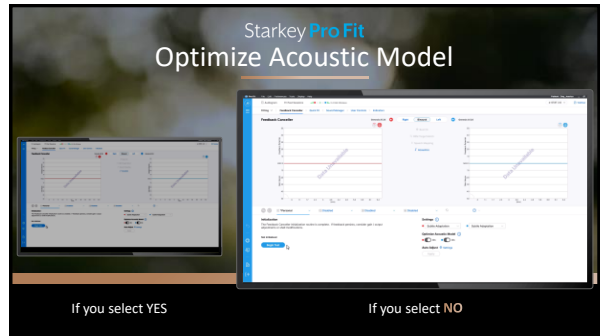
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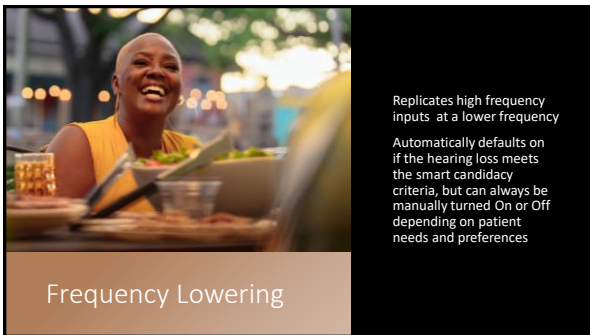
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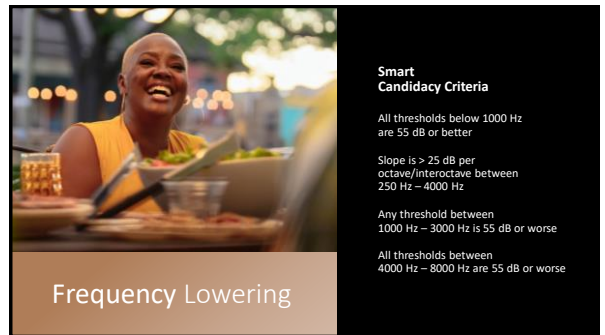
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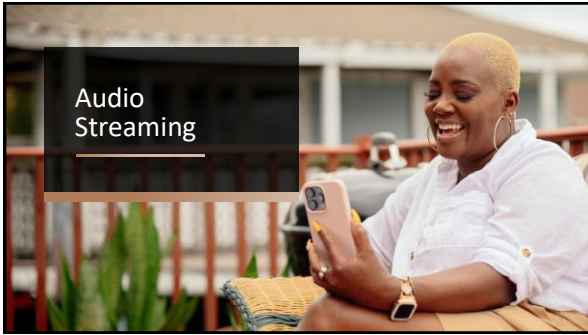
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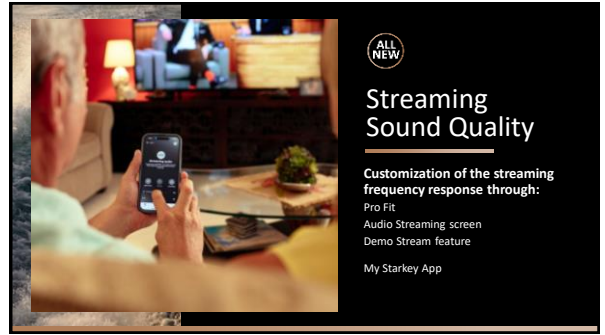
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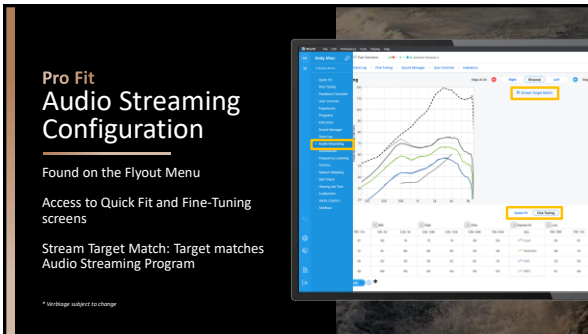
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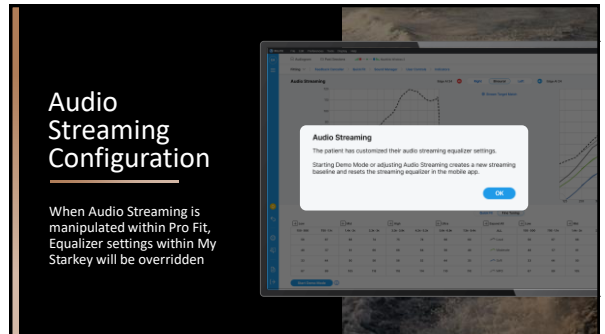
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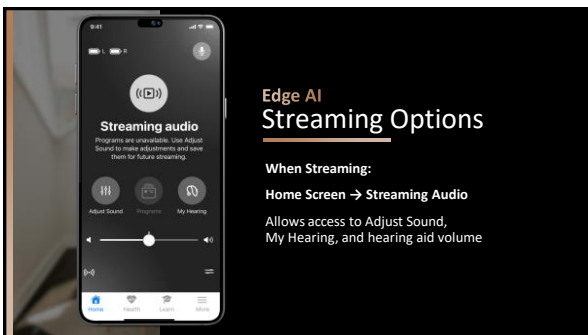
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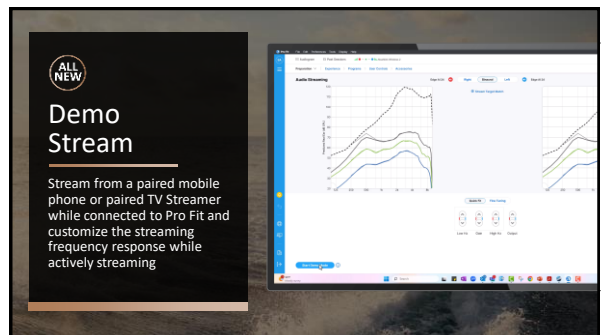
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How To Use Demo Stream

Start streaming and then click 'Start Demo Mode'

Select 'Mute Stream' to enable hearing aid microphones for conversation

You may not access other screens in Pro Fit until you end Demo Stream

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Good to Know Demo Stream


For best results, ensure the stream from the phone is set to a comfortable volume

While in Demo Stream, My Starkey cannot communicate with the Hearing Aids

Hearing Aid user controls are disabled during Demo Stream



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Good to Know Edge AI Streaming Behavior

Patient streaming EQ preferences in My Starkey will reset when the following Pro Fit changes are made:

- Any change in Audio Streaming
- Demo Mode is started
- 'Best Fit or Target Match All Programs' is performed

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Conscious


User Controls

Multiflex Tinnitus Pro

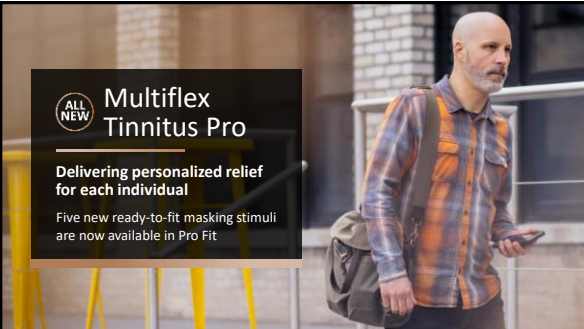
My Starkey App

- Self Check
- TeleHear
- Balance Assessment
- Fall Alert
- Find My Hearing Aid
- Reminders
- Smart Assistant
- Translate
- Transcribe

Edge Mode+



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ALL NEW Multiflex Tinnitus Pro


Delivering personalized relief for each individual

Five new ready-to-fit masking stimuli are now available in Pro Fit

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Multiflex Tinnitus Pro

Personalized Sound Therapy for Tinnitus Management

 <p>WHITE NOISE</p> <p>Signal level based on PTA and comprised of equal energy distribution across frequencies</p> <p>All Styles and Technology Tiers</p>	 <p>AUDIOGRAM-SHAPED NOISE</p> <p>Automatic shaping of the tinnitus stimulus based on the hearing loss</p> <p>All Styles of the 24, 20 and 10 Technology Tiers</p>	 <p>CUSTOM NOISE</p> <p>Custom shaping of the tinnitus stimulus based on MDLs and MMLs</p> <p>All Styles of the 24 & 30 Technology Tiers</p>
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Multiflex Tinnitus Pro

Low-frequency weighted options

OCEAN NOISE

Mimics the sound of the ocean for an alternative masker to traditional options

PINK NOISE

Comprised of less high-frequency energy compared to White Noise

RED NOISE

Comprised of less high-frequency energy compared to Pink Noise

All Styles and Technology Tiers of Edge AI and Signature Series

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Multiflex Tinnitus Pro

Low-frequency weighted options

OCEAN NOISE

Mimics the sound of the ocean for an alternative masker to traditional options

Waves

PINK NOISE

Comprised of less high-frequency energy compared to White Noise

Light Rain
River
Wind

RED NOISE

Comprised of less high-frequency energy compared to Pink Noise

Rumbling Thunder
Waterfall
Heavy Rainfall

All Styles and Technology Tiers of Edge AI and Signature Series

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Multiflex Tinnitus Pro

High-frequency weighted options

BLUE NOISE

Comprised of less low-frequency energy compared to White Noise

PURPLE NOISE

Comprised of less low-frequency energy compared to Blue Noise

All Styles and Technology Tiers of Edge AI and Signature Series

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Multiflex Tinnitus Pro

High-frequency weighted options

BLUE NOISE

Comprised of less low-frequency energy compared to White Noise

Steam
Computer Fan
Water Spray

PURPLE NOISE

Comprised of less low-frequency energy compared to Blue Noise

Water Faucet
Hiss
Dentist Drill

All Styles and Technology Tiers of Edge AI and Signature Series

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Tinnitus Color Potential Use Cases

When to Use

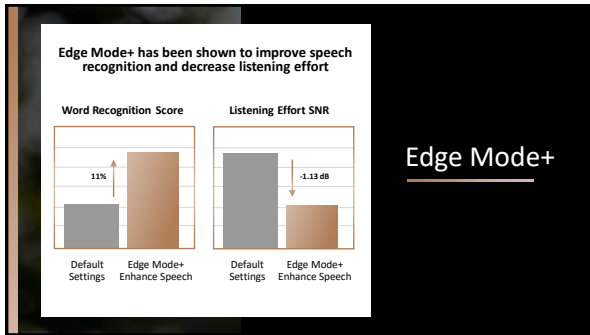
White	Effective at blocking irregular and unpredictable noise
Pink	Can improve sleep quality
Red	Can improve concentration
Blue	Can improve attention and working memory
Purple	Can create a sense of calm and relaxation
Ocean	Can help clear the mind of anxiety

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Edge Mode+

On-demand ability to zero-in on speech in challenging environments

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On-demand real-time analysis of environments for advanced level of comfort and clarity

The best adaptation for any environment when engaged

My Starkey patient-driven controls for listening intent
Exclusive to 24 & 20 Tiers

Edge Mode+

Technology Tiers
24 | 20 | 16

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Automatic Edge Mode+

Continues to scan, adapt, and optimize as the wearer changes environments or as the environment they are in changes

**24 tier only*

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Edge Mode+ Tech Tier Differences

- Edge AI 24:** Automatic Edge Mode+ with additional patient-driven controls
- Edge AI 20:** Edge Mode+ with additional patient-driven controls
- Edge AI 16:** Edge Mode+ No further adjustments available

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Starkey ProFit
Making the Complex Simple

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Starkey ProFit

- Organized:** 3 session types providing access to the most used screens
- Efficient:** Box to best fit in four clicks
- Intuitive:** No need to assign a hearing aid as right and left
- Supportive:** Access to tools such as Troubleshooting from any screen

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Smart Connect + Smart Sessions

Preparation	Fitting	Follow Up
Follows Minute Fit	Second time hearing aids are connected to Pro Fit	Third + times hearing aids are connected to Pro Fit
<p>Experience</p> <p>Programs</p> <p>User Controls</p> <p>Accessories</p>	<p>Feedback Canceller</p> <p>Quick Fit</p> <p>Sound Manager</p> <p>User Controls</p> <p>Indicators</p>	<p>Data Log</p> <p>Fine Tuning</p> <p>Sound Manager</p> <p>Indicators</p> <p>User Controls</p>

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Compatible Programmers

Multiple Programmers may be connected at once

Compatible wireless programmers include:

- Universal 2.4 GHz Noahlink Programmer
- Universal 2.4 GHz Noahlink Wireless 2 Programmer

Compatible wired programmers include:

- HiPro 2*
- SpeedPort 2
- Noahlink
- HiPro USB



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Bluetooth

First Connection Builds Relationship

Five relationships can exist

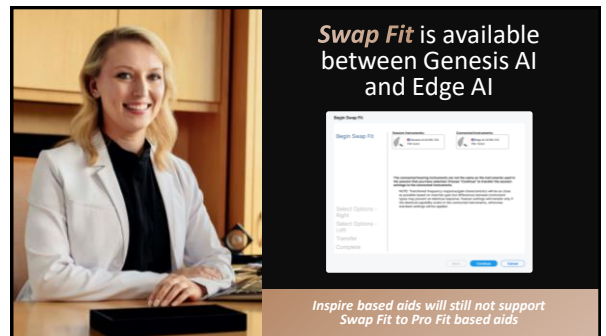
Bluetooth MUST be off to establish a relationship

Bluetooth may remain on for future sessions



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Swap Fit is available between Genesis AI and Edge AI

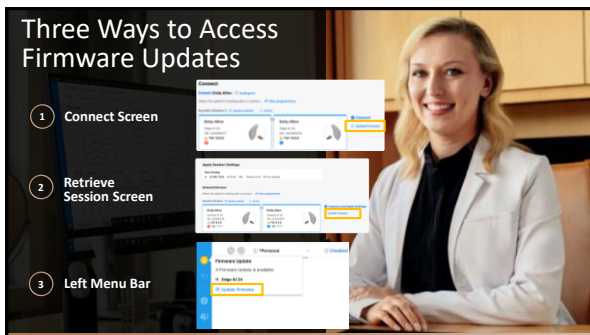


Inspire based aids will still not support Swap Fit to Pro Fit based aids

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Three Ways to Access Firmware Updates

- 1 Connect Screen
- 2 Retrieve Session Screen
- 3 Left Menu Bar

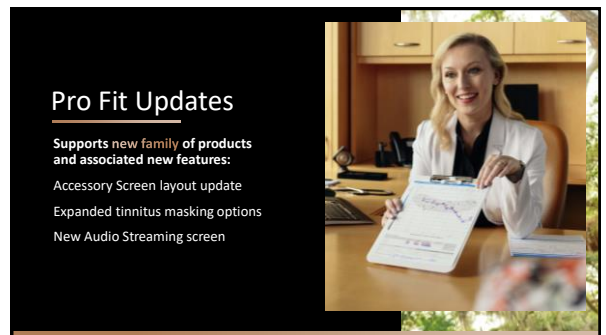


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Pro Fit Updates

Supports new family of products and associated new features:

- Accessory Screen layout update
- Expanded tinnitus masking options
- New Audio Streaming screen



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Accessories and Pro Fit

Accessory Sections
Broadcast Devices
Bluetooth Devices
Remote Favorite Smart Options*

*Remote options are based on hearing aid configuration

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Pro Fit Tips

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Help for Pro Fit Updates

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Troubleshooting

"Troubleshooting" is available from every screen
Apply and undo changes

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Audiology on Demand

Link directly to the Audiology on Demand webpage
Available from every screen

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Resources

QuickTips Reports

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Learn More

- Edge AI Launch Event
Recording Available
- Neuro Sound 2.0
11 February
- Future Forward Connectivity
18 February
- Starkey's Balance Assessment Tool
25 February

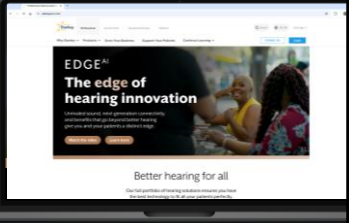


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- White Papers
- Quick Tips
- Videos



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Australia Sales Team Partners

 <p>Vincent Santana Senior Product Specialist and Sales Support 0413 834 718 Vincent_Santana@Starkey.com.au</p>	 <p>Philip Nelson Product Specialist and Sales Support 0407 603 292 Philip_Nelson@Starkey.com.au</p>	 <p>Connie Lu Product Specialist and Sales Support 0448 664 111 Connie_Lu@Starkey.com.au</p>
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New Zealand Team Partners

 <p>Oliver Coxon Product Specialist and Sales Support 021 579 411 Oliver_coxon@Starkey.com.nz</p>	 <p>Monja Mong Product Specialist and Sales Support 021 579 499 Monja_Mong@Starkey.com.nz</p>	 <p>Kevin Sun Customer Service Audiologist 09 953 0827 Kevin_Sun@Starkey.com.nz</p>
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Thank You!



Endorsement Numbers
AC Aud Inc: 19634 Endorsement: 2021672 (2) CEP points with priority (400)
 AudA Endorsement: CP02425 055 (Category 1.2) (1) CPD Point

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