

liaison

Active. Intelligent. Automatic.



# LIFE NEVER STANDS STILL

## Connecting to the Dynamic Sounds of Life

For very active clients moving effortlessly between environments can pose challenges as they strive to stay connected. And because the soundscape – like life – is ever-changing, this challenge persists even when listening environments stay the same but sounds alter and move within them. Liaison™ is the intuitive hearing instrument that intelligently responds to the dynamics of life and its sounds. In every listening situation, Liaison automatically adapts to keep your clients connected – precisely and effortlessly – to all of life's listening pleasures.

### Why Liaison?

- ▶ Premium set of technologies adapt automatically to changing listening situations
- ▶ Ideal balance of automatic and personalized performance
- ▶ Sophisticated technologies plus practical extras
- ▶ Maximum flexibility for mild to profound hearing losses
- ▶ Extra value in its class

## ONE SOPHISTICATED PROGRAM

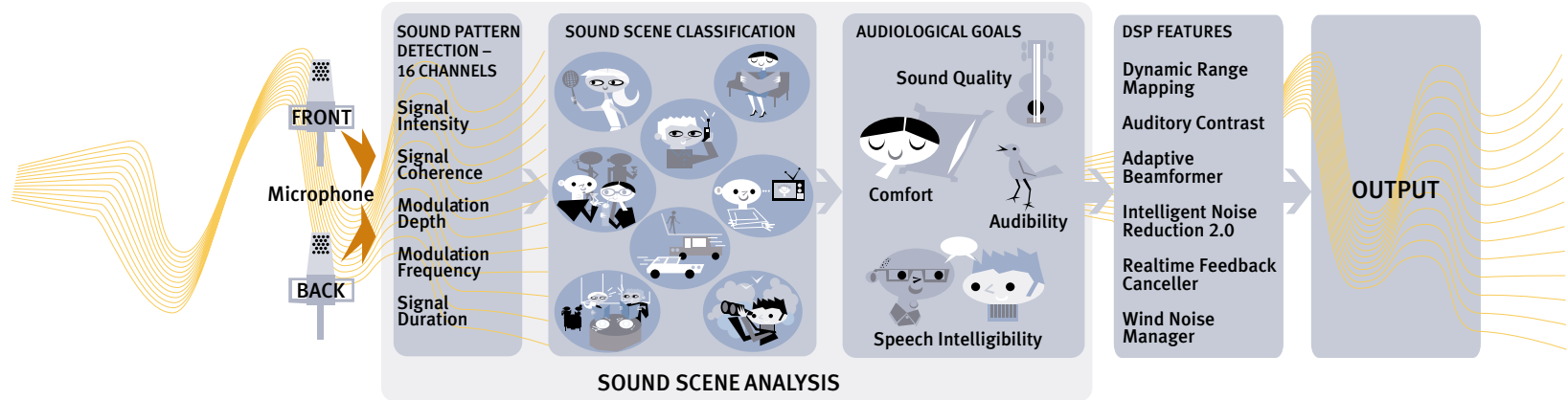
### Premium Technologies Adapt Intuitively within Dynamic SoundScene™

As your clients move through different listening environments Liaison responds much like an automatic camera, analyzing changing listening situations and automatically refining performance for the best audiological outcome. Liaison's intuitive Dynamic SoundScene™ program automatically adapts the signal processing strategy as well as these premium technologies:

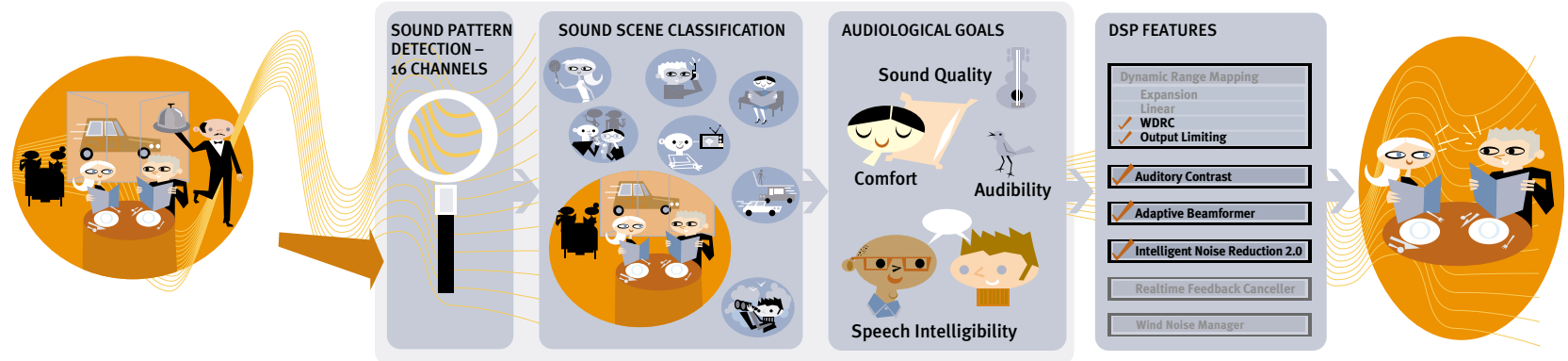
- ▶ Auditory Contrast
- ▶ Intelligent Noise Reduction 2.0
- ▶ Wind Noise Manager
- ▶ Adaptive Beamformer
- ▶ Realtime Feedback Canceller



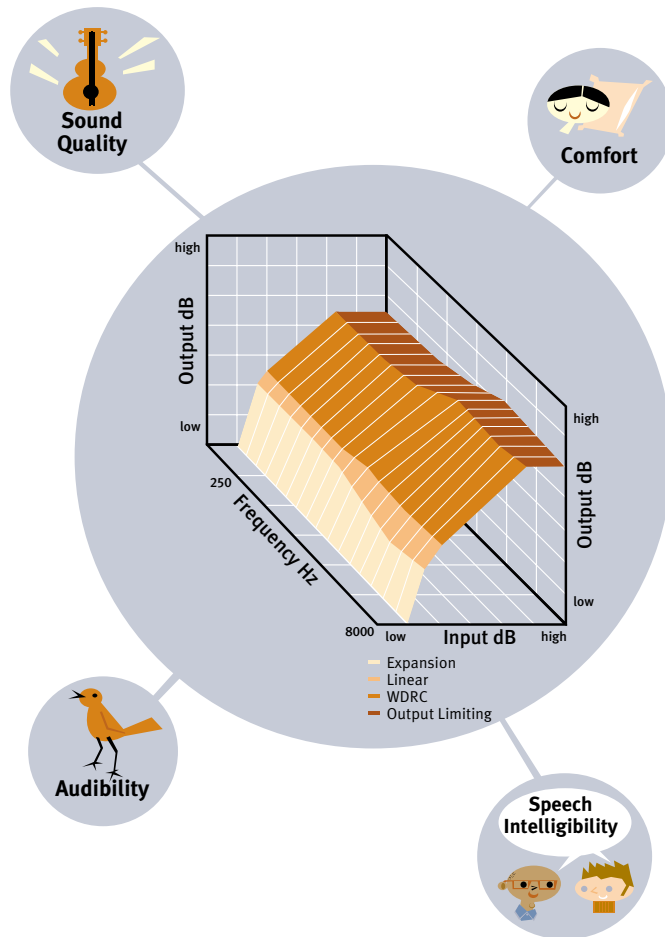
## Dynamic SoundScene Program: How it Works



## Dynamic SoundScene Example: Conversation in Noise



# ACHIEVING CORE AUDIOLOGICAL GOALS



## Dynamic Range Mapping Provides Clean Sound for Every Situation and Hearing Loss

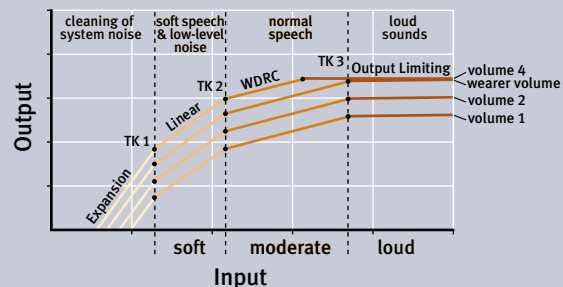
Liaison's unique dynamic range mapping functions independently across all 16 frequency channels to address the core audiological goals of audibility, speech intelligibility, comfort and sound quality in everyday listening situations. It allows for more accurate mapping of gain to clients' specific hearing losses and residual dynamic ranges, and permits ultimate fitting flexibility. The result is a clean, undistorted signal for all levels of sound and for all degrees and configurations of hearing loss.

## Dynamic Range Mapping Across 16 Independent Channels

1. **Quiet Mode Expansion:** Acts at the lowest input levels, typically below 35 dB SPL, to clean system noise and reduce gain for very soft, unwanted sounds.
2. **Linear Amplification:** Processes soft speech and low level noise, providing appropriate gain levels while minimizing acoustic feedback for a smooth transition from expansion to wide dynamic range compression.
3. **Wide Dynamic Range Compression:** Provides soft compression at moderate input levels, including normal conversational speech. Helps restore more normal perception of loudness and compensates for reduced dynamic range associated with outer haircell damage.
4. **Output Compression Limiting:** Protects from uncomfortably loud sounds when input levels are high (such as a door slamming) with minimal distortion. Kneepoints are set independently in all 16 channels, providing true shaping of maximum output.

### Optimized Compression Strategy

If volume control is adjusted below the target user setting, input compression reduces output as well as gain. If volume is adjusted above the target setting, only gain increases, while output remains constant to prevent sound levels from exceeding loudness discomfort levels.

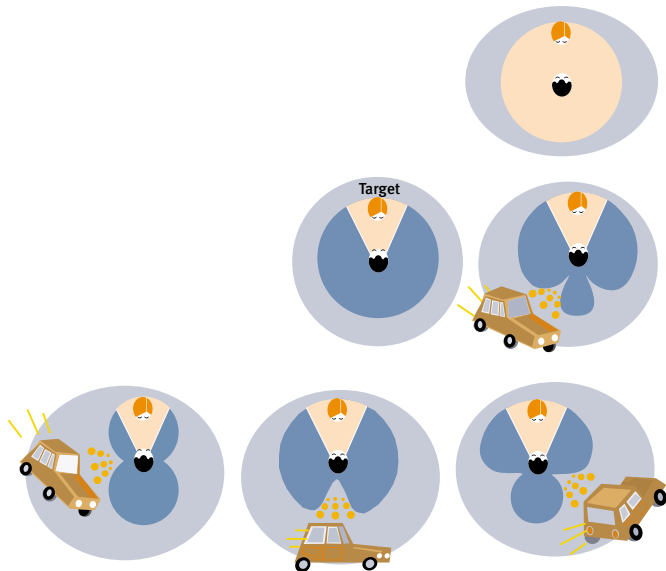


## ALWAYS ON THE MOVE

### Adaptive Beamformer Targets Stationary and Moving Noise Sources

Liaison's sophisticated adaptive directional microphone system expertly handles even the most challenging listening environments:

- ▶ Automatically switches from omnidirectional to directional mode allowing your clients to move freely between noisy and quiet environments
- ▶ Moving null reduces amplitude of stationary and transient noise sources



**Quiet Settings:** In quiet settings, Liaison remains in omnidirectional mode.

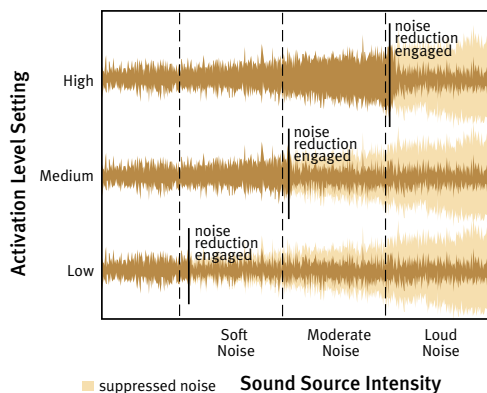
**Background Noise:** In the presence of an off-target background noise source, a null is placed to reduce the amplitude of the noise. An optimized target zone directly in front of the listener is always maintained even as noises from outside the target zone are adaptively suppressed.

**Moving Noise Source:** Liaison continuously samples signals in a 360 radius, responding with rapid adaptive suppression when background noise is detected from any direction outside the target zone. Continuous updating of off-target suppression manages even fast-moving noises, such as a car driving by.

# A PERSONAL APPROACH TO NOISE REDUCTION

## Specify Activation Levels and Degree of Noise Reduction

### Adjust Noise Reduction Activation Levels

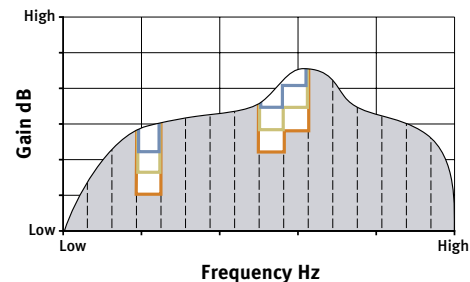
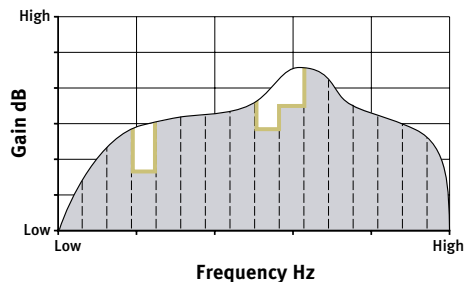


Understanding speech in background noise is the number-one concern of hearing instrument wearers. Liaison’s Intelligent Noise Reduction 2.0 provides two advanced tools that allow you to quickly and precisely tailor noise reduction to client preferences.

**Specify Degree of Noise Reduction:** Customize Intelligent Noise Reduction 2.0 by specifying how much suppression occurs. Select mild for the least gain reduction in channels containing noise, moderate for an intermediate amount of noise removal, or maximum for greatest comfort in high noise settings.

**Adjust Noise Reduction Activation Levels:** Intelligent Noise Reduction 2.0 also allows you to specify at which input levels noise reduction occurs. Set high activation levels (63dB) for those who prefer to hear soft noises and want noise reduction for the loudest background noises only. Set low activation levels (45dB) for those who do not wish to hear softer, steady sounds like the hum of a microwave oven.

### Specify Degree of Channel-Specific Noise Reduction



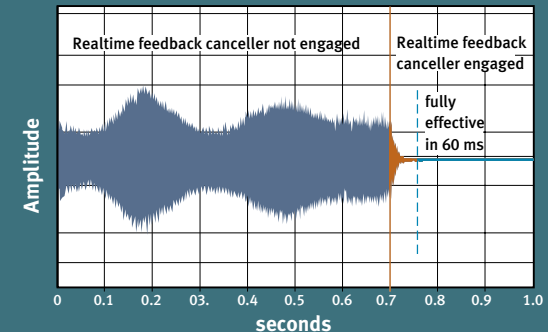
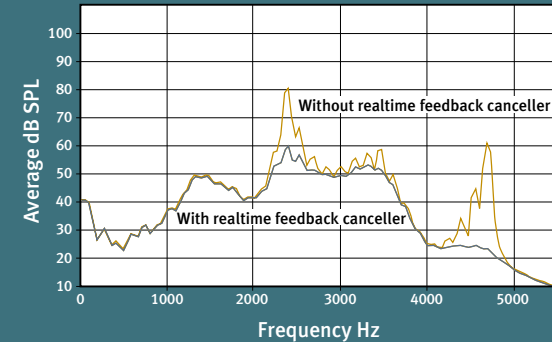
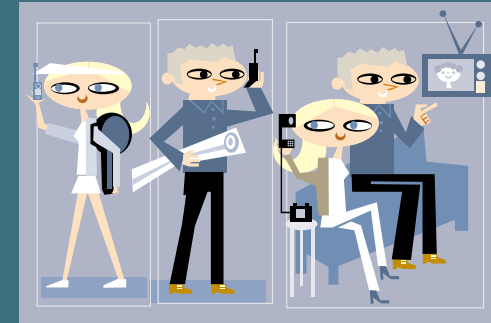
## AS FAST AS LIFE

### Realtime Feedback Canceller Activates Instantly and Preserves Speech

Liaison's realtime feedback canceller dramatically reduces feedback in everyday situations by continuously monitoring for feedback in individual narrow bands and initiating precise, adaptive feedback cancelling. The realtime feedback canceller activates within 60 milliseconds, simultaneously attacking multiple feedback peaks at different frequencies without diminishing the quality or clarity of speech signals or increasing battery drain.

#### Dramatic Feedback Reduction

Feedback can be caused by many everyday occurrences, including telephone and cell phone use. In this example, note how Liaison's realtime feedback canceller engages almost instantly to prevent phone-related feedback, without the need for a telecoil or program change.

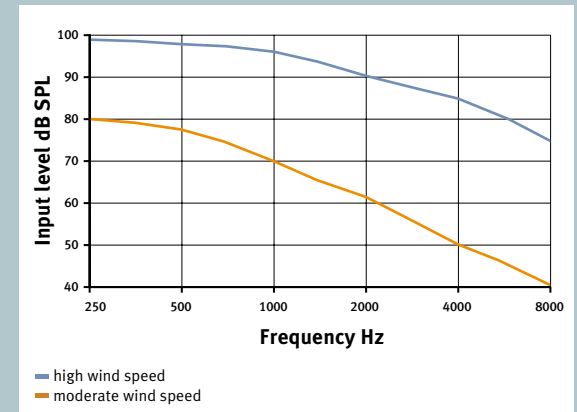
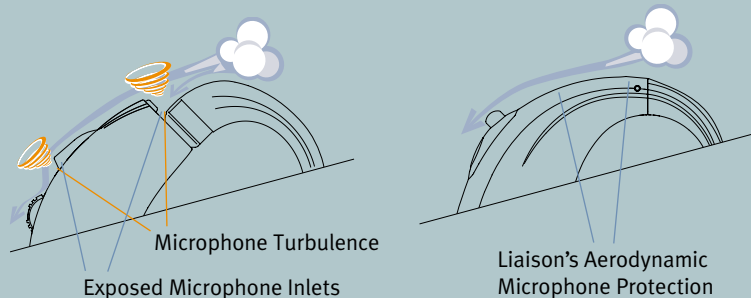


## RESPONDS TO CHANGING CONDITIONS

### Wind Noise Manager Adapts to Moderate and High Wind

Active clients involved in outdoor pursuits will enjoy a new sense of calm, thanks to Liaison's wind noise manager, which optimizes accordingly based on whether wind conditions are moderate or high. In moderate wind, Liaison reduces gain in only the low frequency channels containing wind energy. In high wind, Liaison ensures comfort by automatically reducing output in all affected channels.

**Aerodynamic BTE:** Liaison's new aerodynamic BTE design features recessed microphones designed to reduce wind turbulence and improve comfort outdoors.





# SMART STYLING

## Sleek BTE Design Offers Form and Function

Active clients will enjoy both the aesthetic and practical appeal of Liaison's sleek BTE design in two versions. Designed with ergonomics in mind, the Liaison BTE is lightweight, comfortable and discreet.

**Sleek Ear Hook:** Thin, comfortable design accommodates eyeglasses.

**Aerodynamic Design:** Reduces turbulence and resulting wind noise as wind passes over microphone inlets.

**Choice of Colors:** Signature colors for every taste and skin tone.

**Audio Input System:** Audio input contacts are integrated into a separate battery door module for greater reliability and less interference.

**Choice of Profiles:** With volume control or without, for the ultimate in discreet style.

**Microphone Protection:** New protector helps ensure the best directional performance by preventing dust and moisture from entering and damaging microphones.

**Easy Program Button:** Program changes are easier to identify with distinctive button depressions and corresponding program beep indicator.

**Volume Control:** Easily adjustable. Ideal volume indicator emits a single beep when optimal volume is attained.

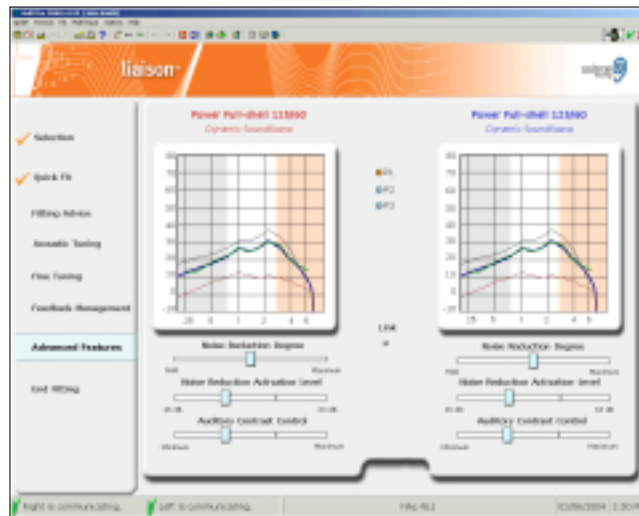
**3-Position Battery Door:** *Fully closed* for operation. *Partially open* to turn off and allow excess moisture to evaporate. *Fully open* for easy battery replacement.

Available in the complete range of shell styles from CIC to BTE.

# PRECISION FITTING

## Unifit™ for Liaison Provides Exceptional Fitting Flexibility

Unifit for Liaison is exceptionally flexible fitting software, allowing you to offer a fitting that's as quick and simple or as detailed as you choose.



### Optimize Two Distinct Modes in Unifit

Liaison permits operation in two modes which can be used independently or in combination:

- ▶ *Dynamic SoundScene program* – parameters adapt intuitively to changing environments within a single program
- ▶ *Manual programs* – clients may actively switch between up to three listening programs

## Dynamic SoundScene Program

Unifit allows you to customize Dynamic SoundScene by specifying when and to what degree Liaison adapts using the following controls:

**Noise Reduction Activation Level** – Determine at what input level incoming signals activate Intelligent Noise Reduction 2.0

**Noise Reduction Degree** – Specify how aggressively Intelligent Noise Reduction 2.0 reacts to incoming signals

**Auditory Contrast** – Set amount of automatic low frequency adjustment, intuitively performing what would traditionally require a manual program change

## Manual Mode

To meet unique listening requirements, some clients may prefer to use Liaison in manual mode, actively switching between different listening programs. Unifit offers several pre-configured options for use in manual mode, including settings for listening in noise, music, telephone use and more.

*Liaison puts an end to fumbling with the volume control to find the right setting. During fitting, the ideal volume indicator is very simply programmed to emit a single beep at the correct volume setting for each client's individual hearing loss.*



# LIAISON AT-A-GLANCE

## Practical, Client- Pleasing Features and Options

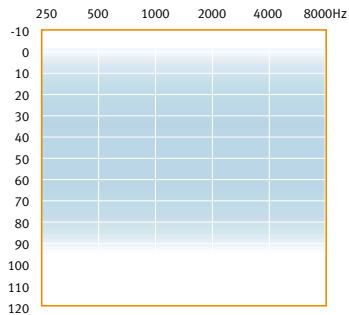
**Ideal volume indicator** – Emits a single beep at correct setting for client’s individual hearing loss.

**Program beep indicator** – Confirms program changes with a discreet beep, which can be customized or disabled if preferred.

**Start-up mute** – Reduces annoying feedback at start-up by ensuring that Liaison will not turn on until the program button is pushed, even if the battery door is in the on position.

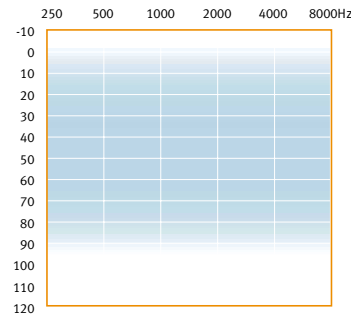
**Low battery warning** – Provides advanced warning that the battery is approaching low levels.

Custom Fitting Guide



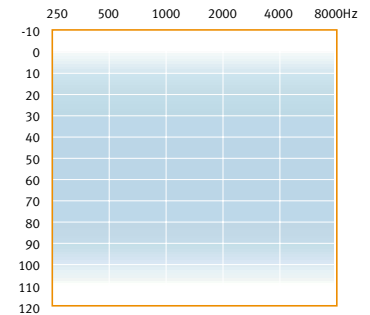
Shell Style	dB SPL 2cc		dB SPL Ear Simulator	
	Peak Output	Gain	Peak Output	Gain
Full-shell power	125	60	134	70
Full-shell	118	50	128	61
Half-shell&Canal	115	45	126	56
Mini-canal	112	45	124	56
CIC	112	40	124	52

BTE Fitting Guide



Shell Style	dB SPL 2cc		dB SPL Ear Simulator	
	Peak Output	Gain	Peak Output	Gain
BTE	127	60	132	67
BTE (without volume control)	130	55	136	61

BTE Power Fitting Guide



Shell Style	dB SPL 2cc		dB SPL Ear Simulator	
	Peak Output	Gain	Peak Output	Gain
Power BTE	135	70	140	76



## PERFORMANCE PROFILE

Range of Loss	_____	Mild to severe/profound
Channels	_____	16
Bands	_____	16
Processing Type	_____	Dynamic Range Mapping

## FEATURES

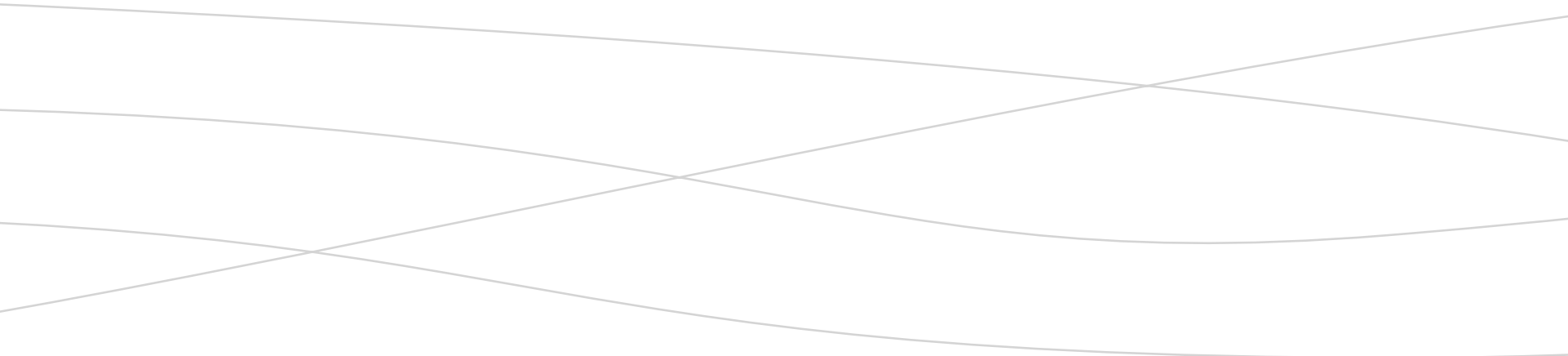
Automatic Program	_____	<i>Dynamic SoundScene</i>
Listening Programs	_____	<i>Up to 3</i>
Ability to Disable Listening Programs	_____	
Directionality	_____	<i>Adaptive Beamformer</i>
Feedback Management	_____	<i>Realtime Feedback Canceller</i>
ClearCall	_____	
Wind Noise Manager	_____	
Intelligent Noise Reduction 2.0	_____	
Acoustic Tuning	_____	
Quiet Mode Expansion	_____	
Standard Manual Volume Control (may be disabled)	_____	
Optional Telecoil	_____	
MLx Compatible	_____	
Start Up Mute	_____	
Ideal Volume Indicator	_____	
Program Beep Indicator	_____	
Low Battery Warning	_____	

More Value in the premium category

Practical Extra in the premium category

## About Unitron Hearing

Unitron Hearing is committed to bettering the lives of people with hearing loss by developing high-quality hearing solutions that incorporate practical features to solve the everyday problems and concerns they have with hearing loss and hearing aids. This commitment also benefits you, the hearing healthcare professional, with practical fitting options, support when you need it and the ability to offer solutions that address what matters most to your clients.



[www.unitronhearing.com](http://www.unitronhearing.com)