



Tie

TRANSDUCERS IN THE EAR



World First Modular System
Weltneuheit Modulares System



TIE - New Category

BTE, RIC, TIE, ITE, ITC

TIE, World first modular hearing system

TIE Modular Technology

Sound is faster and clearer with the Ear Clarity technology platform

In the era of the fastest development of technology, it is time for hearing impaired people to have the first modular system and meet a great product.

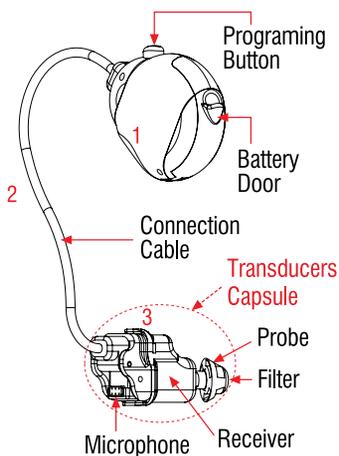
TIE modular is not only a new concept, but also a new category name in the industry.

TIE Modular which has different hardware than all other devices, offers a new hearing style and maximum hearing pleasure.

TIE modular consists of three main parts, while TIE semi-modular consists of two main parts.

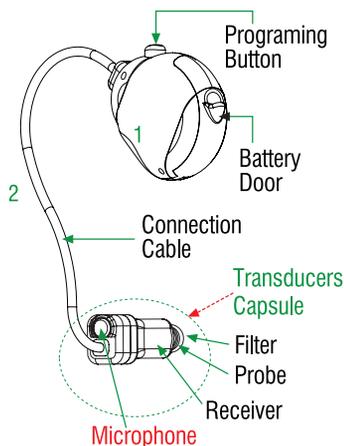
Our TIE modular system imitates the natural ear operating system to acclimatize and clarify sounds and understand conversations comfortably

TIE Modular



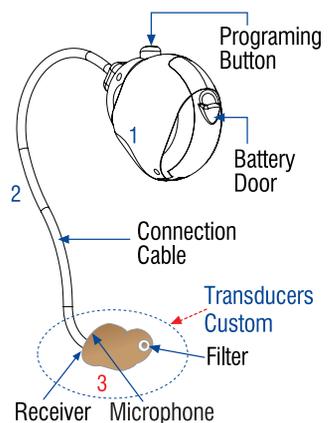
- 1- Amplifier and Battery Module
- 2- Connection Cable
- 3- Transducers Capsule

TIE Semi-Modular



- 1- Amplifier and Battery Module
- 2- Connection Cable & Transducers Capsule

TIE Custom Modular



Model: FP-S / FP-M / FP-P

- 1- Amplifier and Battery Module
- 2- Connection Cable
- 3- Transducers Custom

TIE Modular Sound System

Outstanding design combined with cutting-edge technology

Signals spread from dozens of sound sources around us. Some of them need to be prevented, some of them should be weakened and some of them should be strengthened.

It is impossible to understand without classifying unbalanced spread signals.

Human brain takes all existing sound layers, classifies them and focuses differently on the environment.

TIE modular technology, which is a highly capable and intelligent technology, imitates the ear by focusing on useful and necessary sound. Allows for more natural sound.

The currently used line of the BTE and RIC devices do not exactly match the natural ear structure.

The presence of the receiver and microphone behind the ear in BTE devices or the presence of the receiver in the ear and behind the ear of the microphone in RIC devices differs from the natural transmission line.



TIE World First modular hearing system

In the TIE modular system, the receiver and microphone are in the ear, which is similar to the natural conduction line of the ear. The natural functioning of the hearing line allows the ear to perform its function naturally.

The ear weakens the sounds that need to be attenuated and automatically detects sounds that need to be understood.

We made our new technology as physically and algorithmic as possible to the natural ear's operating system. In the hearing aid application, it was determined that hearing specialists and customer satisfaction were above 98%.



New Dimension in Hearing with TIE Modular Technology



Natural transmission line of the ear is used



Provides comfortable perception



Delivers happiness in listening to music



Comfortable phone conversation



Comfortable usage



Provides high performance in noisy environments



Provides high wearing comfort



Protects from wind effects

- *T-FIS Therapy* -



Provides high sound quality



Provides natural directionality

A peaceful life despite Tinnitus

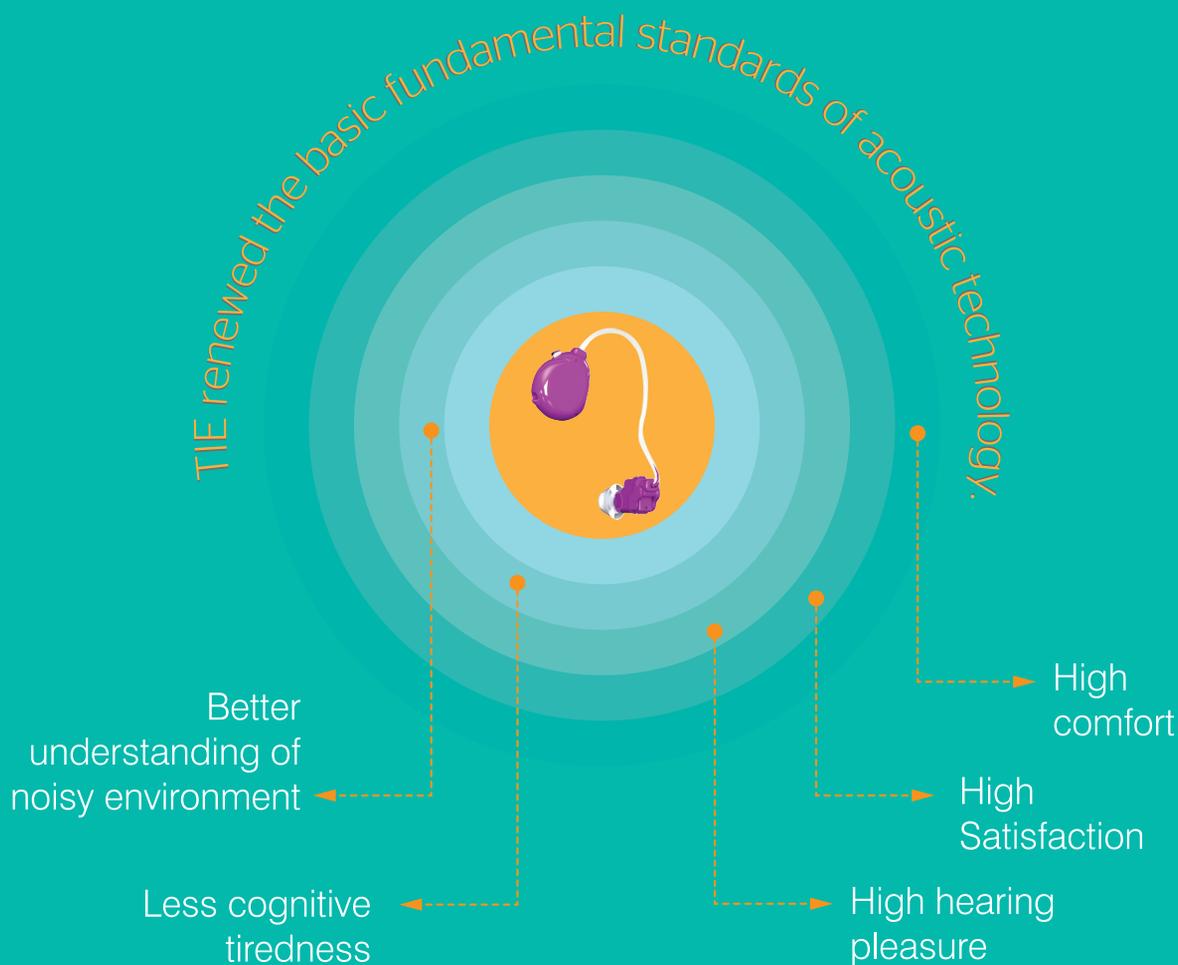


User's own voice gives more natural feeling



The ear continues its natural functions

A new hearing standard with TIE Modular

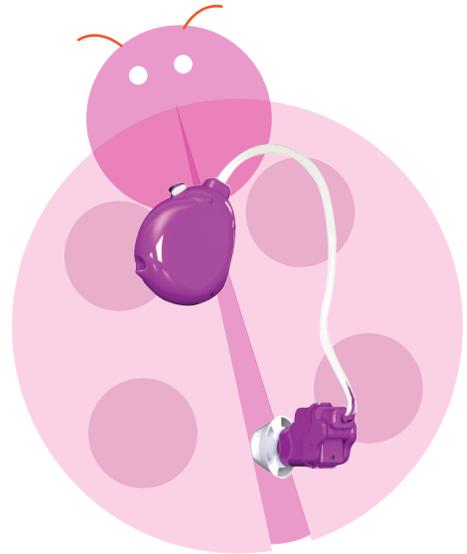


TIE offers not only a new design,
but also a new style of use

TIE Modular,

Main unique advantages

- ✓ Highly equipped to distinguish sounds
- ✓ No pressure on the eardrum
- ✓ User benefits from natural ear gain
- ✓ Ear canal does not store moisture and heat
- ✓ Occlusion and hoarseness do not occur
- ✓ Sound quality is higher than RIC and BTE devices



Good luck came to the ears

TIE Modular Functional

- Aesthetics and unique
- Shorter adaptation time
- Longer device life
- Available in different colors
- User friendly
- Light and easy to carry
- Low risk of feedback
- No ear mold required for some models
- Small in size, hidden in the ear canal and behind the ear
- Easy to apply and remove the device
- Consisting of three modular systems
- Three components can be easily installed and removed
- The filter on the edge of receiver can be changed easily

TIE Pediatrics

A new usage culture is developing

TIE Modular:

The perfect solution for pediatrics.
The electronics part is behind the ear, the smallest behind the ear devices ever produced in the hearing acoustic industry. The Transducer module, placed in the ear canal, is smaller than all ear molds.

Easy to apply with connector cables designed in different sizes for infants and children.

It is possible to apply for profound hearing loss with **“TIE Custom Modular”**, which is prepared for infants and children.

TIE Modular for all:

TIE modular, suitable for every hearing loss and age, compensates for both hearing loss, as well as T-FIS therapy offers great therapy for people with Tinnitus.



Happy babies with TIE



TIE DIFFERENCE

We designed the technology of the future

	Classic BTE	RIC/RITE	Classic ITE	TIE
Sound distortion in the transmission line	Yes	Yes	Depends on the mold	No
Natural pinna effect	Weak	Weak	Strong	Strong
High frequency loss	Yes	Yes	No	No
Frequency range	Narrow	Narrow	Wide	Wide
Wind effect	Yes	Yes	Depends on the ear mold	No
Direction deviation	Yes	Yes	Depends on the ear mold	No
Mold requirement	Yes	No	Yes	No
Risk of early breakdown	Yes	Yes	Yes	No
Repair cost	High	Normal	High	Low
Device lifetime	Long	Long	Normal	Long
Perception	Normal	Normal	Very Good	Very Good
Usage comfort	Low	Very Good	Very Good	Very Good
Aesthetic	Low	Very Good	Very Good	Very Good
Ease of repair	Difficult	Normal	Difficult	Easy
Modular system	No	No	No	Yes
Transition to upper segment	Difficult	Easy	Difficult	Easy
Occlusion effect	Yes	No	Depends on the ear mold	No
Filtered signal processing	Weak	Weak	Strong	Strong
Need for second microphone	Yes	Yes	No	No
Suitability for all ages	Easy	Difficult	Difficult	Easy

Mini and elegant





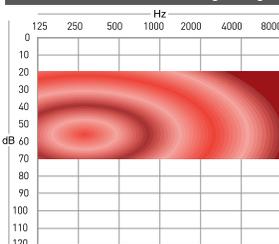
* Technical datas are given in according to EN 60118-0 Ear Simulator / EN 60118-7:2005 2ccm-coupler values.

TECHNICAL SPECIFICATIONS

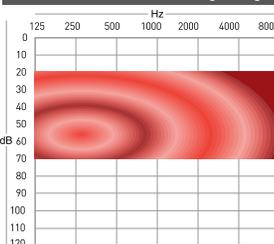
TIE A / TIE B / TIE C		EN 60118-0 Ear Simulator				EN 60118-7:2005 2ccm-coupler			
		Mod.S	FP-S	FP-M	FP-P	Mod.S	FP-S	FP-M	FP-P
Max Output (OSPL90)	dB SPL	118	118	125	130	110	110	117	122
HFA Avg (1000,1600,2500 Hz)	dB SPL	114	114	122	125	106	106	114	117
Max Gain (FOG50)	dB	50	50	64	68	42	42	54	58
HFA Avg (1000,1600,2500 Hz)	dB	40	40	60	62	33	33	49	53
Reference Test Gain (Input 60 dB SPL)	dB	37	37	45	48	30	30	37	40
EQ Input Noise	dB SPL	23	23	21	23	23	23	22	24
Frequency Response (RESP60)	Hz	<100-7500	<100-7500	<100-5900	<100-5600	<100-7200	<100-7200	<100-5700	<100-5400
Total Harmonic Distortion (500/800/160 Hz)	%	0.7/0.9/0.9	0.7/0.9/0.9	0.5/0.8/0.5	0.8/0.6/0.3	0.7/0.9/0.9	0.7/0.9/0.9	0.9/0.9/0.5	0.9/0.5/0.3
Telecoil Sensitivity (MASL)	dB SPL	46	46	54	75	38	38	46	70
Battery Current	mA	0.75	0.75	0.8	0.84	0.75	0.75	0.8	0.84
Battery Life (Average)	Saat	120	120	115	105	120	120	115	105
Battery Type		10							
Operating Voltage		1.3							
Number of Programs		TIE A:6 / B:6 / C:4							
Number of Frequency Channel		TIE A:16 / B:12 / C:8							
Microphone		Omni							
Telecoil		+							
Volume Control		+							

NOTE: The Acoustic Technical Specifications of TIE Modular (S), TIE Semi-Modular (S) and TIE Custom Modular (S) Devices are the same.

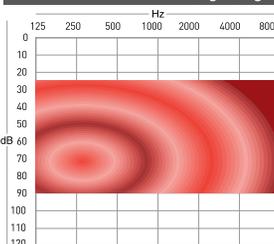
Modular S Fitting Range



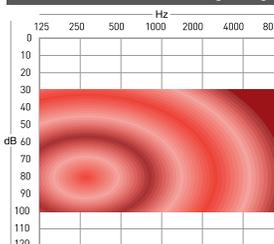
FP-S Fitting Range



FP-M Fitting Range



FP-P Fitting Range



Key Features:

- 64/48/32 Compression Parameters
- 16/12/8 WDRC Independent Channel Application
- 16/12/8 Channels Fine Tuning Gain Bands
- 16/12/8 Channels MPO
- 8 KHz Bandwidth
- Channel Based Scalar Noise Reduction
- Adjustable 4/6 program
- Input modes;
 - Omni
 - Omni & Tinnitus Therapy
 - Telecoil
- Push Button (Program + VC)
- In-situ Comfort Test
- Wind Noise Management
- Memory Change and Low Battery Signal with voice or tone
- Autosave for Program Position
- Data Logging

- Treble Sound Clarity
- Preferential Memory Control User can start with the preferred program
- Setting the start time

Specific Features

- Super Adaptive Feedback Canceller
- (T-FIS) Tinnitus Frequency Isolation System
- Internal Noise Blocker
- Base Sound Clarity

Performance Features

- The devices are resistant to water, sweat and dust for certain models.
- Ear-Technic Hearing Aids are reliable, durable and powerful with unique design.
- Tested according to the following norms:
 - IEC 60068-2-64 - Vibration
 - IEC 60068-2-31 - Mechanical shock
 - IEC 60068-2-14 - Shock temperature changes
 - IP68 (IEC 60529) - Dust and Water

Programming (4 Pin. System)

Cable : CS44 Program Cable
 Battery : Without Battery
 Progr.Box : Hi-Pro / Hi-Pro2 with USB
 Software : EarTuning2



Fitting Formulas:

NAL-NL2, DSL Adult, DSL Pediatrics

Choose your favorite color



TIE Key Features

16/12/8 WDRC Channels

- 8/12/16 independent fitting channels

16/12/8 Channels Fine Tuning Gain Bands

- Enables frequency-based gain, sound balance and clarity

8 KHz Bandwidth

- Covers all the speech frequencies and ensures that music and rare loud sounds in everyday life can be heard easily

Channel Based Scalar Noise Reduction

- Channel based noise reducer decreases noise gradually

16/12/8 Channel MPO

- Adjusts the maximum audio output level in 16 channels and provides channel-based safe sound

Memory

- Adjustable 6 or 4 Programs.
Offers options for different environments from 1 to 6 or 4 programs

Input Mode

- It provides different input options such as Omni directional, Inductive and Tinnitus therapy

Physical Button

- If the physical button is inserted, it can be used for two purposes
 - Can be used for switching the programs and volume adjustment
 - Short press to change program, long press to adjust volume

In-Situ Comfort Test

- The sound level performance of each frequency is measured and the fitting confirmation is obtained by the hearing aid. 'Which frequency is heard how much by user' is observed through mold, vent and tube modifications

Battery Warning

- Gives a warning via signal tone

Low Battery Signal

- Gives an audible warning or signal tone to 'change the battery'

The World First, Modular System

Setting the Start Time

- When the device is turned on, it starts to operate automatically with the same program and volume level that were used last after it was turned off

Data Recording

- Makes contribution to the compatibility of other programs.
Usage preferences are determined

Base Sound Clarity

- Extra suppression the low frequency noise, removes the speech dullness and eliminates the noise

Internal Noise Blocker

- Hearing instruments normally produce internal noise as they work with batteries and those who do not have hearing loss at low frequencies are uncomfortable with that
- Internal Noise Blocker offers an excellent usage pleasure because it suppresses the internal sound of the device

Treble Sound Clarity (Eco Stop)

- Adjusts the echo and gain at high frequency sounds to provide a comfortable and easily understandable sounds

Preferential Memory Control

- User can start with the preferred program

T-FIS (Tinnitus Frequency Isolation System)

- Successful frequency isolation system at any frequency for tinnitus rehabilitation

Wind Effect Reduction (Wind Block)

- Reduces wind impact on microphone

Impulse Reducer

- Suppresses sudden and short-lived disturbing sounds

Super Adaptive Feedback Reducer

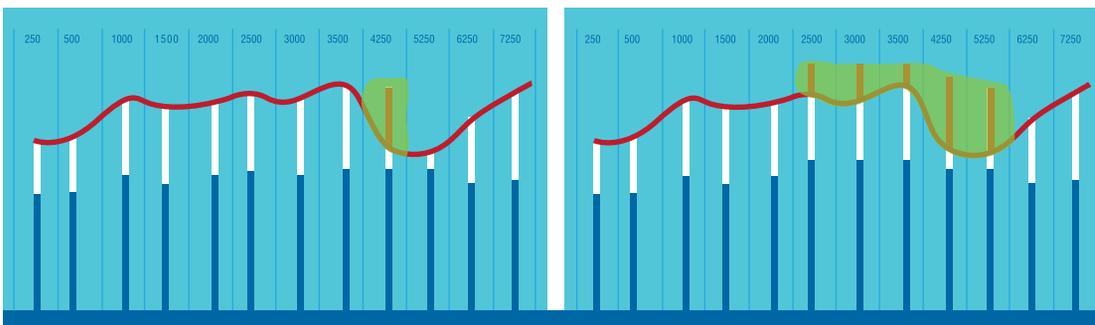
- Innovative and best feedback cancellation management

NOTE: Device specifications vary by device model.

New Generation T-FIS (Tinnitus-Frequency Isolation System)

Tinnitus Therapy

- We have made the lives of hundreds of thousands of people easier through the experience of years that we have brought in the sector
- T-FIS (Tinnitus Frequency Isolation System) offers excellent application with narrow or broad band fitting
- Offers high success up to 86% that has been proven clinically
- Low frequency, medium frequency, high frequency fitting
- The frequency of tinnitus can be detected
- Audible sound volume can be measured
- Monaural can be applied
- Binaural can be applied



Time to peace with **Tinnitus**



TIE - New Category

BTE, RIC, **TIE**, ITE, ITC



Outstanding
design combined
with cutting-edge
technology

TIE offers not only a new design,
but also a new style of use

Helix hearing | **earnert** | **anaton**



Bahcelievler Mh. Naci Kasim Cd. No.2/2/8
34180 Bahcelievler-Istanbul/Turkey
Tel.+90 212 557 91 68



Mühlengrund 2, 45355
Essen / Germany
www.ear-technic.com