OPUS 2

The World's Thinnest and Lightest Audio Processor!

MED-EL's new generation of audio processor is a milestone achievement in engineering. It offers unparalleled comfort, long battery life, hands-free capability, and remote tuning. Using the latest advances in microchip technology, the OPUS 2 supports innovative developments offering implant users greater sound detail and clarity, especially for music enjoyment and difficult listening situations.

The OPUS 2 processor is packed with the details that let you worry less about equipment and focus more on life:

:: an integrated state-of-the-art telecoil

:: a new FM Battery Pack Cover with standard input jack

:: wireless access to direct-link devices, such as FM and Bluetooth® systems

:: the FineTuner remote control for easy adjustments "on the fly"

:: the new DaCapo Rechargeable Battery System

:: a new ergonomic design for maximum comfort and cosmetic appeal

:: the only audio processor to include FineHearing™ with Fine Structure Processing* technology for better music appreciation and hearing in noisy environments

:: multiple wearing styles and battery options, including the BabyBTE™, the world's first processor designed especially for young children

:: Automatic Sound Management

Her new hearing has given Anna a **larger dimension** of life. Sounds are everywhere now – and she is enjoying every one of them.

MADELINE S.

*FSP is not indicated for use by pre-lingual children.
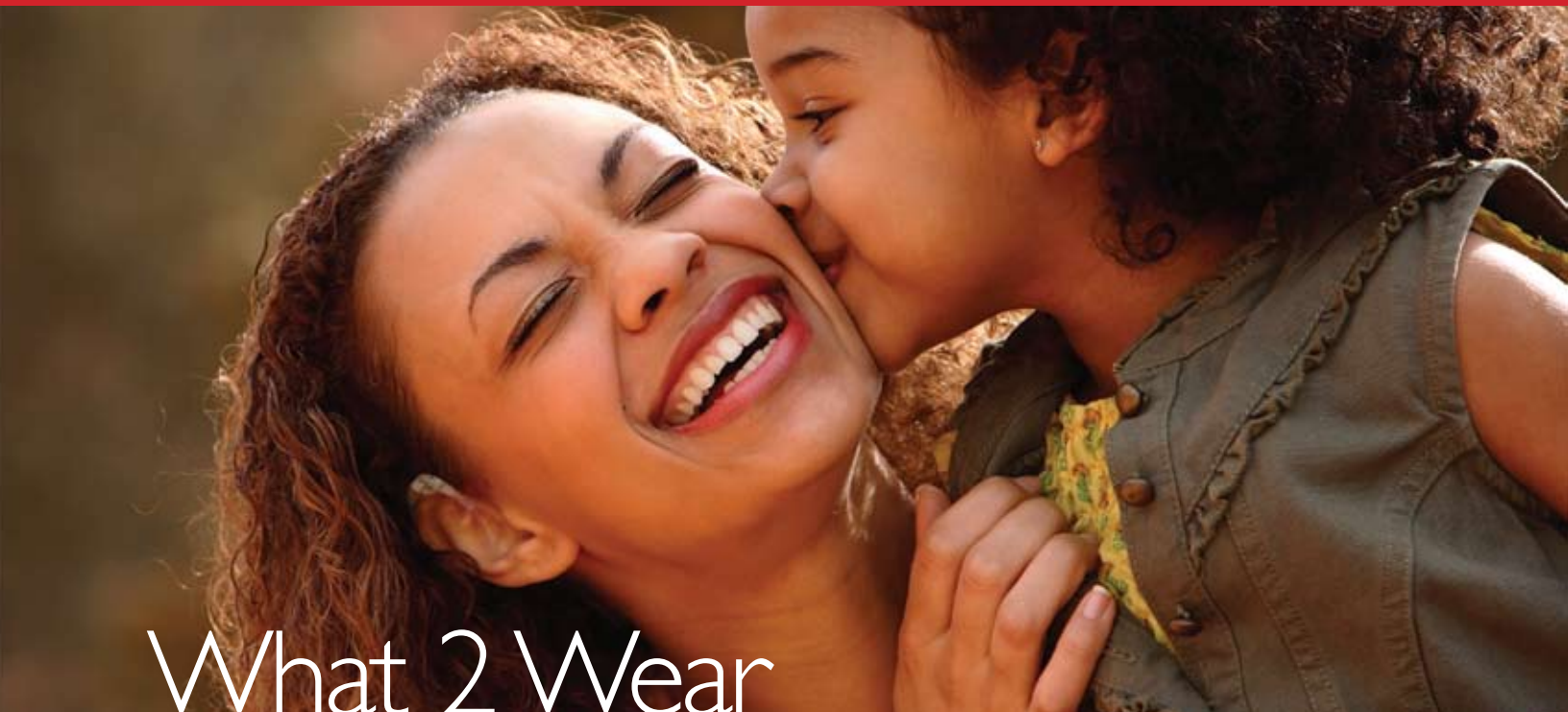
What 2 Wear

MED-EL pioneered the concept of a modular system, because no two cochlear implant users are exactly alike. Since 1999, this modular design has offered MED-EL users a variety of wearing configurations to meet the needs of all ages and activities. When implant users select the OPUS 2, they will have the option to choose several of the following wearing option choices.

BabyBTE™/ActiveWear (with Straight Battery Pack)

MED-EL's signature wearing option for infants and young children is the BabyBTE™. The BabyBTE allows a young child to begin using the same ear-level audio processor that he or she will use through every stage of development, while still accommodating a baby's small ear and activity level. For this wearing option, the entire BTE processor is placed on the clothing using the fixation bar and a safety pin. Only the coil is placed over the implant on the head. This configuration is also referred to as ActiveWear for users who participate in sports or other activities where a very secure placement is desired.

The BabyBTE allows a young child to begin using the same ear-level audio processor that he or she will use through every stage of development.

Children's/Pediatric Battery Pack

Only the tiny control unit of the audio processor is worn on the ear, providing optimal microphone placement and easy visibility of the red status light. The battery pack can then be secured to clothing, a hat or a hair ribbon. Both the earhook and the battery pack are tamper-proof.

MED-EL's Children's/ Pediatric Battery Pack

Remote Battery Pack

The Remote Battery Pack (RBP) uses only a single AA battery (disposable or rechargeable), offering a cost-saving alternative. With 3 rechargeable batteries and approximately 1,000 recharge cycles per battery, the RBP can be powered for up to nine years on the batteries provided. The RBP also includes an input jack for use with FM systems and battery-operated devices.

The Remote Battery Pack uses only a single AA battery offering a cost-saving alternative.

DaCapo Rechargeable Battery System

The DaCapo rechargeable battery system makes the world's lightest audio processor even lighter and reduces daily operating costs by eliminating the need to purchase disposable batteries. This enables a "greener" lifestyle by reducing the number of zinc air batteries in our landfills. Each DaCapo PowerPack has a charging time of less than four hours and provides 10–12 hours of continuous operation.

DaCapo rechargeable battery system makes the world's lightest audio processor even lighter.

Standard/FM Battery Pack

Our standard battery pack features a low-profile, contoured design that fits perfectly behind the ear. As the wearing option of choice for most users, our standard pack is ideal for comfortable, everyday use. The standard kit contains additional equipment for use with Assistive Listening Devices, including wireless access to FM and Bluetooth® systems.

OPUS 2 with Phonak MicroMLxS

The _____ is Connected 2 the _____.

So what processors, exactly, work with which devices? The following chart outlines device compatibility for MED-EL audio processors and battery packs. The chart also displays which battery packs include an input jack for external audio input.

Control Unit	Angled/ Standard Battery Pack	Straight Battery Pack/ BabyBTE™	Children's Battery Pack	Remote Battery Pack	DaCapo Rechargeable Battery System	FM Extension Kit	Additional Direct Connections	Telecoil Functionality
TEMPO+ and OPUS 1						FM-CS Battery Pack Cover		With TeleMic
					Both are compatible with DaCapo Battery Pack			
OPUS 2				Includes Direct Input		FM Battery Pack Cover / Wireless Options		Built-in

NOTE: TEMPO+ is compatible with the COMBI 40+ cochlear implant.
OPUS 1 and OPUS 2 are compatible with COMBI 40+, PULSAR$_{CI}$[100] and SONATA$_{TI}$[100] cochlear implants.
FM Extension Kits are compatible with a variety of battery-operated external audio devices (FM systems, MP3 players, etc.).

From ON 2 OFF,
and everything
in between

The standard battery pack includes a new ON/OFF mechanism and new connecting piece. The battery pack latch functions as the ON/OFF switch.

Turning the audio processor ON and OFF

You may select the following positions:

1. Battery pack latch open: OFF
2. Battery pack latch closed: ON

Using the Safety Lock

The safety lock prevents small children from disassembling their audio processor. After attaching the safety lock, check that the safety lock is positioned properly. To use the safety lock:

1. Insert the connecting piece with long pins, and place the safety lock on the protruding pins.
2. The coil cable plug rests in the cutout section.
3. Slide the black lever into the shown direction using a pointed object (e.g. ballpoint) to secure the safety lock.
4. To open the safety lock, move the black lever in the other direction.

Control Unit

Coil Cable

3 short pins

1 long pin

Replacing the Coil Cable

1. Open the battery pack latch and remove the battery pack cover.
2. Pull the connecting piece straight down until you feel a slight mechanical click. The connecting piece need not be removed completely but you may do so if you wish.
3. Remove the battery pack frame from the control unit.
4. Disconnect the coil cable from the control unit and the coil.
5. Connect the new coil cable to the coil.
6. Insert the opposite end of the new coil cable into the control unit. Make sure that the cable plug is correctly positioned. The angled edge should face up, such that the cable points diagonally upwards.
7. Reconnect the battery pack frame and control unit. The coil cable plug rests in the small cutout section in the battery pack.
8. Push the connecting piece back in place.
9. Slide the battery pack cover back on and close the battery pack latch. The audio processor is now active.

Changing the Batteries

When the red indicator light blinks continuously in a rapid pattern, the batteries should be replaced. To change the batteries:

1. Remove the coil from your head and turn off the OPUS 2 processor before replacing the batteries.

2. Open the battery pack latch (a), and remove the battery pack cover (b).

3. Remove the three batteries (c) using the coil magnet or by gently shaking them into your hand. Try not to touch the battery contacts.

4. The colored tab covering the zinc air batteries must be removed before use. Check for correct polarity when inserting the new batteries. The positive pole (+) must face outward, i.e. the "+" sign is still visible when the batteries are inserted.

5. Slide the cover over the battery pack frame (d) and close the battery pack latch.
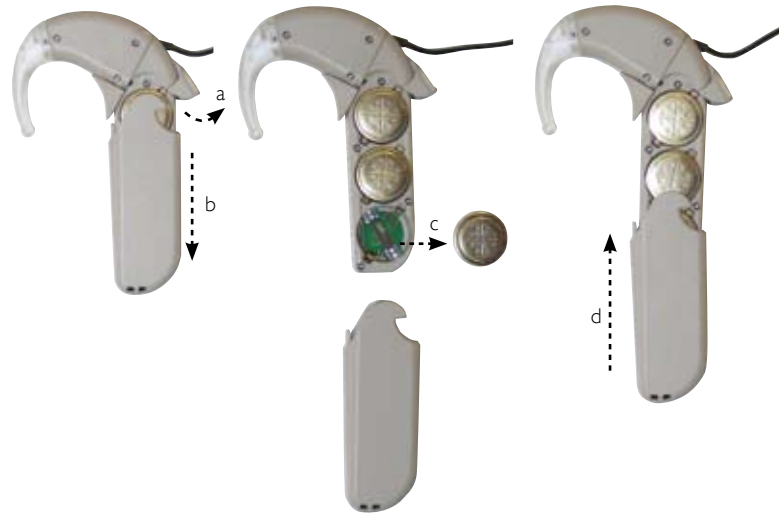
Using the DaCapo Rechargeable Battery System

The DaCapo Rechargeable Battery System is compatible with MED-EL's OPUS 2, OPUS 1 and TEMPO+ processors. The system consists of the DaCapo Frame and battery pack covers, a rechargeable battery called the DaCapo PowerPack, the DaCapo Charger, and accessories. The DaCapo Frame holds one DaCapo PowerPack and connects to the Control Unit of your audio processor like a standard battery pack

Features of each PowerPack include:

:: 20% lighter weight than using standard batteries

:: 10-12 hours of use per charge

:: under 4 hour charge time

:: 500 charge/recharge cycles per battery

The battery pack lock on the DaCapo Frame functions as the ON/OFF switch.

With the proper FM battery pack cover, the DaCapo Frame can also support assistive listening devices such as FM systems.

NOTE: DaCapo PowerPacks can only be used in the 'standard' wearing option; the straight battery pack and children's battery pack do not offer the DaCapo option at this time.
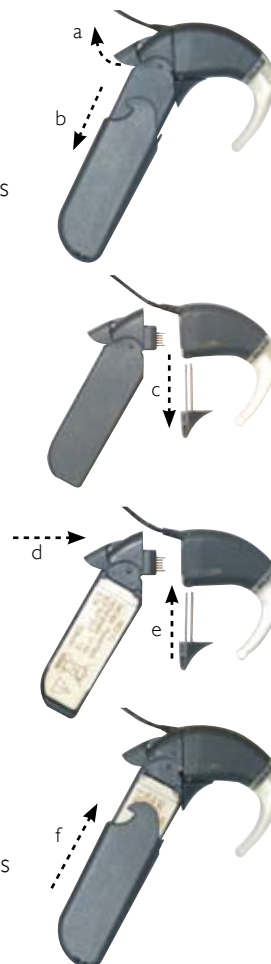
To connect the DaCapo Battery Pack to an OPUS 2 Processor:

1. Open the battery pack lock (a).

2. Remove the battery pack cover (b).

3. Pull out the connecting piece (c).

4. Remove the battery pack and connect the DaCapo Frame with PowerPack inside (d).

5. Secure the DaCapo Frame to the audio processor by inserting the two pins of the connecting piece into the two holes on the bottom of the Control Unit (e).

6. Slide the battery pack cover over the DaCapo Frame and close the battery pack lock to switch the audio processor on (f).

Using the FineTuner

The FineTuner remote control is an accessory device that can be used to optimize the audio processor in changing daily listening situations. The OPUS 2 processor has an ON/OFF switch. All other functions are accessed with the FineTuner, which transmits commands to the OPUS 2 processor.

The FineTuner is not required for everyday use of the audio processor. When the OPUS 2 is turned on, it will return to the same program, volume and sensitivity settings that were in use when it was turned off. The FineTuner is configured for its designated OPUS 2 processor, so that only the target OPUS 2 processor can execute a command from the FineTuner. The typical maximum operating distance between the FineTuner and OPUS 2 processor is approximately 80 cm (2.6 ft.). This range could be decreased near electrical equipment.

The slim FineTuner™ is credit-card sized with a thickness of only 6 mm.

How to configure the FineTuner

Once synchronized, the OPUS 2 and Fine Tuner stay in synchronization until one of the two pieces of equipment need to be changed. It should only occasionally be necessary to synchronize the FineTuner and audio processor. Examples include use of a back-up audio processor or second FineTuner.

To configure the FineTuner:

1. Turn off your OPUS 2 processor.

2. Place the coil of the OPUS 2 processor over the MT key on the FineTuner.

3. Turn on the OPUS 2 processor.

4. The audio processor and the FineTuner will be synchronized automatically.

5. Successful synchronization is indicated by a short blinking signal of the two amber indicator lights on the FineTuner.

When to configure the FineTuner

For users with a cochlear implant on each ear (bilaterally implanted), one FineTuner can be used for both ears. However, a FineTuner can only be synchronized with one audio processor for each ear.
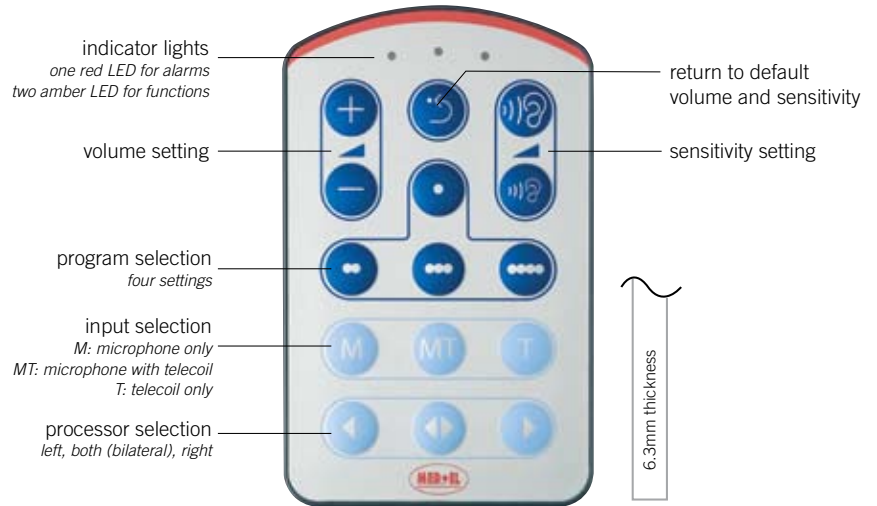
The FineTuner only needs to be configured:

1. At the initial audio processor fitting.

2. When using a different or additional processor (e.g., back-up, loaner or replacement, bilateral).

3. When using a different FineTuner.

Navigating the FineTuner Keyboard

The FineTuner keyboard has 15 keys.

Any of these keys can be deactivated when the audiologist programs the OPUS 2 processor. When a key has been deactivated, the FineTuner will still send the command, but the OPUS 2 processor will ignore the command.

indicator lights
one red LED for alarms
two amber LED for functions

volume setting

return to default
volume and sensitivity

sensitivity setting

program selection
four settings

input selection
M: microphone only
MT: microphone with telecoil
T: telecoil only

processor selection
left, both (bilateral), right

6.3mm thickness

Keys on the FineTuner include:

Volume keys: Two keys to increase or decrease overall loudness.

Sensitivity keys: Two keys to increase or decrease the audio sensitivity.

Default key: This key sets volume and audio sensitivity to predefined values determined by the audiologist.

Program Selection keys: Four keys to access up to four different programs.

Bilateral User Support

The OPUS 2 is the FIRST processor in the industry to offer direct support to **bilateral users.** One FineTuner remote control can make adjustments to two audio processors!

Input keys: Three keys to select the microphone (M), the telecoil (T) or the microphone and telecoil together (MT) as the signal source.

Processor keys (for bilateral users): The Processor Selection keys allow selecting the left, right or both processors. The keys are also used to activate or deactivate the keyboard lock feature.

FineTuner Keyboard Lock feature

The FineTuner keyboard can be locked to avoid accidental operation of a key. If the keyboard lock feature is active, the red LED of the FineTuner will blink once every time a key is pressed. This indicates that the command cannot be sent.

Changes to settings can still be made while the keyboard lock is active. To activate a certain function while the keyboard lock is active, press the desired function key twice. The first click temporarily unlocks the keyboard, and the second click executes the command. After 10 seconds without pressing another key, the keyboard lock is active again.

To disengage the automatic keyboard lock if necessary:

1. Double-click the bilateral key. The first quick click of this key will temporarily unlock the keyboard. The second time you press this button, you should hold it for more than 5 seconds.

2. The red and both amber indicator lights of the FineTuner will both start blinking alternately, indicating that you have successfully entered the FineTuner's program mode.

3. Press the ◀ key to deactivate the keyboard lock feature.

4. The FineTuner will confirm successful deactivation with a short blinking signal of the two amber indicator lights.

FineTuner Indicator Light Signals

The FineTuner has 3 indicator lights that can provide useful information about how the FineTuner is operating. Indicator lights are located above the FineTuner keyboard and include a red LED in the center with amber LEDs to the left and right. These LEDs can provide the following information:

RED (center)

AMBER (left side)   AMBER (right side)

FUNCTION	LIGHT PATTERN	MEANING
Keyboard locked		If you press a key while the keyboard is locked, the red indicator light comes on. In order to conserve power, the red indicator light will go off after 5 seconds even if the key is still pressed.
Transmitting Information	Left or right (or both) lights blink according to the side mode of the FineTuner.	Indicator lights will blink when signals are transmitted (the indicator light blinking corresponds to the processor being modified – either right, left or both sides for bilateral users.) To save energy, the FineTuner stops transmitting (and the indicator light stops blinking) after 3 seconds, even if the key is still pressed.
Switching Sides		To switch from the left to the right side, press the corresponding button and the amber light will illuminate. To switch both sides at once (for bilateral users), press the button in the center. Both amber lights will illuminate.
Programming Mode	(+ 5 seconds)	Press for more than 5 seconds to enter the programming mode. The three indicator lights will start flashing alternately. When the red indicator light is on, the two amber indicator lights are off and vice versa.
Low Battery	(blinks 3 times)	If a low battery status is detected, the red indicator light (center) will blink in a regular pattern – 3 blinks at a time.
Configuration Successful	(illuminates for one second)	If configuration of your FineTuner was successful, or if the automatic keyboard lock feature was successfully activated/deactivated, both amber indicator lights will illuminate for approximately one second.

Changing the FineTuner battery

To conserve power, the FineTuner will only transmit a command for a few seconds. For this reason, you should press the desired key once for every change you wish to make. The FineTuner battery status is checked after each transmission. When the batteries are low, a red indicator light on the FineTuner blinks three times, indicating that the battery should be changed. The FineTuner battery should last for at least several months.

To change the battery:

1. Open the lid on the back of the FineTuner with a small screwdriver.

2. Replace the used button battery (type CR2025) by removing it with the coil magnet or by gently shaking it into your hand. Try not to touch the battery contacts.

3. Insert the new battery with the "+" sign facing up.

4. Close the lid by carefully inserting it on the right side, then sliding it in place and tightening the screw.

Insert the new battery with the "+" sign facing up.