

Genie 2 Fitting Focus Series:

Oticon CROS fittings

Rob Dowling, AuD
Education & Training Specialist
Blue Ridge Region



oticon
The Oticon Group

Learner outcomes

After this course, participants will be able to:

. . . identify the Oticon product families compatible with our CROS transmitters.

. . . list the steps for pairing and programming Oticon CROS transmitters with a receiving hearing instrument.

. . . describe how to adjust the balancing tool in Genie 2 for a BiCROS fitting.

The Oticon CROS family



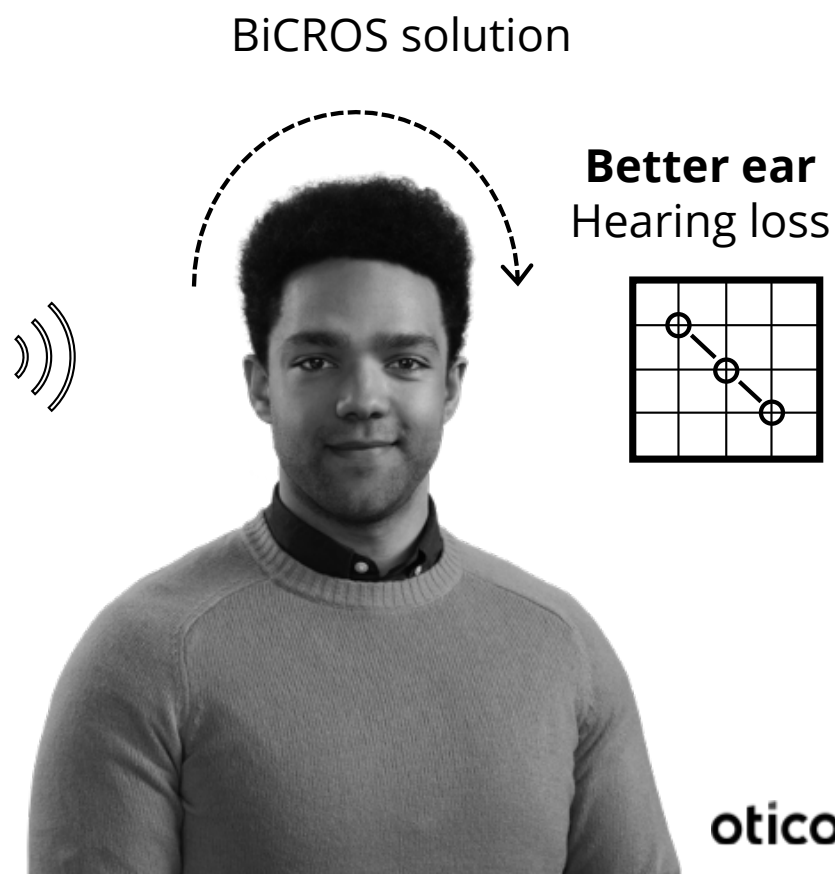
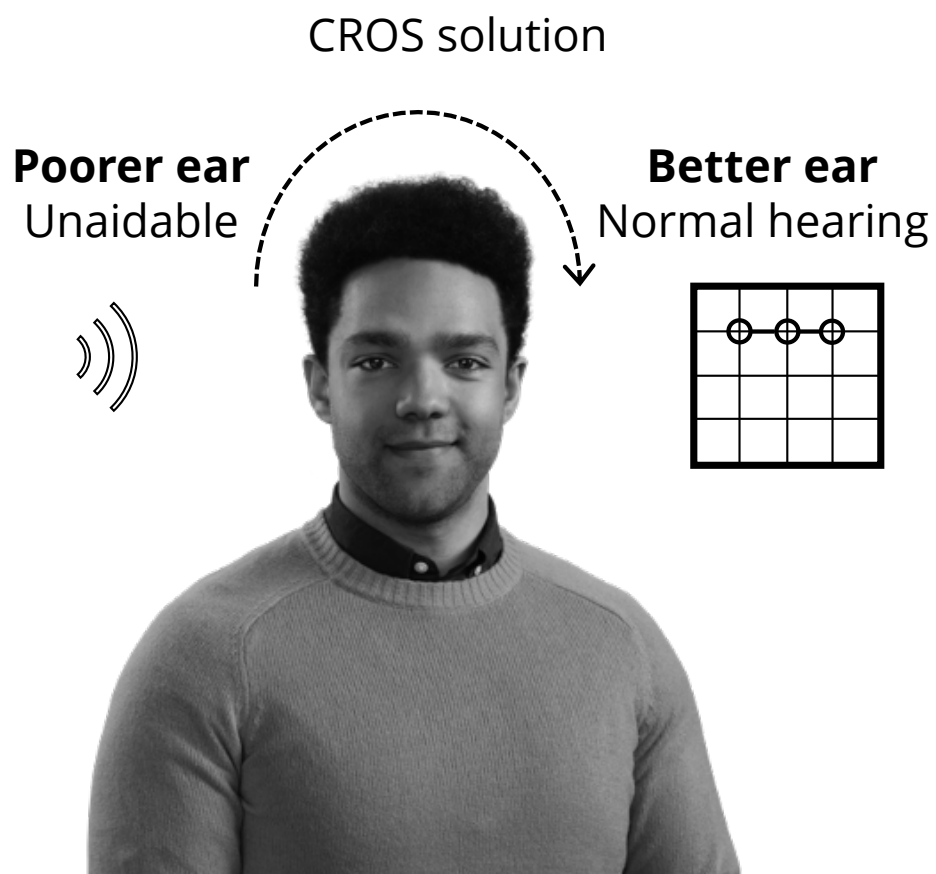
Oticon
CROS PX
miniRITE R



Oticon
CROS
miniRITE T

oticon

Oticon CROS solution





**Oticon
Xceed**



**Oticon
Real™**



**Oticon
Play PX**



**Oticon
Zircon**



***Oticon
CROS PX
CROS**



**Oticon
Xceed Play**

Unparalleled compatibility

**Not compatible with Oticon Opn S 3,
Oticon Opn Play 2 or Oticon Own*

oticon

Children and CROS/BiCROS fittings

Candidacy for children is based on:

- Age
- Ability to monitor & adjust the listening environment

Oticon CROS/CROS PX intended use:

- Not intended for children below 5 years of age
- Caution is advised for children from 5 to 8 years of age



Bagatto et al., 2019

oticon

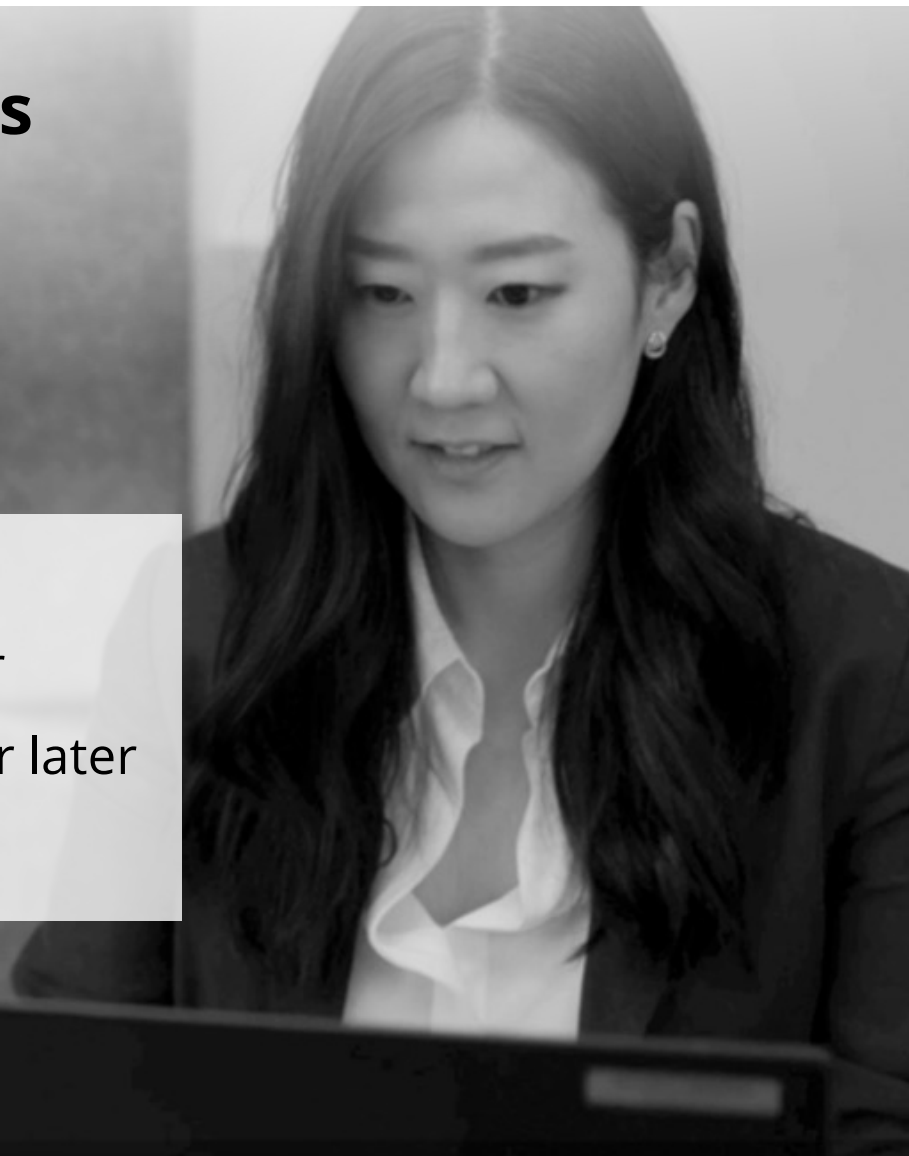
Firmware version requirements

Oticon Real- 1.0 or later

Oticon More, Zircon & Play PX- 1.1 or later

Opn S, Opn Play, Xceed, Xceed Play- 8.0 or later

Ruby- 1.0 or later



Powerful battery life when recharged overnight

Two elegant designs to choose from

Compatible with the
Oticon SmartCharger



SmartCharger



Desk Charger

Quick recharge in
just 30 minutes

Super fast 3-hour charging
for **a full day's power**

oticon

How does the Oticon CROS solution work?

The Oticon CROS solution

Poorer ear
Transmitter

Better ear
Receiver

oticon

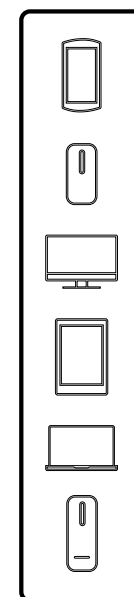
The Oticon CROS solution

Sound transmission

Poorer ear
Transmitter

Better ear
Receiver

Bluetooth®
Low Energy
technology



oticon

Oticon CROS/CROS PX transmitter



Speaker unit has no acoustic purpose (retention only)

Signal is cleaned-up before being sent to the receiver

10 kHz broad bandwidth is transmitted to the receiver

Volume control adjusts the level of the transmission

No **Bluetooth®** Low Energy technology in the transmitter

oticon

Oticon CROS/CROS PX receiver hearing aid

Receiver functions as **a normal** hearing aid

Receives NFMI signal from CROS/CROS PX transmitter

Can be controlled via the **Oticon Companion or ON app, ConnectClip or Remote Control**

Volume Control adjusts the overall volume (combined input)



oticon

Fitting an Oticon CROS/BiCROS solution in Oticon Genie 2

Preparing for the fitting

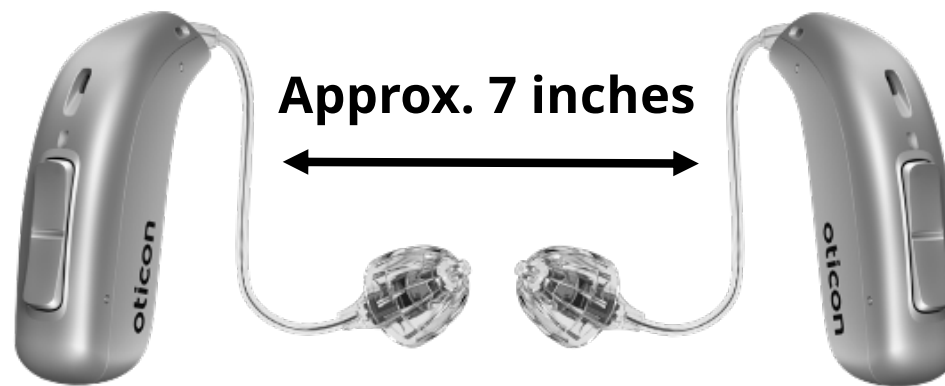
Oticon CROS PX miniRITE R



Ensure the receiver hearing aid and Oticon CROS PX are fully charged

oticon

Pairing transmitter and receiver for the first time



Close proximity pairing

Selection: Select instruments

The screenshot shows the Oticon Genie 2 software interface. The top menu bar includes 'File', 'Genie 2', 'Edit', 'Hearing Instrument', 'Preferences', 'Tools', and 'Help'. The top toolbar has a 'DISCONNECT' button and a 'SAVE AND EXIT' button. The main interface is divided into several sections:

- Left Sidebar:** Contains 'SELECTION' (with 'Select Instruments' highlighted), 'AUDIOMETRIC DATA' (with 'Audiogram' highlighted), 'LINKS', and 'FIRMWARE TOOLS'.
- Top Bar:** Includes the Oticon logo, a 'Real 1 OpenBass dome' indicator, and navigation icons for 'CLIENT', 'WELCOME', 'SELECTION' (active), 'FITTING', and 'END FITTING'.
- Central Display:** Features an audiogram graph showing dB HL (0 to 120) vs. frequency (125 to 8k Hz). It also displays icons for 'Real 1 miniRITE R' and 'CROS transmitter'.
- Bottom Section:** Contains four panels for selecting instrument details:
 - FAMILY:** A list with 'Real 1' selected.
 - STYLE:** A list with 'miniRITE R' selected.
 - FEATURES:** A list of features with checkboxes: 'Fitting level' (60), 'Battery' (312+), 'Volume' (Pushbutton), 'Telecoil' (checked), 'Pushbutton' (checked), 'NFMI' (checked), '2.4 GHz' (checked), and 'Directionality' (checked).
 - STYLE (Right):** A list with 'CROS transmitter' selected.

miniRITE R is displayed

Select CROS transmitter

oticon

Fitting: testing signal

The screenshot displays the Oticon Genie 2 software interface. The top menu bar includes 'File', 'Genie 2', 'Edit', 'Hearing Instrument', 'Preferences', 'Tools', and 'Help'. The main toolbar features a 'DISCONNECT' button and a 'SAVE AND EXIT' button. The 'oticon' logo is visible on the left. The 'FITTING' tab is selected, and the 'CROS / BICROS' option is highlighted. The central area shows a graph titled 'P1: GENERAL, VAC+' with 'Insertion gain Target and simulated' on the y-axis (dB) and frequency on the x-axis (125, 250, 500, 1k, 2k, 4k, 8k Hz). A diagram of a person's head with a hearing aid is shown, indicating that the user can hear transmitted sound. Below the graph, there are sections for 'GAIN CONTROLS', 'SOUND CONTROLS', and 'SUDDEN SOUND STABILIZER'. A table of gain values is displayed at the bottom.

125	250	500	625	750	1k	1.25	1.4	1.5	1.7	2k	3k	4k	5k	6k	8k	All
63	76	84	90	94	97	101	102	103	105	112	114	105	99	94	93	MPO
0	0	0	0	0	2	3	3	4	4	2	0	-1	-2	-1	-1	Loud
0	0	0	0	0	2	3	3	4	5	2	0	-1	-2	-1	-1	Moderate
0	0	0	0	0	2	3	3	4	5	2	0	-1	-2	-1	-1	Soft

User can hear transmitted sound

oticon

Fitting: CROS / BiCROS

The screenshot shows the Oticon Genie 2 software interface. The top menu bar includes File, Genie 2, Edit, Hearing Instrument, Preferences, Tools, and Help. A toolbar with icons for volume, mute, and other functions is visible. The main interface is divided into several sections:

- oticon** logo and a status bar showing "Real 1 OpenBass dome".
- Navigation Bar:** CLIENT, WELCOME, SELECTION, **FITTING** (active), END FITTING.
- Left Sidebar:** P1, FITTING (expanded), Fine-tuning, CROS / BiCROS (highlighted with a red box), Feedback Analyser, REM, REM AutoFit, MoreSound Intelligence, Program Manager, Acoustics, MORE TOOLS.
- Main Display Area:**
 - VC:** Reserve gain slider set to 10 dB.
 - P1: GENERAL, VAC+:** Insertion gain Target and simulated graph. The graph shows frequency from 125 to 8k Hz and gain from 0 to 80 dB. A shaded area represents the target range, and a line represents the simulated gain.
 - Diagram:** A head diagram showing sound entering the ear and being transmitted to the other ear, with a red 'X' indicating a problem or adjustment point.
 - Text:** "CROS should now transmit sound" with an information icon.
- Bottom Section:**
 - CROS Quick Fitting Guide** icon.
 - PROGRAM SETTING:** BICROS, **CROS** (selected), NO CROS / BiCROS.
 - CROS INPUT LEVEL:** A slider ranging from -10 to 10 dB, with labels "Less input from CROS (transmitter)" and "More input from CROS (transmitter)".

Select the mode for each program

oticon

Fitting: CROS / BiCROS

The screenshot displays the Oticon Genie 2 software interface for fitting CROS/BiCROS hearing aids. The interface includes a top menu bar with options like File, Genie 2, Edit, Hearing Instrument, Preferences, Tools, and Help. A toolbar at the top right contains a DISCONNECT button, a bell icon, a document icon, a question mark icon, and a SAVE AND EXIT button. The main workspace is divided into several sections:

- Left Sidebar:** Contains the Oticon logo, a status bar showing "60 Real 1 OpenBass dome", and a list of fitting steps: CLIENT, WELCOME, SELECTION, FITTING (highlighted), and END FITTING. Below this is a list of fitting options: FITTING, Fine-tuning, CROS / BiCROS (highlighted with a red box), Feedback Analyser, REM, REM AutoFit, MoreSound Intelligence, Program Manager, and Acoustics. A MORE TOOLS dropdown is also present.
- Main Display Area:** Shows a graph titled "P1: GENERAL, VAC+" with the subtitle "Insertion gain Target and simulated". The graph plots dB (0 to 80) against frequency (125 to 8k Hz). It includes a "Reserve gain" slider set to 10 dB and a "CROS Quick Fitting Guide" button. A diagram of a person's head with a CROS/BiCROS hearing aid is shown, with a note: "CROS should now transmit sound".
- Bottom Section:** Features a "CROS INPUT LEVEL" slider ranging from -10 to 10 dB, with labels "Less input from CROS (transmitter)" and "More input from CROS (transmitter)".

Access to Quick Fitting Guide

Oticon CROS & Oticon CROS PX Quick Fitting Guide

The CROS transmitter coupled with a compatible Oticon hearing aid, is a solution for people with single-sided deafness (SSD).

A CROS fitting is appropriate when hearing on the better ear is normal, whereas a BiCROS fitting is appropriate when hearing on the better ear is impaired and hearing loss must be compensated for.

In this guide, both fitting scenarios are described in a few simple steps.

Following link will provide an overview of the compatibility of the CROS transmitters: oticon.global/cros-compatibility

1. Place the transmitter and receiving hearing aid within 20-30 cm of each other on a table or on client's ears.

2. Selection step:

Detect the hearing aid on the better ear. If the hearing aid family and/or style supports a CROS fitting, the CROS transmitter will appear for selection in the Style list for the other ear.

The CROS transmitter exists as a miniRITE T and miniRITE R style.

3. Selection step:

Select CROS transmitter for non-hearing aid ear. The CROS transmitter and receiving hearing aid will pair once you proceed with the fitting session.

The CROS transmitter is not detected or connected to the software, but it is actively streaming throughout the fitting. Make sure both devices have fresh batteries (or are fully charged) and are turned on.



4. Fitting step:

The client can now hear streamed sound from the CROS transmitter in the receiving hearing aid.

Check active streaming by running finger along transmitter microphone and listen for the microphone activity in the receiving hearing aid.

5. Fitting step:

Go directly to CROS/BiCROS tab in left taskpane to select mode: BiCROS, CROS, or No CROS/BiCROS.

The selection of mode controls which microphones are in use. It is possible to create several programs in the hearing aid, each with its own mode.



A step-by-step guide for fitting Oticon CROS and BiCROS solutions in Oticon Genie 2

Fitting: CROS / BiCROS – a CROS fitting

The screenshot shows the Oticon Genie 2 software interface for fitting CROS or BiCROS hearing aids. The interface is divided into several sections:

- Top Bar:** Includes a menu (File, Genie 2, Edit, Hearing Instrument, Preferences, Tools, Help), a **DISCONNECT** button, and a **SAVE AND EXIT** button.
- Client Information:** Displays "Real 1" and "OpenBass dome".
- Navigation Tabs:** CLIENT, WELCOME, SELECTION, **FITTING** (active), and END FITTING.
- Left Sidebar:** Contains a "FITTING" section with options: Fine-tuning, **CROS / BiCROS** (highlighted with a red box), Feedback Analyser, REM, REM AutoFit, MoreSound Intelligence, Program Manager, and Acoustics. Below this is a "MORE TOOLS" section.
- Main Display Area:**
 - VC Reserve gain:** A vertical slider set to 10 dB.
 - Graph:** Titled "P1: GENERAL, VAC+", showing "Insertion gain Target and simulated". The y-axis is dB (0 to 80) and the x-axis is frequency (125 to 8k Hz). It includes a "Target 55" and "Simulated 55" line.
 - Diagram:** A head diagram showing sound entering the left ear (marked with an 'X') and being transmitted to the right ear (marked with a double arrow).
 - Text:** "CROS should now transmit sound" with an information icon.
- Bottom Section:**
 - CROS Quick Fitting Guide:** A button to access the guide.
 - PROGRAM SETTING:** Two buttons, **BICROS** and **CROS** (selected).
 - CROS INPUT LEVEL:** A slider ranging from -10 to 10 dB, with labels "Less input from CROS (transmitter)" and "More input from CROS (transmitter)".

Select CROS mode

oticon

Fitting: CROS / BiCROS – a CROS fitting

The screenshot shows the Oticon Genie 2 software interface for CROS/BiCROS fitting. The 'FITTING' tab is active, and 'Fine-tuning' is selected. The main display area shows a graph of 'Insertion gain Target and simulated' for 'P1: GENERAL, VAC+'. The graph plots gain in dB against frequency in Hz (125 to 8k). A target line is shown, and a simulated line is plotted below it. To the right of the graph is a diagram of a person's head with a CROS/BiCROS hearing aid configuration. Below the diagram, it says 'CROS should now transmit sound'. At the bottom, there are three sections: 'GAIN CONTROLS', 'SOUND CONTROLS', and 'SUDDEN SOUND STABILIZER'. The 'GAIN CONTROLS' section shows a table of gain values for different frequencies and conditions.

125	250	500	625	750	1k	1.25	1.4	1.5	1.7	2k	3k	4k	5k	6k	8k	All
63	76	84	90	94	97	101	102	103	105	112	114	105	99	94	93	MPO
0	0	0	0	0	2	3	3	4	4	3	2	1	0	1	1	Loud
0	0	0	0	0	2	3	3	4	5	3	2	1	0	1	1	Moderate
0	0	0	0	0	2	3	3	4	5	3	2	1	0	1	1	Soft

Adjust the adaptation step

Fine-tune the overall gain as needed

Fitting: CROS / BiCROS – a BiCROS fitting

The screenshot displays the Oticon Genie 2 software interface for fitting a CROS / BiCROS hearing aid. The interface includes a menu bar at the top with options like File, Genie 2, Edit, Hearing Instrument, Preferences, Tools, and Help. A toolbar below the menu bar contains icons for various functions, including a 'DISCONNECT' button. The main workspace is divided into several sections:

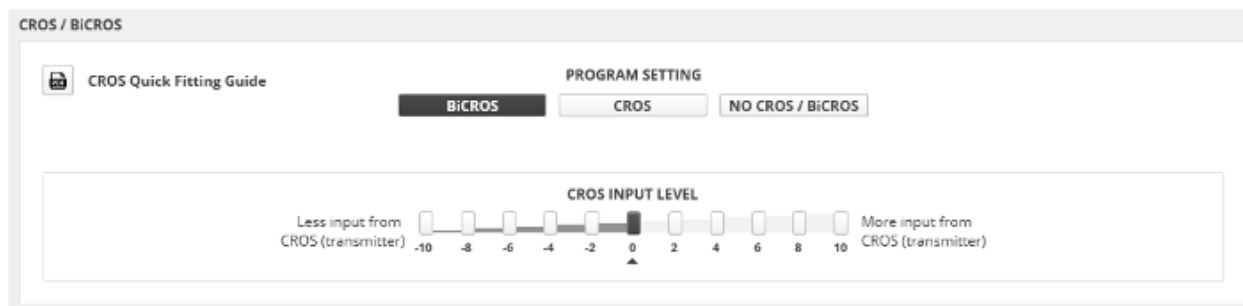
- Left Sidebar:** Contains a 'P1' tab and a 'FITTING' section with options like Fine-tuning, CROS / BiCROS (highlighted with a red box), Feedback Analyser, REM, REM AutoFit, MoreSound Intelligence, Program Manager, and Acoustics. Below this is a 'MORE TOOLS' section.
- Top Bar:** Features the Oticon logo, a 'Real 1' OpenBass dome icon, and navigation buttons for CLIENT, WELCOME, SELECTION, FITTING (active), and END FITTING. A 'SAVE AND EXIT' button is also present.
- Main Display Area:** Shows a graph titled 'P1: GENERAL, VAC+' with 'Insertion gain Target and simulated' on the y-axis (dB) and frequency on the x-axis (125, 250, 500, 1k, 2k, 4k, 8k Hz). The graph displays two curves: a solid line for the target and a dashed line for the simulated gain. To the right of the graph is a diagram of a person's head wearing a hearing aid, with a note stating 'CROS should now transmit sound'. Below the graph, there is a 'CROS / BiCROS' section with a 'CROS Quick Fitting Guide' and a 'PROF' button. At the bottom, a 'CROS INPUT LEVEL' slider is shown, ranging from -10 to 10, with labels for 'Less input from CROS (transmitter)' and 'More input from CROS (transmitter)'.

Select BiCROS mode

oticon

Balancing the transmitter and receiver

The transferred sound should not be louder than the sound naturally entering the better ear



Fitting: CROS / BiCROS – a BiCROS fitting

The screenshot shows the Oticon Genie 2 software interface for fitting a BiCROS hearing aid. The interface includes a menu bar at the top with options like File, Genie 2, Edit, Hearing Instrument, Preferences, Tools, and Help. A 'DISCONNECT' button is visible in the top right. The main area is divided into several sections:

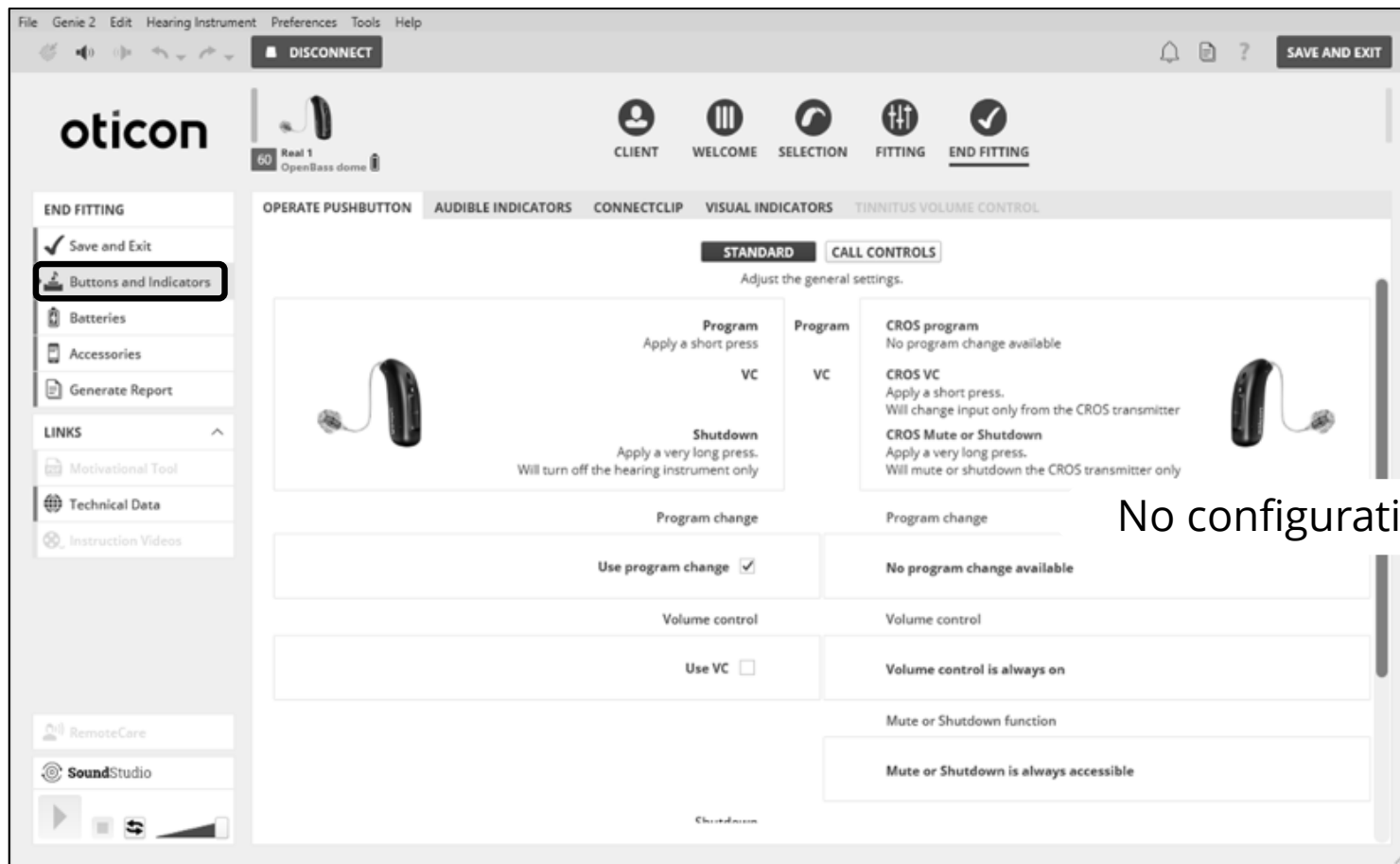
- oticon** logo and a 'Real 1 OpenBass dome' indicator.
- Navigation icons: CLIENT, WELCOME, SELECTION, **FITTING** (active), and END FITTING.
- FITTING** tab with a sub-menu showing 'Fine-tuning' (highlighted), CROS / BiCROS, Feedback Analyser, REM, REM AutoFit, MoreSound Intelligence, Program Manager, and Acoustics.
- A graph titled 'P1: GENERAL, VAC+' showing 'Insertion gain Target and simulated' for 'ANSI S3.5 (ICRA Stationary)'. The graph plots dB (0 to 80) against frequency (125 to 8k Hz). A 'Reserve gain' indicator shows 10 dB.
- A diagram of a person wearing a hearing aid with the text 'CROS should now transmit sound'.
- GAIN CONTROLS** and **SOUND CONTROLS** tabs. The 'GAIN CONTROLS' tab shows a table of gain values for various frequencies and a 'CR' (CROS) button.

125	250	500	625	750	1k	1.25	1.4	1.5	1.7	2k	3k	4k	5k	6k	8k	All	CR
63	76	84	90	94	97	101	102	103	105	112	113	105	99	94	93	MPO	CR
0	0	0	0	0	2	4	5	6	7	8	9	10	10	10	10	Loud	+
0	0	0	0	0	4	7	8	10	12	13	15	16	15	16	16	Moderate	-
0	0	0	0	0	7	12	12	14	15	17	18	18	18	18	18	Soft	

Fine-tune the overall gain as needed

oticon

End Fitting: buttons and indicators



No configuration for CROS buttons

End Fitting: buttons and indicators

The screenshot shows the Oticon Genie 2 software interface. The top menu bar includes 'File', 'Genie 2', 'Edit', 'Hearing Instrument', 'Preferences', 'Tools', and 'Help'. A 'DISCONNECT' button is visible in the top right. The main header features the Oticon logo and a navigation bar with icons for 'CLIENT', 'WELCOME', 'SELECTION', 'FITTING', and 'END FITTING'. The 'END FITTING' section is active, and the 'Buttons and Indicators' option is highlighted in the left sidebar. The main content area is titled 'OPERATE PUSHBUTTON' and 'AUDIBLE INDICATORS'. It contains several settings panels: 'Voice notification' (Language: English (US), Level: Normal), 'Tonal signal' (Frequency: Medium, Level: K), 'Start-up' (Jingle: checked), 'Shutdown' (Shutdown beep: checked), 'Volume control indicators' (Start-up volume (beep): checked), 'CROS beep signal' (Frequency: High), and 'CROS volume control indicators' (Volume change (click) is always on, CROS battery low indicator, Pre-warning is always on, Out of battery is always on, CROS other indicators, Service repair mode is always on). A 'SAVE AND EXIT' button is located in the top right corner.

High frequency for CROS

Medium frequency for receiver

Fitting tips....

Wireless fitting is recommended

CROS transmitter is not visible in Oticon Genie 2

Transmitter is active during fitting

No firmware updates for CROS transmitter





Oticon CROS family benefits

**Exceptional sound
quality your patients
can count on**

**More choice, more
compatibility**

**Access to speech
while streaming with
TwinLink**

oticon

Genie 2 Fitting Focus Series:

Oticon CROS fittings

Rob Dowling, AuD
Education & Training Specialist
Blue Ridge Region



oticon
The Oticon Group