

CROS / BiCROS handling and troubleshooting



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Difference between CROS and BiCROS fitting

Contralateral Routing of Signal (CROS) transmitters are a common solution for some difficult to fit hearing losses. The CROS unit sits on the poorer ear and sends a signal to a hearing aid worn on the better ear. As this is a transmitter rather than a traditional hearing aid, the CROS transmitter does not emit an audible signal.

CROS solution

Used for clients who present with normal hearing in one ear and an unaidable loss in the other. Sounds from the side with hearing loss are captured and transmitted wirelessly to the ear with normal hearing. The hearing aid processes the sounds from both sides.

BiCROS solution

Used for clients with an aidable hearing loss in one ear and an unaidable loss in the other. Sounds from the unaidable side are captured and transmitted wirelessly to the aidable side. The hearing aid processes and amplifies the sounds from both sides.

Note: The selection for CROS or BiCROS in the fitting software can be found in the First Fit tab under Acoustical Parameters.

For Bluetooth devices (using Noahlink Wireless programmer), the CROS mic is active during programming. For non-Bluetooth devices (using ConnexxAir programmer), the CROS mic is not active until the programmer is turned off or replaced in its charging cradle.

Skewed Directionality

Our unique CROS and BiCROS Skewed Directionality provides improved speech understanding in noise by orienting the directional pattern toward the unaidable ear. This improves a client's ability to hear and understand in challenging listening situations.

Orientation and listening check

Please note that some CROS devices have a built-in start up delay of up to 18 seconds.

When confirming CROS/BiCROS transmission, it is important to place the aid and CROS devices in wearing position. We can achieve this by placing the devices on the client's ears, or by simulating this position (hold the aid and CROS ear-distance apart, facing each other as though they are on a set of ears) while performing a listening check. If one device is turned away from the other, or if they are too close or far apart from each other, the sound will not transmit. The maximum distance allowed between the hearing aid and CROS for transmission is approximately 20 cm, or 8 inches.

Requirements for proper NFMI function:

- ✓ Hearing aid + CROS/BiCROS device worn at the same level/alignment
- ✓ Hearing aid + CROS/BiCROS device are not tilted to the left or right
- ✓ Hearing aid + CROS/BiCROS device are close in proximity (ear-to-ear distance)
- ✓ Binaural features work as expected including Bluetooth Classic streaming and CROS function



Incorrect NFMI positions:

- ✗ Hearing aid + CROS/BiCROS device not worn at same level – one higher/lower
- ✗ Hearing aid + CROS/BiCROS device is tilted (one or both)
- ✗ Hearing aid + CROS/BiCROS device are far apart (greater than head distance)
- ✗ Binaural features do not work as expected (E.g. Bluetooth Classic streaming to one ear only or CROS transmitter not working)





The communication between the hearing aid and CROS unit uses NFMI (Near-Field Magnetic Induction). When checking CROS transmission on devices that utilize the ConnexxAir programmer, it is necessary to turn off the programmer, as it uses NFMI as well. This signal can disrupt the CROS-to-aid transmission.

Reprogramming after repair

There are two strategies for restoring user settings after a repair that involves a CROS/BiCROS set up.

Use Service menu to restore user settings

If CROS has been repaired or replaced

1. Open the most recent fitting session that has both the aid and the CROS
2. Restart the CROS (wait for the 18 second power on delay)
3. From the top menu bar, select Service
4. Select Program Right Hearing Aid or Program Left Hearing Aid (whichever side is the CROS)
5. Check the box next to the CROS to select
6. Click on OK to proceed
7. A message indicating success will populate once programming is complete

If CROS and Hearing Aid have both been repaired or replaced

Follow steps 1-7 for the CROS and again for the Hearing Aid

Use session data to restore user settings

This method can only be used to restore user settings when both the CROS and the Hearing Aid are available for programming. The hearing aid and the CROS must be identical to what is in the session (i.e., model, build, receiver strength, etc.) except for the serial number.

1. Open the most recent fitting session containing both the CROS and Hearing Aid
2. Restart the Hearing Aid and CROS (wait for the 18 second power on delay)
3. Select Connect in the lower left corner
4. Assign the CROS and the Hearing Aid as Left or Right
5. Select Use Session Data followed by OK
6. The settings are now saved in both devices

If there is no sound signal transmission from the CROS device after performing the above programming scenarios, proceed with the following steps:

1. Detect both the CROS and the Hearing Aid
2. Select New Fitting, then perform a First Fit
3. Disconnect from the fitting software
4. Restart the CROS and Hearing Aid (wait for the 18 second power on delay)
5. Have the client wear the devices or perform a listening check (see Orientation and Listening Check above) to confirm CROS transmission
6. If the transmission is successful, follow the instructions for Scenario #2 to reload the user settings

Other tips

Connection to fitting software

Some CROS devices have a built-in start up delay of up to 18 seconds

Intermittency / no CROS transmission

- Verify there is a check mark next to First Fit on left side column
- Look for the CROS/BiCROS selection buttons in the “Acoustical Parameters” section of the First Fit tab. Above the buttons there is an image of a client wearing the CROS/BiCROS devices and it will say if the CROS microphone is active
- Redetect then perform a New Fitting > First Fit

There are specific circumstances in which the CROS will not transmit sound to the hearing aid:

- When streaming
- TV Program
- Any Phone Program
- Tinnitus Program with no active microphones (when the “mix with microphone” option is unchecked)
- Using Directional Hearing Modes in the app



App Connection

There will be one volume slider in the app, labeled as “CROS” with the following criteria:

- The Hearing Aid and CROS have been programmed as CROS or BiCROS, but the current connection to the app is via the manual acoustic signal (not a Bluetooth signal)

There will be two volume sliders in the app, labeled as “CROS” with the following criteria:

- The Hearing Aid and CROS have been programmed as BiCROS with a Bluetooth connection to the app

TeleCare

CROS/BiCROS fittings are not supported for Telecare Live Remote Tuning sessions. The TeleCare Portal is available for basic adjustments only.

General note about possible need for repair

If the solution can be determined as a hearing aid or a CROS transmitter/charger please only return the impacted device/s for repair.

If the solution is unclear, please include the hearing aid, CROS transmitter and charger together to allow testing and remediation of the concern.