

ReSound Multi Mic

Technology Tip

More ways to more words

Children with hearing loss require clear speech at good signal-to-noise ratios (SNR) for optimum listening and learning. The use of remote microphone technology has shown proven benefits to overcome common obstacles to speech audibility and intelligibility in the classroom, including background noise, speech at a distance and reverberation.

The wireless ReSound Multi Mic offers multiple microphone settings to utilize in different environments: 1) when worn vertically, the microphone focuses on the single speaker and 2) when placed horizontally on a table the microphone changes to an omnidirectional mode to pick up multiple speakers.

The ReSound Multi Mic can be used in any situation where a SNR improvement is desired, and provides over 80 feet of wireless connection in clear line of sight between the speaker and the hearing instrument user.

The ReSound Multi Mic also offers extended audio source connectivity options through teleloop connection via the built-in telecoil, FM signals (optional FM receiver needed) and connecting to auxiliary audio sources through the built-in mini-jack line input and transmitting the sound from received sound directly to the hearing aids.

Transparency measurement

To ensure proper functional status of this assistive technology, verification guidelines have been published (American Speech-Language and Hearing Association (ASHA), 2002; AAA, 2011).

The verification process is especially important when fitting hearing assistive technology for pediatric patients, as children may not be able to give any subjective feedback regarding the performance and SNR benefits provided by the wireless system.

The transparency measurement evaluates if the hearing instrument and wireless (remote) microphone or hearing instrument connected to FM provide equal outputs when presented with the same 65 dB SPL input stimulus.

AAA recommends to reprogram the FM or remote microphone program for non-transparency when remote mic or FM offset is >2 dB or > -2 dB averaged across 750, 1000, and 2000 Hz.

For more information and in-depth protocol for measuring transparency, see Haastrup A. & Dworsack-Dodge M. (2016).



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Transparency measurement

Did you know? Transparency can be measured in Mic mode and in FM mode separately, and the Volume Control can be locked at different volume levels in each mode.

To perform transparency measurement for both Multi Mic and FM, do the following:

Transparency measurement - FM mode/Mic mode

1. Go to FM mode and measure.
2. Adjust the VC to the desired volume.
3. Turn off the Multi Mic.
4. For transparency measure of Mic mode - enter test mode.
5. Adjust to the desired volume for Mic mode.
6. Turn off the Multi mic.
7. Lock the volume control.

Transparency measurement Mic mode/FM mode

1. Enter test mode and measure transparency.
2. Adjust to the desired volume for Mic mode.
3. Turn off the device to exit test mode.
4. Turn on the device. - Do not change the volume in Mic mode – this spoils the adjustment made in step 2!
5. Go to FM mode and adjust to the desired volume.
6. Turn off the device.
7. Lock the volume control.

Did you know? When performing transparency measurement in Mic mode, the Multi Mic has to be set in Test mode.

How to enter Test mode:

1. Make sure the Multi Mic is turned OFF.
2. Press and hold the Mute button and the Power button for 1.5 seconds until the status LED turns green. Then release the Power button.
3. Keep pressing the Mute button until the green-orange-red sequence is shown on status LED after 10 seconds.
4. When in Test mode the Status LED will be solid orange.
5. When in Test mode the microphone is set to omnidirectional mode with 0 dB gain when placed horizontally in the test chamber.
6. When entering Test mode the default volume is applied. If needed, volume can be adjusted on the Multi Mic until transparency has been verified.
7. To exit Test mode and save settings, turn off the Multi Mic and lock the volume control.

Did you know? When the volume control is locked, it will be fixed to the level it had when the Multi Mic was powered OFF.

How to lock the volume control:

1. Make sure the Multi Mic is turned OFF.
2. Press and hold the volume '-' and the Power ON button for 1.5 seconds until the status LED turns green (Multi Mic powering up) and release the Power button.
3. Keep pressing the volume '-' button until a green-orange-red LED sequence is shown on the status LED after 10 seconds. The status LED will now blink twice every 2 seconds to indicate the volume control is locked.

References

1. American Academy of Audiology. (2011). AAA Clinical Practice Guidelines: Remote Microphone Hearing Assistance Technologies for Children and Youth Birth-21 Years. Retrieved September 26, 2012, from http://www.audiology.org/resources/documentlibrary/Documents/HAT_Guideline.pdf.
2. American Speech-Language-Hearing Association. (2002). Guidelines for fitting and monitoring FM systems. ASHA Desk Reference, 2, 151–171.
3. Hastrup A. & Dworsack-Dodge M. (2016) Electronic Evaluation of the ReSound Multi Mic with Otometrics Aurical HIT. ReSound white paper

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