

Lexis Fitting Reference Guide

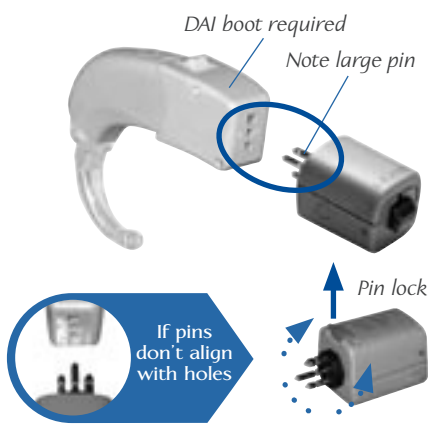
Lexis FM Wireless Communication System

Initial Fitting Procedures:

Program the hearing aid response as appropriate for the user.

Fitting Set-up Procedures:

Attach the receiver to the BTE hearing aid via the DAI boot. **Important:** The Lexis logo on the receiver should face the spine of the BTE hearing aid toward the user controls.



If the Europins do not align with the DAI boot holes, pull up slightly on the pin lock and rotate the pins to align with the audio boot holes. Ensure the appropriate orientation of the receiver to the hearing aid is maintained. Then, push the pin lock back in.

Note: You can rotate the pins 270° in 90° increments and select from a neutral, red or blue pin lock.

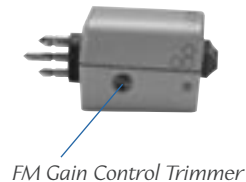
Ensure that the transmitter/microphone is operating on the same channel as the receiver. The channel is indicated on the LCD of the transmitter/microphone and on the front of the receiver, next to the serial number.

Fine Tuning:

The goal of an amplification system that incorporates an FM component is to ensure that the speaker's voice has a good signal-to-noise ratio (SNR) while also making the voices of people around the listener, as well as the listener's own voice, audible. Achieving this goal is optimized only through the availability of a variable FM gain control.

The FM gain control allows the hearing care professional to alter the level of the signal from the

transmitter/microphone above the response of the hearing aid, creating a better SNR.



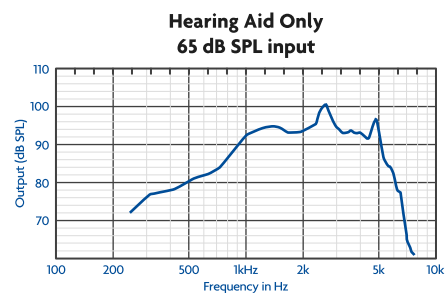
The FM Advantage fitting protocol (ASHA Ad Hoc Committee on FM Systems, 2000) is recommended in order to maximize audibility of the primary speaker's voice while maintaining audibility for other sounds in the listener's environment. The goal of the FM Advantage approach is to increase the level of speech via the FM system by 5 - 10 dB above the level of speech from the hearing aid. The ASHA Ad Hoc Committee on FM Systems recommends a 10 dB FM Advantage. However, this may not be possible with some compression hearing aids or desirable for some patients.

In order to verify the FM fitting, the hearing instrument is first tested with a 65 dB SPL input signal, as this signal level typifies speech inputs to the hearing aid microphone. Then, the FM system is tested with an 80 dB SPL input signal, as this typifies the level of speech to a lavalier-worn FM transmitter/microphone. FM fittings can be verified either using a Hearing Aid Test Box or a Real Ear System.

Hearing Aid Test Box

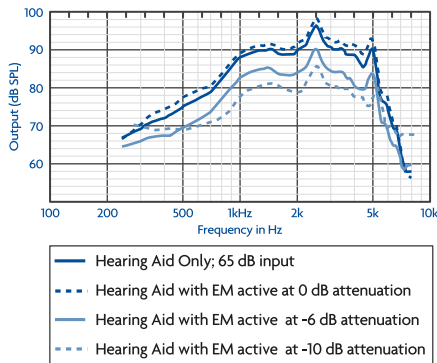
FM Advantage Protocol

1. Couple the hearing aid, with the volume control set to user setting, to the 2 cc coupler and place in the test box.
2. Measure the output for a 65 dB SPL swept tone or speech-weighted noise input signal and record the output.



3. Attach the FM receiver to the hearing aid via the DAI boot while maintaining the hearing aid connection to the 2 cc coupler and reference microphone. Turn the FM receiver on to FM only or FM/HA (depending on user settings).
4. For Axent II, Axent and Arista, begin with Step A, then proceed to Step B. For all other hearing aids, begin with Step B.
 - A. Axent II, Axent and Arista hearing instruments offer an option to have the environmental microphone (EM) of the hearing aid active with DAI. To verify the optional EM attenuation level programmed into each memory (via the Direct Audio Input sub-tab of the Features tab of PFS), place the hearing aid, with the receiver, 2 cc coupler and reference microphone still attached, inside the test box. Measure the output for a 65 dB SPL input signal to record the programmed level of EM attenuation (0, -6 or -10 dB).

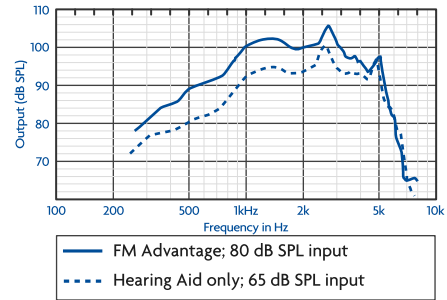
**DAI Mode Environmental Mic Attenuation
65 dB SPL Input**



5. Measure the output for an 80 dB SPL input signal (same signal type as used in Step 2) and adjust the FM gain control trimmer so that the FM output is 5 – 10 dB greater than the hearing aid only condition. If this is not possible, adjust the FM gain to increase the SNR by as much as possible.



**FM Advantage
Hearing Aid & FM (FM + HA Mode)
80 dB SPL Input**



Real Ear Measurements

The goal of Real Ear Measurements is to verify the output of the hearing aid, including the Lexis FM, while in the ear. Real Ear Measurement is the only way to account for differences in ear canal volume on the output of the amplification system. The goal is to obtain a 5 – 10 dB FM Advantage with an 80 dB SPL input as compared to the REAR of the hearing aid only with a 65 dB SPL input.

1. Insert the real ear probe microphone in the ear.
2. Obtain a Real Ear Unaided Response (REUR).
3. Insert the hearing aid in the ear, ensuring you do not move the reference microphone.
4. Obtain a Real Ear Aided Response (REAR) using a 65 dB SPL input signal.
5. Attach the FM receiver to the hearing aid and turn the receiver on to either FM only or FM+HA (depending on user settings).
6. Turn the FM transmitter/microphone on, then substitute the FM transmitter/microphone at the location of the real ear reference microphone so that a known signal level is being transmitted.
7. Deactivate the real ear reference microphone.
8. Move the listener as far from the loudspeaker as possible.
9. Obtain a Real Ear Aided Response (REAR) using an 80 dB SPL input signal. Adjust the FM gain control trimmer as necessary in order to achieve an FM advantage.



Lexis conforms to the guidelines of the Mosaic standard. Mosaic helps ensure the interoperability of new wireless systems for hearing healthcare. Learn more at www.mosaic-consortium.org