

Cierra Fitting Reference Guide

Cierra Digital Signal Processor

1. Initial Fitting Procedures:

Enter patient information into the Standalone PFS (Standard ProHear) or NOAH database. Enter audiometric thresholds minimally at 500, 1000, 2000, and 4000 Hz.

2. Launch Hearing Aid Fitting Module and Read:

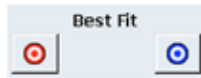
From the PFS Module Launchpad, click the Hearing Aid Fitting button to launch the Hearing Aid Fitting Module.



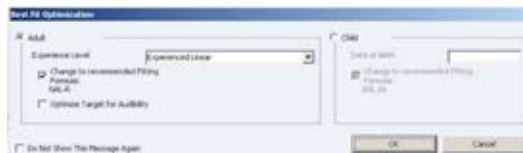
Select Binaural, Left Ear, or Right Ear. Click **Read** to establish communication with the hearing aid(s).



Click **Best Fit** to optimally adjust the programmable parameters to approximate the targets for the selected Fitting Formula. Best Fit buttons can be found in the button panel in the center of the screen, or in the toolbar.



When communication is established, the Best Fit Optimization dialog box will appear. Select Adult or Child. If Adult is selected, choose the most appropriate Experience Level. The recommended Fitting Formula for each Experience Level will be selected. To continue with the current Fitting Formula, uncheck the change to recommended Fitting Formula checkbox.



Note: Once the hearing aid is read, the external volume control will be disabled until the device is disconnected from the programming cable and reset.

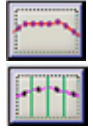
3. Fine Tuning:

From the Adjust tab, access Frequency Shaping, Volume Control, and TK/CR by clicking the appropriate subtab. Within each of these adjustment modes there are three main ways to fine-tune Cierra:

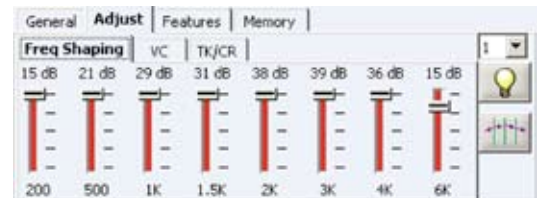
- 1) Drag and drop the curves on the fitting graph.
- 2) Adjust the sliders on the control panel, or
- 3) Use the Expert Assistant fitting tool.

Drag and drop the curves of the fitting graph from either the General or Adjust tabs. Adjustments may be made by clicking and dragging a point within a channel or by dragging the crossover frequency line. Using the drag and drop function may ultimately adjust the gain, output, and compression characteristics.

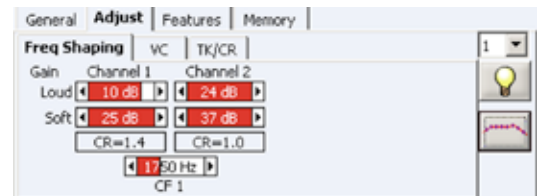
Cierra Frequency Shaping adjustments can be made by using one of two adjustment modes: Band or Channel. These two adjustment options are accessible via the band/channel toggle button, located on the Adjust tab of the control panel. Toggling between these two adjustment modes will change the graphical display as well as the Frequency Shaping subtab of the Adjust tab.



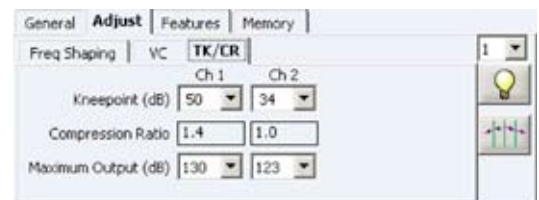
Band adjustment is the default adjustment mode. There are eight individual frequency points to adjust the frequency response shape. In this mode, the frequency points are on the mid-level curve (i.e. 70 dB) and the selected band for all three input levels (soft, moderate, and loud) moves simultaneously. An adjustment affects the gain equally for all inputs and has no effect on the kneepoint or compression ratio.



The **channel mode** accesses the two compression channels and the crossover frequency. Channel adjustments are made to the soft and/or loud curves (i.e. 50 and 90 dB) and move only the selected curve, thus changing the compression ratio. As the soft and loud responses are brought closer together, the compression ratio increases up to 3.3:1; separating the soft and loud responses decreases the compression ratio to 1.0:1 or linear.



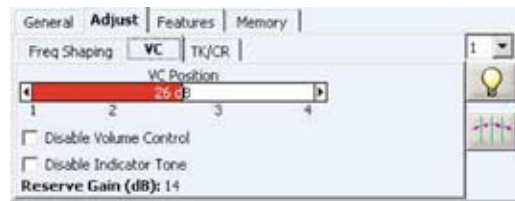
Select the TK/CR subtab for direct access to the Channel Kneepoints and Maximum Output controls. The Compression Ratios are also displayed on this panel.



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Click the VC subtab to make adjustments to the VC Position slider. These adjustments will be audible to the patient during programming.



To Optimize Target for Audibility, click on the Best Fit Optimization icon. The Best Fit Optimization dialog box will appear. Check the Optimize Target for Audibility checkbox. Optimized targets will be indicated by diamonds.



Click on the Expert Assistant button, available on the Adjust tab. From the Expert Assistant window, select the patient's complaint (e.g., Tinny), choose Right, Left, or Both Ears, and then click Begin.



Follow the prompts within the window to complete the adjustment for the complaint. Audio files are available within Expert Assistant to help determine the appropriate adjustments. Click the Audio File Player button on the Expert Assistant pop-up screen.



4. Cierra Special Feature Adjustments:

From the Features tab, the following parameters are available:

Expansion: To adjust the amount of gain for very soft inputs (below the expansion/compression kneepoint), such as a refrigerator running or computer fan. Expansion may be turned On or Off by using the Expansion checkbox located on the Expansion tab within Features. Expansion will be On when checked and Off when unchecked. The default settings are On when any threshold is better than 40 dB HL and Off when all thresholds are poorer than 40 dB HL. This feature is adjustable per memory. Audio files are available to help determine the appropriate Expansion setting. Click the Audio File Player button on the toolbar or select it from the Activity menu to use this fitting tool.

Dynamic Precision Directional Imaging (PDI): If fitting Cierra PDI MultiMemory, the Directional subtab will be available. The Directional checkbox on the Directional subtab will set the device to Dynamic which will automatically change from the omnidirectional mode to the diffuse directional pattern for the active memory when appropriate. For MultiMemory devices, the Dynamic feature will default On for Memory 1 and Off for Memory 2 and Memory 3. The Dynamic feature may be turned On or Off in any memory. If the Dynamic checkbox is unchecked, the device will activate a directional response whenever a memory with directionality is selected. Additional frequency response adjustments are available with the Low Frequency Roll Off checkbox. For thresholds at 500 Hz better than 40 dB HL, the default setting is Full Low Frequency Roll Off. For thresholds at 500 Hz between 40 and 70 dB HL, the default setting is Partial Low Frequency Roll Off. For thresholds at 500 Hz poorer than 70 dB HL, the default setting is Off or unchecked. The Full Roll Off option provides maximum reduction

of the low frequencies while the Partial Roll Off option offers increased gain to provide audibility for the low frequencies while in the directional mode. Unchecking the low frequency checkbox will match the gain and frequency response of the directional and omnidirectional modes.



Direct Audio Input (DAI): If fitting a Cierra BTE, the DAI subtab will be available. To adjust the DAI response for the selected memory, go to the Direct Audio Input subtab of the Features tab. The default setting is 0 dB, which matches the output from the DAI source with the output from the hearing aid's microphone. To attenuate the level of the environmental microphone select either -6 dB or -10 dB. Unchecking the Environmental Mic Active with DAI checkbox turns off the environmental microphone for that memory whenever the DAI boot is attached. This feature is adjustable per memory.



If using the DAI feature, connect the DAI boot to your BTE. The instrument must be set to the "M" switch position to use the DAI. The programmed memories will still be available at the programmed attenuation level via the hearing aid's multimemory push button. For Cierra, the DAI must be removed to access the telecoil memory.

Automatic Telephone Response (ATR): If fitting Cierra CIC, Secret Ear, or Canal with the ATR option, the device uses the magnetic leakage from the telephone to automatically switch the hearing aid from the normal memory to the telephone acoustic environment. The telephone environment provides increased low- to mid-frequency emphasis while reducing the high frequencies. Performance is optimized on the telephone to improve sound quality and reduce feedback. When the telephone is placed in close proximity to the hearing aid, the ATR environment will be activated. The ATR parameters are accessed within Memory 2 via PFS software.

5. Indicator Tones:

The low battery, volume control and multimemory indicator tones are adjustable by selecting **Indicator Tones** from the Activity menu. Different frequencies and intensities are selectable for each tone. A tone can be disabled or a test tone can be presented through the hearing aid to verify audibility.

6. Program:

Click **Program**, either from the button panel in the center of the screen or from the toolbar, to store programming information into the hearing aid. After programming the device, set the user volume control to the position indicated on the VC subtab of the Adjust tab in order for programmed gain to be achieved.

