

# Aspect Xtra Fitting Reference Guide

## Aspect Xtra Digital Signal Processor

### 1. Fitting the OTE with the Earbud:

Step 1. Use the Measurement Tool to select the most appropriate tubing length:

- Firmly place the tool horizontally over the ear with the short edge of the earhook facing toward the back of the head. (Fig. 1)
- Choose the tubing length that is closest to the mark at the top of the aperture of the canal. If placement falls between the lines, select the shorter tubing length.
- Select right or left tubing as indicated by the red or blue nose cone.



Fig. 1

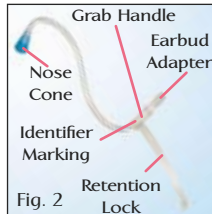
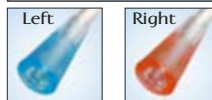


Fig. 2



Step 2. Determine the most appropriate earbud size via visual inspection of the ear canal. If the canal is between sizes, use the smaller earbud.

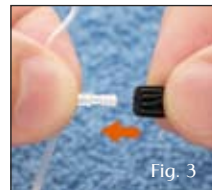


Fig. 3

Step 3. Slide the earbud onto the adapter at the end of the tubing. Use the grab handle to ensure that the tubing is not damaged during the process. (Fig. 3)

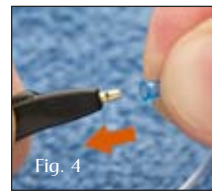


Fig. 4

Step 4. Snap the nose cone of the tubing assembly onto the OTE. (Fig. 4)

Step 5. Shape the retention lock into position by curling the lock toward the back of the concha bowl with the index finger. (Figs. 5 and 6)

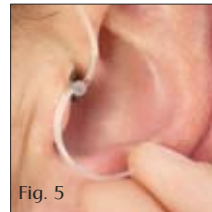


Fig. 5

Step 6. Determine the tubing depth via visual inspection of the ear. If the earbud sits in the canal opening, select the deep length.

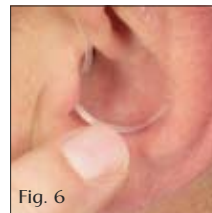


Fig. 6

### 2. Fitting the OTE with the Exact Fit Earmold:

Step 1. Obtain a custom earmold impression ensuring the impression extends beyond the second bend as if taken for a CIC.

Step 2. Determine the correct tubing length by following Step 1, a-c in the Fitting the OTE with the Earbud section.

Step 3. Slide the Exact Fit Earmold onto the adaptor at the end of the tubing. Use the grab handle to ensure that the tubing is not damaged during the process.

Step 4. Connect the tubing and Exact Fit Earmold onto the OTE case following Steps 4-6 in the Fitting the OTE with the Earbud section.

### 3. 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.

### 4. Launch Hearing Aid Fitting Module & Read:

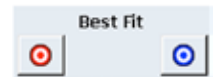
From the PFS Module Launchpad, click the Hearing Aid Fitting button to launch the Hearing Aid Fitting module.



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 either 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 volume control is disabled until the device is disconnected from the programming cable. Volume adjustments may be made within the software during programming.

### 5. Fine Tuning:

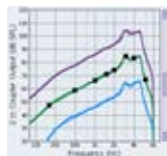
From the Adjust tab, access Frequency Shaping, Volume Control, and TK/CR by clicking the appropriate sub-tab. Within each of these adjustment modes there are three main ways to fine tune Aspect Xtra:

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

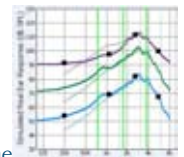
Aspect Xtra **Frequency Shaping** adjustments are made by using Band or Channel adjustments. These two options are accessible via the band/channel toggle button, located on the Adjust tab of the control panel. Toggling between these two modes changes the graphical display as well as the slider control panels.



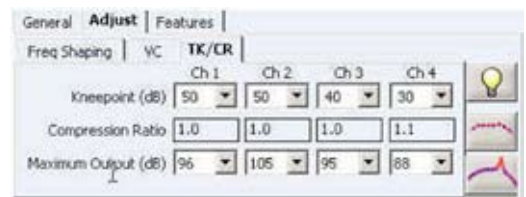
Band adjustment is the default adjustment mode. There are eight individual frequency points to adjust the frequency response shape. In this mode, the frequency points are on the mid-level curve (i.e. 70 dB) and the selected band for all three input levels (soft, moderate, and loud) moves simultaneously.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



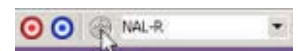
The Channel mode accesses the four compression channels and the three crossover frequencies. Channel adjustments are made to the soft and/or loud curves (i.e. 50 and 90 dB) and move only the selected curve, thus, changing the compression ratio. As the soft and loud responses are brought closer together, 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 sub-tab for direct access to the Channel Kneepoints and Maximum Output controls. The Compression Ratio is also displayed on this panel.



To Optimize Target for Audibility, click the **Best Fit Optimization** icon.



The Best Fit Optimization dialog box will appear. Select the Optimize Target for Audibility checkbox. Optimized targets will be indicated by diamonds.

Click 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.

### 6. Aspect Xtra Special Feature Adjustments:

From the Features tab, the following parameters are available: Expansion, Noise Management and Feedback Cancellation. In addition to these adjustments, Aspect Xtra incorporates programmable Indicator Tones for Low Battery. Each parameter is described in the following sections:

**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 set to Off, Low, or High. The default settings are Low when any threshold is better than 40 dB HL and Off when all thresholds are poorer than 40 dB HL. Choosing the Off setting will result in no reduction in gain below the expansion/compression kneepoint. The High Expansion setting will result in

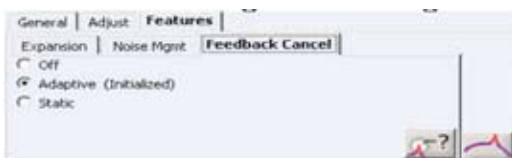
maximum reduction in gain below the expansion/compression kneepoint in each channel, with less gain reduction occurring with the Low setting. Audio files are available to help determine the appropriate Expansion setting. Click the Audio File Player button in the toolbar or select it from the Activity menu to use this fitting tool.



**Noise Management:** To improve listening comfort in noisy environments, Noise Management may be activated. When Noise Management is activated, gain in the channel is automatically reduced when the speech/noise ratio (SNR) within the channel is poor (noise dominates as input to the channel). The default Noise Management setting is Min. The Min setting provides up to a 10 dB reduction in channel gain. The Max setting provides up to a 20 dB reduction in channel gain. The amount of channel gain reduction occurring at a given time will vary depending upon the channel SNR calculation. When the optional Noise Management feature is set to Off, no automatic gain reduction will occur in the presence of noise. Audio files are available to help determine the appropriate Noise Management setting. Click the Audio File Player button in the toolbar or select it from the Activity menu to use this fitting tool.



**Feedback Cancellation:** The Feedback Canceller is set to Adaptive by default. In the **Adaptive** mode, the feedback path is continuously monitored as the device is worn. Updates to the Feedback Cancellation filter are automatically made, as necessary, to provide the most effective feedback cancellation during use. In order to use the Static setting, the Feedback Canceller must be initialized while in the patient's ear. Prior to running the algorithm, ensure that the room is quiet and that the hearing aids are fully inserted in the ears. Instruct the patient to remain quiet and still for the entire sequence. A static noise for calibration will be presented through the hearing aid. Click the Feedback Cancellation button within the Adjust tab (or the Feedback Cancel subtab from features) to start the algorithm. When the initialization is complete, Initialized will appear next to Adaptive.



The Feedback Canceller can be turned Off for no active feedback cancellation or to Static. If the Static mode is selected, the feedback path measured at the time of the fitting is used to determine the filter settings and this filter is not updated during use. The Static mode is only recommended in cases where the patient complains of artifacts with tonal signals such as music.

An additional feature to assist in the manual reduction of feedback is the **Primary Feedback Frequency Detector**.



This tool may be used when a reduction to band gain is desirable to reduce feedback. The Primary Feedback Frequency Detector button is located on the Feedback Cancel subtab. Clicking the button will begin the test and the Primary Feedback Frequency Band will be reported. Gain can be reduced manually in the specified band in an effort to eliminate feedback with minimal effect to the channel gain.

**Programmable Indicator Tones:** The Low Battery indicator tone is adjustable by selecting **Indicator Tones** from the Activity menu. Different frequencies and intensities are selectable. A tone can be disabled or a test tone can be presented through the hearing aid to verify audibility.

## 7. 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 instrument.



