AQ XP Super Power hearing instruments take gain and output to the limit. A balanced combination of pure power and flexibility is required to compensate for severe to profound hearing losses. Independent gain and MPO shaping put power where it’s needed to maximize residual auditory capabilities. AQ XP offers a Flexible VC and independent programming of Telecoil and DAI/FM responses. AQ XP is compatible with popular FM systems and offers a wide range of user options, making it an excellent choice for those with maximum hearing loss.

AQ XP 120 Features

- 5 Channel Digital Signal Processing
- MPO: 144 dB SPL / Peak Gain: 85 dB (Earsim.)
- Adaptive Feedback Canceller
- Adaptive Noise Reduction
- Soft Noise Management
- Independent MPO shaping – 1 dB steps
- Variable Time Constants
- Fully programmable Telecoil
- Fully programmable DAI
- Flexible Volume Control with rotary operation and OFF-function
- Status Light
- 3 Program switch
- Compatible with external inputs (FM, DAI, etc.)
All measurements are made according to IEC 60118 if not otherwise mentioned. ANSI refers to ANSI S3.22-2003. The Full-On Gain setting can be programmed into the instrument from OASIS plus for verification purposes. Special test settings in accordance with IEC and ANSI were generated for data sheet measurements.

1) Warning! The maximum output capacity of this hearing instrument may be in excess of 132 dB SPL (IEC 711). Special care must be used in fitting this instrument to avoid the risk of damage to the remaining hearing.

2) Current Measurements made with the Status Light switched OFF.
Getting started

To program AQ XP, you need AccuQuest’s OASIS plus fitting software with the appropriate programming shoes and cables (see page 7 for order information).

Open the battery door on AQ XP and slide the programming shoe into the slot on the door as shown. Make sure to use a fresh battery.

Plug the programming cable into the shoe, matching the red dots. The hearing instruments must be switched on during programming. Do this by rotating the VC upwards to position 2.

Start OASIS plus from within NOAH. The first screen is Client: Personal Data. Choose the Client Experience Level that best describes your client. If you wish to change the fitting rationale, click Preferences at the top of the screen, then choose More Preferences and Fitting Rationale.

Then choose Detect to proceed.

Real Ear to Coupler Difference (RECD)

Instrument settings are based on the ear canal volume of the average adult. The smaller the canal volume, the louder the signal in the ear. Adult canal volumes differ widely and children have much smaller volumes. Real-Ear-to-Coupler-Difference (RECD) is the main transform that reflects these differences. Accounting for the RECD results in greater fitting accuracy.

OASIS plus uses average RECD data, based on the client age in NOAH. For greater accuracy, AccuQuest strongly recommends measuring individual RECD for all patients, especially children. This can be done directly in NOAH if a compatible REM system is connected (i.e. Inter-acoustics Affinity). OASIS plus will automatically use this data. Alternatively, values measured with other test systems can be entered manually into OASIS plus by clicking on Tools, REM Data and then selecting Manual before typing in the new values.

For detailed information on measuring RECD for children, see below.*

Fitting and Fine-tuning Possibilities

In the Technical Toolbox, there are three methods of adjusting the instrument response. The first screen offers a set of controls that allow changes to the overall response or to low, mid and high frequency regions.

Adaptive Noise Reduction and Soft Noise Management can be activated or deactivated. Time Constants can also be changed by choosing slower or faster attack and release times relative to the normal values for AQ XP.

Feedback Manager

OASIS plus automatically calculates a predicted threshold of feedback which is sufficient to provide a feedback-free performance for many fittings. If feedback is a problem, click Feedback Manager and choose Minimize Feedback. This will ensure that the instrument response falls below the safe gain limit for feedback. If feedback still occurs then instruct the patient that they will hear a series of loud sounds and click Measure to assess the actual threshold of feedback. If more security is needed, increase the Safety Margin and subsequently click Minimize Feedback until the feedback disappears.

The TriQualizer offers independent adjustment of gain for three input levels in each channel. A second tab allows access to MPO adjustments.

Flexible Volume Control

AQ XP has a Flexible Volume Control that can be configured in the fitting software. Click Local Controls to find a choice of three gain ranges. Users with a wider dynamic range may benefit from the 30 dB VC range while those users with narrower dynamic ranges may profit from either a 15 dB or 7.5 dB range.

When the user needs an easy-to-find VC position, or should never exceed the programmed gain, then VC position 3 can be programmed. In this case, there is only a negative VC range available, regardless of the total VC range chosen.

Indicators

Click Indicators to activate and configure the audible beeps for low battery and program changes. The Status Light can also be activated here and set to shine continuously or to flash only during program changes.

Fully Programmable Telecoil and DAI

AQ XP offers fully programmable Telecoil and DAI performance with frequency shaping that can be independent of the Microphone program, if desired. This extra flexibility allows optimization of the response for all listening modes. Select Programs to set up Microphone-dependent or individual response shaping for Telecoil and DAI. When mixed modes are used (T + M or DAI + M) the balance between the Microphone and Telecoil or DAI can be chosen in the Local Controls screen.

For AQ XP 120, program 3 can be configured as either DAI + M or T + M.

If VC position 2 is chosen as the Neutral VC Position, then approximately one-third of the range will be above position 2 and two-thirds will be below (depending on how much actual positive gain is available).

For example, a 30 dB total VC range programmed for position 2 will result in 10 dB positive VC range and 20 dB negative VC range.

To end the session, click the green arrow to save the data to the hearing instrument and save the session in NOAH.

You may also choose the VC position that corresponds to the programmed gain level on the software screens. This Neutral Position can either be 2 or 3 on the VC Wheel. The instrument user should be informed about which VC level they should choose when they first turn their hearing instruments on.

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Completing the Fitting

When you are satisfied with the fitting, you may click Completion and Overview to view a report of the instrument settings. The report can be printed directly from the viewing screen.

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