

Topics in Amplification

UNPARALLELED VARIETY IN CUSTOM PRODUCTS

Hearing aid clients are of all different ages and have ears of multiple shapes and sizes. The clients also have an assortment of abilities and preferences. We all know that one style and performance level will not fit every client. A hearing care professional is not in the “one size fits all” business. Before you even start to discuss performance levels and features, an important thing to discuss with the client is the style. Clients have various reasons for choosing a specific style, and they often don’t match the reasons that you may favor for selling one style over another. Experienced clients often like to stick with the style that they’ve “always used,” while new users may be intimidated by the handling of one style more than another, and everybody has a different opinion about which looks nicer on or in the ear. To determine the best style for each client it’s important to listen first to their reasons for favoring a certain style, and then inform them of possible advantages or disadvantages based on their hearing loss, ear shape, and handling abilities so that they can make a fully informed choice. In this manner, they are the final decision makers which helps to empower them in their overall decision to use hearing aids. But, they are basing their decision not just on their opinion but on information provided to them by you.

Smith et al. (2013) created and validated a questionnaire designed to help HCPs and their clients determine the hearing aid style most suited to them. They focused on the differences between an open-fit BTE and a traditional

closed-fit custom device. The authors found that the sub-scales causing the most variance in answers were: Feedback, Occlusion/Own Voice Effects, Localization, Ease of Use, Fit, Comfort, and Cosmetics. Together these factors accounted for 59% of the variance when evaluating factors that would help determine preferences for one hearing aid style over another. Each style has its advantages and disadvantages regarding these factors. Clients typically perceive their own voice as sounding better with BTEs, while ease of use and feedback are often rated higher for ITEs (Winkler et al., 2015). Providing information regarding these five factors and the effects that hearing aid style may have on them will give the client an objective base from which to make their decision. The cosmetic appeal will be subjective and will be different for every person for different reasons.

After preparing the client with information and listening to their opinions and preferences, you want to have a full variety of options from which they can choose. Bernafon has always provided a full portfolio of hearing aid styles, and is happy to announce the release of custom styles for the Zerena family. In addition to offering Zerena in a BTE 105, miniRITE, and miniRITE T you can now offer every size of custom hearing instrument. From a custom full shell for power and easy handling to an Invisible-in-the-Canal (IIC) for a tiny, discreet fitting, you can now offer a full spectrum of choices to your clients.

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The following sections will describe in more detail the Zerena custom instruments, explain the multiple combinations available and the most effective method of ordering them, and look into the Oasis^{next} fitting software to introduce the new hearing instrument selection screen.

Zerena ITEs

You have most likely already shared the benefits of Zerena hearing aids with your clients by fitting many of them with the available BTE styles.

Some of the new features that stand out include the new Dynamic Environment Control System™ (DECS™), the Dynamic Range Extender, and the wireless connectivity capabilities. DECS™ allows your clients to listen effortlessly in changing environments without waiting for the hearing aid to catch up to the environment and without hearing the artifacts caused by late automatic changes. Four features work together to comprise DECS™ in order to provide proactive and constant changes to the amplification system in response to the listening environment. Continuous Environment Detection monitors the listening environment in real-time by processing up to 32,000 data points per second. Dynamic Noise Management™ attenuates noise without adversely affecting speech using a combination of the highly sensitive Dynamic Directionality and ultra-fast Dynamic Noise Reduction. While at the same time, Dynamic Amplification Control™ measures the long- and short-term signal-to-noise ratio (SNR) in order to tell the Dynamic Speech Processing™ the correct amount of amplification to accurately apply. The Dynamic Range Extender ensures that music and loud sounds are amplified more naturally without clipping or distortion, and wireless connectivity options set your clients free from extra appendages worn around the neck in order to stream sound from their favorite devices. Your clients can now enjoy this listening experience in the form of an ITE.



Figure 1. The basic styles of ITE offered with Zerena.

In Figure 1 you can see an example of each style that is offered. A photo cannot show the many variants that can be created based on combinations of options.

All of the new Zerena features are now available in custom hearing aid styles - when the hardware allows. The smallest custom instruments do not support all options due to size limitations; however, the choice of reducing options in favor of a smaller device is also part of ensuring that customers have a full range of custom devices from which to choose. Options are not everyone's first priority because some people will insist that they only want a discreet instrument. Whichever size they choose, all instruments include Bernafon's latest proprietary technology that was introduced in the Zerena BTE instruments. You can now offer your clients the opportunity to choose between BTE and custom instruments and enjoy the benefits that the Zerena family of hearing aids delivers.

Configuring an ITE

Bernafon now offers more options than ever before when choosing an ITE for your clients. There are various reasons that clients choose to wear an ITE. Some reasons are subjective meaning that certain clients prefer the cosmetics of an ITE over a BTE. Other reasons are more functional for those that have difficulty with the handling of a BTE and find an ITE easier to insert into the ear. These reasons will vary from client to client, and the counseling concerning the selection of the device requires an individual approach. Clients are faced with more options than ever and may need support to determine the option that best suits them. Most clients will want every option stuffed into the smallest device, and

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although this is tempting, it is not often possible. A balance between non-negotiable items such as fitting level and negotiable items such as options should be presented to the client. In the end they should have an appropriate receiver size built into a device that is functionally and cosmetically appealing to them. The goal is to match the clients' expectations as closely as possible.

Bernafon has introduced a counseling matrix to organize and simplify the process. The first step is to determine that the client is interested in an ITE instead of a BTE. It is helpful to uncover the main reason why a client prefers this style of hearing aid. Choosing which items are more important is part of the discussion that you will need to have with your clients when narrowing down the possible options. Their preference will affect choices made in the matrix. When size is the most important factor for the client, you will have to determine the smallest size possible while still providing a strong enough fitting level. Clients will frequently state that size is their first priority, however, when weighed against other useful options such as connectivity, they may re-arrange their priorities. Do they want a tiny, invisible instrument or do they prefer something slightly larger with all of the connectivity, microphone, and local control options? Figure 2 is an example of the counseling matrix.

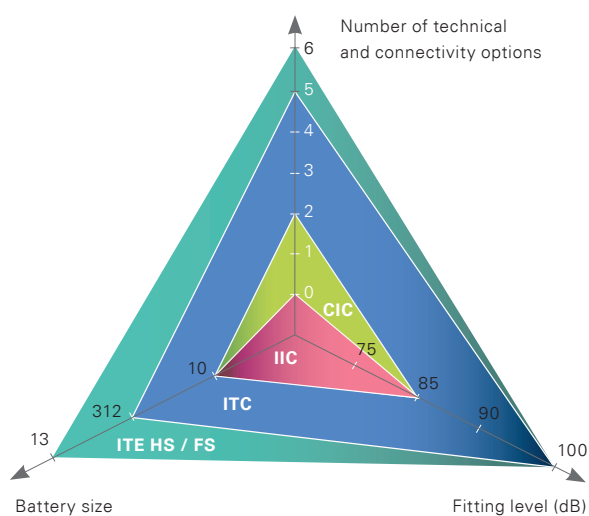


Figure 2. Example of the counseling matrix from the Bernafon In-the-Ear Style Counseling Guide with each color representing a different style of custom instrument.

As you can see, the form guides you through the choices that will determine the style and size of ITE that can be configured. Use the tool with clients to help them visualize the effect that choosing different options has on the size of the device. Each color represents an ITE style and the range to which that style can be configured. The three arrows pointing outward contain the items that influence the finished product: fitting level, battery size, and number of options. Determine the non-negotiable items such as fitting level first. The form will quickly show clients that a fitting level of 90 or 100 dB is not going to be met with a CIC or IIC device. From that point, then determine battery size which will also have a large effect on the size of the device as a 13-size battery can only be built into a FS or HS ITE. Lastly, discuss which options to include. The options range from wireless connectivity capabilities to onboard controls.

If your client states that they want a CIC, but then see on that matrix that they could have Bluetooth® capability with an ITC, they might be willing to switch to the ITC. Again, it will depend on their priorities. Previously, clients did not have the option of direct streaming with an ITE device. But now with the new technology available, many clients will perhaps be more inclined to go with a slightly bigger instrument in exchange for MFI direct connections to their phone, direct connection to their TV-A, and further options of connectivity when using the SoundClip-A.

Fill out the order form with the items determined from the matrix. Additionally, the vent size can be selected by you, or simulate a fitting in Oasis^{next} to get the recommended vent based on the hearing loss and chosen instrument style. Choose the color and any further options in the order form, and then all you have to do is let the lab construct your specialized instrument and program it with Oasis^{next} once it arrives.

Programming the ITE

You have seen the new Oasis^{next} software with the release of the Zerena BTEs. Now to accommodate the release of the ITE hearing aids, more details have been added. A noticeable addition can be found in the Hearing Instrument screen. Apart from the expanded number of style choices, there is now a third column where you can choose the options that correspond to those selected in the order form. Figure 3 is a screen shot of the Hearing Instrument screen, and on the far left is the column with the options. Here you can see that the options include: battery size, connectivity, and on-board controls. These will be filled in automatically when detecting the instrument. However, when simulating a fitting you will need to manually fill in the options to achieve a correct simulation.

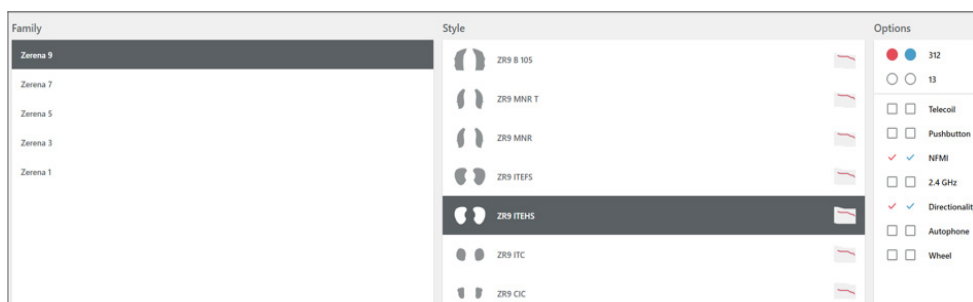


Figure 3. Screen shot of the Hearing Instrument screen

The chosen options will influence certain features. For example, if you don't choose a push button for an ITE, you will not have the possibility to choose additional programs. The Hearing Instrument screen helps to guide you by greying out options that are not available for certain styles. Choosing a vent is also facilitated with the target symbol that appears next to the item that Oasis^{next} considers to be the best choice. Select from traditional oval, circular, and collection vents or choose the new Free Vent option as highlighted in Figure 4. The Free Vent is not restricted to a predefined shape and is good for venting smaller ears.

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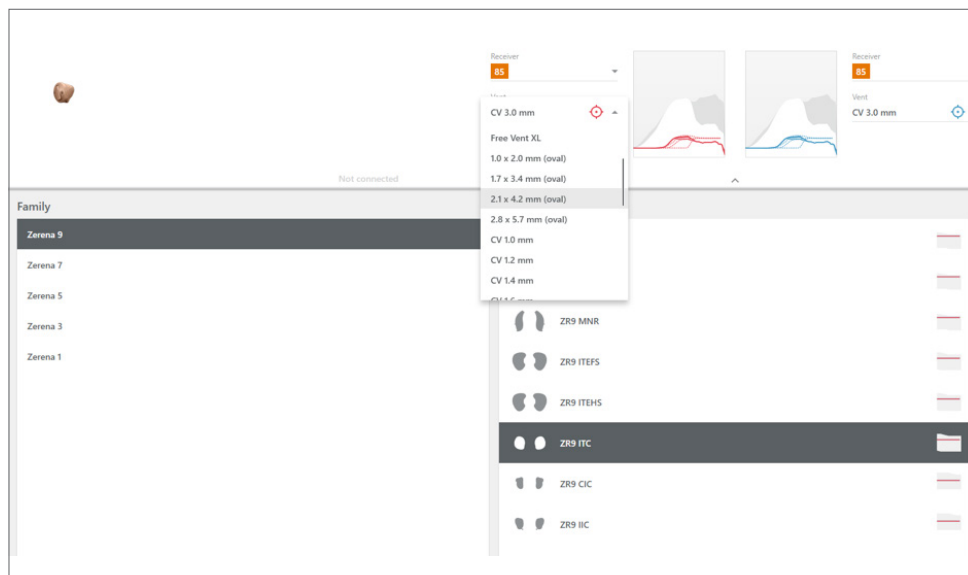


Figure 4. Screen shot of the venting options

In Figure 4, the drop-down box shows only part of the venting options. In the software, scroll down to see the full list of possibilities. An article by Winkler et al. (2015) offers helpful advice when fitting hearing aids. The author reminds us that the hearing loss should always be the main factor that determines the vent size, gain, and feature settings, but that the HCP must also consider the specific needs of the patients. Oasis^{next} allows for a combination of using the best technical settings while still accommodating the client's wishes. Use the new options in the software to their full potential by simulating hearing aid fittings to verify the feasibility of a specific fitting before ordering the final custom instrument.

Share the possibilities

For those clients that have not yet tried Zerena hearing aids, now is the chance to propose something new to them. In addition to the dynamic technology of Zerena hearing aids, offer clients the versatile options of small custom instruments that even have the capability of wireless connectivity. The possible combinations are numerous enough to provide each client with their own specially constructed custom instrument. Ask your Bernafon representative for the In-the-Ear Style Counseling Guide and order forms and start designing custom instruments for your next clients.

References

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