



The Dann Hearing Healthcare News

Fall 2007

Special points of interest:

- ⇒ Open Fittings
- ⇒ Integrated Signal Processing
- ⇒ Information about our new website
- ⇒ Wireless accessories to use with your cell phone .

Phonak's SaviaArt has new solutions to old problems

Phonak, a leading manufacturer of hearing aids, has been having a good deal of success with its new digital device, the SaviaArt.

Before we get to some of it's features, we'll give you an overview of what it does.

The SaviaArt is initially programmed based on your hearing loss. The aid has what is called an "automatic" section and a "manual" one. In the automatic mode there are 4 programs.

The first is for regular, quiet listening environments, the ones that you would be in most of the time.

The second is for noisy situations, such as a restaurant. The third is for what is called "comfort in noise", where there is really too much noise and very little speech. This program compresses the sound so that it won't be annoying, and hopefully let you understand *some* words (certainly a difficult task in that situa-

tion)).

The last part is for music listening. This part uses a broader frequency response (usually incorporating more bass and a little more treble) and less suppression of the sound. This will help you hear the richness of the instruments and the clarity of the singing more effectively than the other programs.

The automatic section will choose the program most appropriate for you based on the listening environment that you are in.

For example, if you go from a quiet area to a restaurant, it will switch to the second part of the program, the one dedicated to noise reduction. When you go back to a quiet area, it will revert to quiet listening. If you start listening to music, it will go to that part of the program.

Basically, you shouldn't have to adjust anything because the digital processor in the aid will, more often than not, get you to the most appropriate program.

However, nothing's perfect. That's why you can have up to three manual programs on the aid. These can be accessed by pushing a button.

You might have an extra noise reduction program to go to in case the automatic one isn't working in that particular environment.



Noise has always been a difficult environment for those with hearing loss. The best way to reduce noise is to use a hearing aid with two microphones, such as the SaviaArt canal aid (pictured above).

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Open Fit hearing aids a popular alternative to conventional ones

In the past year there have been an increasing number of people opting to wear what are termed "open fit" hearing aids.

These are hearing instruments that are very small that fit behind the ear. There is a thin, nearly invisible tube that goes into the ear canal. At the end of the tube is a soft tip to make it comfortable and have less movement of the tubing while it is in

the ear.

Why are they so popular? It probably is for a couple of reasons. One is that the aids are very cosmetically appealing. The clients we have tried it on have remarked that they can "hardly see it". Even family members don't usually seem to know that their loved one is wearing this aid unless it is pointed out to them.

Another is that when wearing the aid, there is virtually no occlusion. Occlusion is when the person wearing the aid feels they are "talking in a barrel" or that they feel like they are "plugged up". This can occur with regular hearing aids that are custom made to fit in the

(Continued on p. 2)

“We think you will be pleasantly surprised with both the sound quality and the cosmetic appeal of this new style of instrument”

Phonak SaviaArt aid has some unique features.

By having two microphones, you will have a more effective method of reducing background babble. This gives you what is termed “directional” hearing, which will let you hear sounds in the front of you, such as a person across the table, and less of the noise behind you.

Many studies have shown that having this directional option is more effective in hearing speech in the presence of noise.

The SaviaArt (as well as most other hearing aid models) will give you this option. It is not available in the smallest aid, the Completely in Canal, since there is no room for two microphones.

Another effective program in the SaviaArt is the one for a “reverberant room”. When you

are in an acoustic environment that has a lot of hard surfaces, sound waves are reflected back and forth, causing echoes. This makes understanding speech difficult. This particular program processes the sound using proprietary formulas to reduce the echo and enhance the speech, making conversation a bit easier.

There are other programs that can be used in the manual section besides the noise reduction and reverberant room. In fact, there are a whole menu of choices that we can put into the aid.

Another option available on the SaviaArt is a remote control to use for changing programs or adjusting the volume. It can be used even in the Completely-in-

Canal instrument.

The remote is available in this aid and other’s (some Siemens and Widex models).

The SaviaArt also comes in an open fitting style aid. The receiver-in-the-ear aid, which is similar to the Oticon Delta (see the article about open fit aids) is effective in fitting steep high frequency losses.

The SaviaArt will give you the most programs available on a hearing aid. Granted, you may not be the kind of person who needs that many choices, but it is nice to know it is available.

If you would like information on the SaviaArt, just call us at 866-3838, or go to www.phonak.com.

Open Fit Hearing aids, cont.

ear.

With an open fit hearing aid this occlusion effect is either greatly reduced or eliminated. That particular benefit has helped make this style of aid so popular.

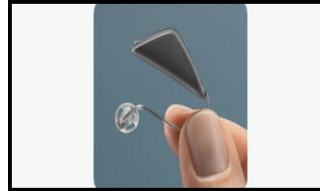
These type of aids are designed to help those with a mild to moderate loss. These new instruments can get more gain (volume) in the higher frequencies without as much feedback as previous aids. Feedback is that whistling that occurs when a hearing aid is either turned up too high, is fitting too loosely, or there is excessive wax in the ear canal.

The open fit hearing aids will usually have a feedback manager to reduce the possibility of that whistling occurring. This is important, because if more power in the higher frequencies is successfully implemented, then there will likely be more clarity of speech (depending on the listening environment as well as the person speaking to you.)

Pictured is an example of what one of these aids looks like. At right is the Delta aid, from Oticon Hearing Instruments. The Delta is a different concept in

fitting open fittings in that the speaker is in the ear.

Most other open fittings have the



speaker (or receiver, as it is sometimes called) and microphone right next to each other. This may cause more feedback after the aid has been programmed. Oticon believes that because of the separation between the microphone and receiver, there is less chance of feedback occurring. This means that there can be more gain, or volume, in the higher frequencies where most of the understanding of speech is.

This seems to be true for the Delta aids that we have fit, but because of the effective feedback controls in today’s hearing aids, most of the open fittings can have adequate gain where it is needed.

There have been some articles about Open Fit aids (the New York Times in September 2006 and the Wall Street Journal in August 2007) and how these new high tech looking aids may appeal to a younger

generation of potential hearing aid users..

The Delta, in January 2007, won a design award at the Consumer Electronics show. The category was “Best of Innovations 2007 Design and Engineering Award”. It competed with many other consumer electronics, and won high scores in “aesthetics” and “contributions to “quality of life.”

Many open fit aids come with two microphones. This gives the ability to reduce noise behind you and hear better in front.

While the directional mode is certainly helpful, technically it won’t be as effective as a canal or in-the ear aid that also has that option. The reason is that the noise is reduced by the shell of a custom made instrument, whereas the open fit allows some of the noise to come into the ear.

Although it may not have as much reduction of noise as a custom product with a directional program, it is still much better to have this option in an open fit aid than not at all.



Pictured above is the Widex Diva Elan open

Open Fit Aids, cont.

In addition to the Delta, another aid that we use for this kind of fitting is the Ion from Sonic Innovation. It is approximately the size of the Delta, but has a push button on the aid to give you up to three programs.

The first program is usually for quiet, one to one situations. The second is the directional mode to hear better in noisy places, and the third is for music listening or TV watching. But the Ion is different from the Delta in that the sound comes into your ear by a thin tubing, and not a speaker in the ear as the Delta has.

Technically, virtually any behind-the-ear hearing aid can be

made into an "open" style fitting. The only downside is that they are almost always larger in size than the Delta or Ion.

One advantage, though, of these larger aids is that you can have both multiple programs to choose from as well as a volume control. For example, one aid that we fit that have both of these features is the Inteo Élan from Widex. This aid has a toggle switch volume control and a push button to change programs.

For those who want to have a small open fitting but have a volume control option and the ability to change programs,

the Phonak Audeo might be a good option

The Audeo is similar to the Phonak SaviaArt, but smaller. It will give you up to seven programs (see previous article on the Savia on p. 1 of the newsletter) and the ability to adjust volume.

To do this, however, you must get a remote control. If that doesn't bother you, then this aid would certainly give you more than you would ever need.

If you would like more information about the open fit aids that we have, just call us at 203-866-3838, or visit our website at www.dannhearing.com



Pictured is the Audeo.Microsavia. This aid is available with a remote control, and a variety of colors.

Siemens New Aid Learns What Your Preferences Are

Siemens Hearing Instruments has a new aid, the Centra, that is one of the first hearing aids with what is called a "learning volume control".

Along with this, the Centra has a way to cut down annoying high frequency sounds (such as dishes rattling) without sacrificing hearing the speech.

Before explaining any further, it would probably be helpful to give you some background on several features that are available in the Centra.

Siemens' previous version of the Centra was the Acuris. The Acuris had an option available that made using two hearing aids together very effective. It was called e2e, which stands for "ear to ear".

What the e2e does is let the hearing aids communicate with each other. For example, if you had an Acuris aid (with multiple programs) in each ear, you could change the program on the left aid (by pushing a button) and the right aid would change at the same time, without ever having to put your finger up to the right aid.

This is certainly helpful if you want to have a coordinated changing of the programs. Now you won't have to worry if you have a different program in each aid.

In addition, if you have a volume control on either aid, you could adjust it to the loudness level that you prefer and both aids would be at that volume.

This communication with each aid is an important component of the success of the learning volume control. If the aids were not connected, the turning up the right aid, for example, would leave the left one where you had it before.

How would you know what volume to set the left to be the same as the right? You could, of course, turn up the left to be somewhat the same as the right, but you couldn't be sure. If both aids adjust at the same time, then your hearing ability is more coordinated.

The learning volume control is a great tool to use if you would like the aid to be what *you* want it to be in terms of your preferences. After two weeks of using it, the aid will automatically go to where you set the volume for different programs.

Siemens believes that if you have two aids that have the ability to communicate with each other, then the learning volume control will be more effective.

In addition to the Centra, there are other models that offer the e2e option. The models are the Artis 2 and Acuris and are available in all sizes in these models.

If you are a person who has dexterity problems, or just want to be discreet when you are changing the volume and/or programs, Siemens also has a remote control that is available. The remote will let you change the programs and adjust the volume in discreet steps.

Siemens also has an open fitting version in the Centra line, called the Centra Active. This aid has three programs available if you use it with a remote control.

If you would like to learn more about these aids, or other Siemens products, just call us at 203-866-3838, or go to www.siemens-hearing.com.

Siemens Centra Active aid



“The dynamic integrator is like having a second computer inside the Inteo, constantly monitoring the first one to ensure you receive the maximum benefit”

Widex.com



The Widex Inteo canal aid with twin microphones.

Widex Introduces Aid That Has Integrated Signal Processing

Widex, a Danish hearing aid manufacturer, has introduced the **Inteo** hearing aid. It is the first aid that utilizes what the company calls “integrated signal processing.”

Widex, along with Oticon (another company from Denmark) was one of the first to introduce the world to digital processing in hearing aids.

The aid was called the Senso, and it was a revolutionary leap forward from the older analog instruments that were available.

Over the years Widex made improvements on the original Senso, coming out with the more advanced Diva.

The Inteo, their latest hearing device, has a unique approach to how digital aids process sound.

Using integrated signal processing, the aid will attempt to get the most accurate hearing in a variety of different situations.

Of course, all hearing aid manufacturers want to have their devices do as much of the work for you as possible. Some aids have more programs than others. All have their own way of processing the incoming signal which they think is the best.

The Widex Inteo can be looked at as “high definition hearing.” Like today’s high definition televisions that want to deliver the sharpest picture, the Inteo’s goal is to give the wearer the clearest hearing technically possible.

The main component of the Inteo is the “dynamic integrator”. The digital chip inside the aid constantly monitors the environments that you are in, making the appropriate changes based on your hearing loss. The dynamic integrator, accord-

ing to Widex “is like having a second computer inside the Inteo...constantly monitoring the first one to ensure you receive the maximum benefit”

In other words, different parts of the digital processor will have different functions but will be overseen by a part of the chip that looks at all aspects at once. This gives a more complete picture of the listening environment. In fact, the chip samples the sounds around you over 2 million times each second. Now *that’s* pretty fast.

The Inteo also has a terrific feedback manager (to eliminate, or at least greatly reduce, that annoying whistling that you sometimes get with your aid).

Another aspect of the Inteo is the “high definition locator system” to help reduce noise.

This is available on models that have two omnidirectional microphones that work together to reduce sound behind the wearer of the aid. This lets you hear the person in front of you better.

Sometimes noise is not directly behind you. It might be two tables in back of you, one is to the left and the other to the right. The microphones will work together to cut down the noise from these tables the most.

But the noise reduction goes beyond just having two microphones on the aid. The Inteo processes the sounds around the wearer of the aid in 15 individual frequencies. It tries to preserve speech by identifying which frequencies are important for understanding words and suppressing those which might be noise. Usually noise is in the lower frequencies (the bass) and speech understanding is in the highs (the treble). If there are certain frequencies that have more noise

associated with them, then those individual frequencies will be lowered. The areas that are important for speech are increased to give more clarity to the words.

The Inteo also takes into account the person’s hearing loss when calculating what needs to be changed. It doesn’t want to suppress areas that would compromise the goal of speech intelligibility in noise. If the low frequencies are cut too much in certain hearing losses, then doing so for that person would be counterproductive.

The Inteo also uses a test procedure that was first introduced in the Diva. It is called the “sensogram”. Using the sensogram, we can test you in 15 individual frequencies using tones generated by the aids. This procedure seems to result in more accurate fittings with less fine tuning during follow-up visits.

There is one part (or really, program) of the Inteo that might be helpful in correcting certain hearing losses. It is the Audibility Extender, and can be chosen by the hearing specialist to help those with virtually no hearing in the higher frequencies.

What the Audibility Extender (which is a patent-pending feature) tries to do is shift those high frequency sounds that can’t be heard to the lower frequency regions that usually can be used. The program is not always successful, but at least there is a way to maybe get some people speech information they normally couldn’t get, no matter what would be fit to them.

If you would like more information, just call us at 866-3838.

Bluetooth technology comes to hearing aids

From time to time, you may have seen some people walking around and talking to themselves. These folks are not in need of immediate psychiatric care, they're just talking to their friends on their cell phone.

Most of today's cell phones are equipped with a wireless way of transmitting information (in this case, a phone conversation), so that the person using the cell phone doesn't have to hold the phone.

You may have noticed that there is a triangular looking device that people are wearing in their ear. It allows them to hear the person on the phone as well as talk to them, all wirelessly. This is helpful when you're driving or doing other things that require the use of your hands.

This wireless transmission is called Bluetooth, and enables certain electronic devices to communicate with each other.

Bluetooth was developed in 1998 by a group of manufacturers (such as IBM, Microsoft and Intel, among others) to enable wireless communication that would be compatible with a variety of devices. This way there would be no expensive corporate wars (such as in the 1980's with VHS vs. Beta videotape machines, which VHS finally won) over whose technology would come out on top.

The use of Bluetooth lets a computer wirelessly communicate with a printer or a Personal Digital Assistant (such as a Blackberry, a small handheld device that

can be used as a phone and also connect to the Internet).

In fact, there are a number of ways this technology can be used. But here is the important question: is this type of science useful to someone who wears a hearing aid?

Thankfully, the answer is yes.

One problem with the use of cell phones with modern digital hearing aids is that there was a great deal of interference that made conversation difficult. There have been improvements in this area, but not completely.

With a Bluetooth enabled phone and some new devices on the market, using a cell phone can be a hands-free (and interference-free) experience.

One of these is from Starkey (an American hearing aid manufacturer) called the ELI. ELI (for Ear Level Instrument) is used with what is called an audio boot. The audio boot attaches to the bottom of a behind-the-ear aid, and the ELI module is plugged into the boot.

The cell phone and the ELI are paired (a simple procedure that we won't get into right now) so that they can communicate with each other. Once this is done, when a call comes in you just push a button on the ELI and start talking.

The ELI will override the microphone in the aid so that all you hear is the conversation on the phone with no outside distractions. The person you are talking to hears you by

a small microphone that is in the ELI.

If you don't have a behind-the-ear aid, don't worry. The ELI can be used if you have a telephone program in your aid that uses a t-coil.

A t-coil is a part of the aid that can pick up the magnetic field around the earpiece of a regular phone. T-coils are options that are available in In-the-Ear and some canal aids.

To use the ELI, you would wear what is termed a "neck loop" which is, obviously, worn around your neck. The neckloop has an adapter that can be attached to an ELI device. The loop generates a magnetic field strong enough to be picked up by the telecoil of the hearing aid. You then use the phone as you would with a BTE

.Another company offering a Bluetooth communication device is Phonak. It is called the Smartlink, and uses a small remote. The remote is, as with the ELI, paired with your cell phone.

When you get a call, the Bluetooth signal goes to the remote, which converts it to an FM transmission to be sent to a device attached to a boot on a BTE, much like the ELI.

The Smartlink has a microphone that will pick up your voice so that the person on the phone can hear you. (Cont. on p. 6)



The Starkey ELI attached to a Behind-the-Ear aid.

“With a Bluetooth enabled cell phone and some new devices available for the hearing impaired, using a cell phone can be a hands-free (and interference-free) experience”



The Phonak Smart Link remote controls

Bluetooth technology comes to hearing aids, cont.



The MyLink receiver (above) can be “used with any hearing aid that has a telephone coil”

Pictured below is the ZoomLink Transmitter used with the MyLink



There is also a remote control. The remote can also be used to control some functions of certain Phonak hearing aids.

There are other uses for both the Eli and the SmartLink that don't have to do with cell phones, or Bluetooth technology. And that brings us to a discussion of the use of FM to enhance your listening success using your aids.

A transmitting device that utilizes FM signals, and the ability of the hearing aid user to have a way of picking up these signals, has been around for a few years.

Phonak is probably the leader in this area. They have been steadily improving both the variety and quality of the products they offer..

Basically, the person you want to hear would wear a microphone (such as a lapel mike) attached to a small transmitter. You would be wearing a neck loop, as described previously, and use the telephone program on your hearing aids. You could then adjust the volume

on your aids to where you wanted it. You wouldn't have to worry about feedback since the microphones on your aids would be turned off.

The beauty of this whole system is that you would just hear the person who was wearing the microphone, and very little noise. Even if you are in a very noisy restaurant, the person across the table will be very clear to you.

It can also be used if you are driving in a car and you want to hear the other person without the outside noise drowning out the speech.

Other uses include MP3 players (such as an Apple I-pod, which is used to listen to music) and watching TV. You would have a small connector for the TV or MP3, or whatever sound producing product you might use.

Phonak's FM products include the Smartlink (which is Phonak's FM transmitter that also uses Bluetooth), and the

MyLink.

The MyLink can be used with any hearing aid that has a telephone coil. When using the MyLink (the receiver), an effective transmitter to use would be the ZoomLink. The ZoomLink looks like the Smartlink, but has different ways of reducing noise.

There is a new hearing aid from Oticon (www.oticonus.com) that has recently come out called the Epoq. Oticon wanted to incorporate Bluetooth technology in a hearing device without any attachments on the aid. The Epoq can be configured to use with your cellphone, I-pod or other device that is Bluetooth compatible. You still, however, have to use a neckloop to connect to the external devices. The Epoq has a remote called the “Streamer” that is used to connect the aid and the phone.

If you would like to call us with any questions about this, please feel free to do so.

Check out our new website !

We want to invite you to our new website at: www.dannhearing.com

The site will have relevant information about our products and services, and you will also be able to contact us by e-mail.

There will be links to the

different manufacturers, as well as information that doesn't appear in this newsletter.

We wanted to have a place where you and your friends can get information on different products and services and have someone to contact

directly if you have any questions.

We would also like your feedback on what ways we can make things better for you when wearing your aids. Just e-mail us with your suggestions. We look forward to hearing from you

The “Dry and Store” will keep your aids in peak condition.

Sometimes your hearing aids just don't seem to work like they used to. A lot of different things can effect the performance of your instruments, principle among these being moisture and wax.

Moisture can diminish the effectiveness of your microphones and receivers, as well as the circuitry itself. For the moisture problem, we usually recommend the Dri-Aid kit. This is a jar filled with small particles that absorb the moisture.

This has been working well for most people, but a machine called the “Dry and Store” goes beyond taking out the condensation forming in your hearing aids.

The Dry and Store will also disinfect your instruments, letting you have clean, dry, and deodorized hearing aids in the morning.

The first step to getting that pesky moisture out is to gently heat the air around the aid. The Dry and Store uses

a “sophisticated electronic thermal control system” according to the Dry and Store website. It is safe enough to put the aids in with batteries, tubing, and earmolds.

This heat reduces the surface tension of the moisture in the aid. After this, however, moving air is needed to get the moisture out of the aids. Otherwise, it would just settle back down into the places it was before.

The air is circulated, and the moisture is then absorbed into the dessicant (called a Dri-Brik).

The Dry and Store also has a small ultraviolet light which is used to kill germs in on the hearing aids. This is done at the start of the cycle. With less germs on the aid, there isn't as much itching and irritation.

The desiccant also is effective in deodorizing your hearing aids. According to the manufacturer, the Dri-Brik also contains “activated car-

bon”, the same ingredient used in modern “odor-eating” household products.

All these great things are done during an 8 hour period. So, right before you go to bed you can take out your hearing aids (batteries and all) and wake up the next day with nice, clean, disinfected hearing aids.

There are two models of the Dry and Store: the Professional and the Global. The Global is smaller, and more useful for traveling., but both do the same thing as far as moisture reduction and germ killing.

If you would like more information, just call us, or visit the Dry and Store website at:

www.dryandstore.com



The Dry and Store, pictured above, will let you wake up to “nice clean, disinfected hearing aids”.

We Hope You Enjoyed Our Newsletter . . .

Things have changed a lot in the last five years in hearing aid technology.

There are more accurate ways of processing the sound, more effective methods of reducing that annoying feedback, and better ways of hearing speech in noise.

There are a lot of new technologies out there that you might want to try.

If it has been over 3 years since your last test, call us to schedule one. We will test you and let you know what your options are. We can also clean and check your aids while you

are here.

There is a good chance that if you do evaluate new aids, they will better than your previous ones.

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For over 40 years, the Dann Hearing Aid Center has helped thousands of people get more from their lives by better hearing. If you, or someone you know, needs hearing help, just call us for a consultation. We will be happy to test you and give you our recommendations. We look forward to seeing you.