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ReSound OMNIA: Introducing the Full Family

Presenter: Neil Wright, AuD

- Thank you, Melissa. Hello, everybody. And happy Friday to everybody who is listening live today. Happy future to everybody who's gonna listen to this as a recording later on. My name is Neil Wright. I'm an audiologist at GN Hearing as part of the global audiology team. And today, we are going to talk about ReSound OMNIA: Introducing the Full Family. As Melissa had mentioned before, if there's any questions related to the webinar, all of that is listed here. If you have any questions during the talk, please go ahead and submit them in the Q&A section. And we will address them at the end. If it's content based, if it's something that has to do with the webinar or the format itself, I think Melissa might be able to help you out with that in real time.

A couple of disclosures before I get started. I am an employee of GN Hearing. But I have no non-financial conflicts to disclose. Our warning outcomes for today are listed here. Participants will be able to identify three benefits of ReSound OMNIA technology, utilize three new functions of ReSound SmartFit fitting software, and participants will be able to optimize their OMNIA fittings using three unique features of OMNIA models. Our agenda today matches up pretty well with our warning objectives. And something I want to highlight before we get into the content itself, as I work mostly myself, I mostly work in R&D for GN Hearing. I'm gonna try to sprinkle in some tales from the tests. As part of global audiology, most of what I do is actually internal hearing aid testing with hearing impaired users prior to products being launched.

So, we get to see what this technology brings out in users before it actually hits the market. So, I'm gonna try to highlight some of the new features or some of the experiences with some tales from the tests. So, let's dive in. If you are a consistent fitter of ReSound technology, you will know that the OMNIA line was actually launched last year in 2022. But was restricted to these three form factors, our rechargeable RIE and two zinc air battery powered devices, 312 and size 13. But with this new launch, we've expanded that family to actually include not only those three modes. But to

introduce the OMNIA technology to our BTE devices as well as our custom devices. Now there's one device I haven't talked about yet.

And that's this guy. This is our new mini, rechargeable RIE. So, this is a slightly smaller design of our rechargeable device. And we'll get into a few more details about that later. But now, instead of having to flip through, which family to actually fit, depending on your form factor, you have all of these form factor options when it comes to actually fitting a ReSound OMNIA product. So, these devices are all on the same line, sharing the same technology. And we're gonna talk about that technology benefit today. So, with the ReSound OMNIA, now that we've introduced this to both our customs and our BTEs as well as our smallest CIC. This provides you, as the audiologist, a wide range of possibilities to meet the patient's needs, so you're not restricted to just fitting one form factor to provide this technology benefit.

So, I highlighted the Mini RIE earlier. And let's dive into some particulars about that. Now some of the slides that we're gonna see in the first half of this presentation are practical guides. So, there will be some fitting ranges, some colors that the devices can be ordered in. I'm not going to spend a ton of time myself differentiating between the colors themselves. But I wanted to make sure that everybody who attends today's presentation had access to these these practical informational slides. Now, when we talk about the Mini RIE, I think it's important that we first talk about, what is it that our end users actually need from their devices? And what is it that they actually want?

When we've looked at some internal users, and talked to them about devices, one of the big things that comes up, and it comes up a lot, not only when we talk to internal hearing aid users, when we talk to the hearing impaired that decide not to purchase hearing aids at the beginning, when their hearing loss is discovered, one of the big things that continually comes up is hearing aids size. And that comes up for the hearing impaired more often than those who have already been fit. It comes up for

those who haven't been fit and are looking to be fit for the first time, that size really does matter when they see that on the table.

However, when you start to talk to hearing hearing aid actual users that have worn hearing aids for a little while, the shift goes from the size of the device towards comfort. And what we really wanted to focus on with this new design to the mini rechargeable hearing aid, the Mini RIE, is to really focus on that comfort. So, when we look at this design, it's important to take into account how this style change has actually impacted user comfort. So, here we see the complete line of OMNIA RIE styles. So, this includes the rechargeable, our mini RIE rechargeable, and two zinc-air battery devices. So, as you can see here, there is a little bit of a stylistic difference in the Mini RIE.

And really, this comes down to some softer edges that, while not drastically different in size, actually do result in a lot of improved, perceived comfort for the end users. A lot of the features across these devices are the same. With the introduction of OMNIA, we build off of using those same SureFit receivers that were introduced with ReSound ONE. So, you don't have to make any changes to what receivers you order or the ear molds that you order. The strengths are all going to be the same. With the introduction of the Mini RIE, it's really just expanding on the options that were already there. Now one thing to keep in mind, if you have an end user who is particularly interested in having a t-coil accessible in their hearing aid, the only RIE style that has that is your RIE 13.

So, just in terms of size, that's the one that's going to be able to actually fit the t-coil inside of it. Here are our fitting ranges. Now these are unchanged since the release of the OMNIA line back in 2022. So, as you can see, this is broken down across the different receiver strengths available for the RIE devices. Here on the left is the M&RIE receiver fitting range. And then you have your LP and MP overlapping on the center graph. And then on the right here is your HP and UP fitting ranges. This is just to

highlight the color ranges that are available to order these devices in. And then for RIEs, one thing to note is, this is the form factor that has the most options when it comes to different chargers.

So, as you can see, there are three different options here. For those of you who have worked with ReSound before, this is likely review. But for those of you who maybe are listening to a ReSound presentation for the first time, just note your differences here is the premium charger actually has a built-in battery that allows the hearing aids to be recharged on the go without an external power source. The standard charger here in the center is similar to the premium charger in that it has a lid to double as a carrying case. But it does not have an internal power source. So, it still needs either a wall outlet or another power source to actually recharge the hearing aids.

And lastly, here on the right is a desktop charger. This does not have a lid. But it's just easy to drop the hearing aids into at the end of the day. So, all three of these are available when ordering a rechargeable RIE. Moving on to the behind the ear devices that we are now bringing forward into the OMNIA line. Now as you can see here, there's no style change here to these devices, compared to when they were first launched as ReSound ONE. But you can see both the Power BTE and the BTE have a plastic ear hook option for fitting. Now they differentiate in power. And your Power BTE actually has the capacity for a metal hook, which gives you a little extra fitting range for those more severe to profound hearing impaired users.

What is great about this launch with OMNIA is, actually now when you're in the fitting software, you can format and switch between your HP BTE and your Power BTE. So, between the metal hook and the plastic hook, you can configure that in the fitting software now in SmartFit 1.16, versus you had to pick and choose before when you were ordering the device. Now you have a little bit more flexibility going forward, if you want to try them out in the plastic hook first versus using the metal hook. The

microphone filters here on both devices are replaceable in the field. This is gonna feel very similar to using the wax trap replacement sticks. It's really easy to just pop it in, take out the old one, and place the new one in, really straightforward.

You do have the LEDs on both devices. Now you can activate those to be active whenever the devices are on, or leave them turned off, which is the default. Both devices have a built-in t-coil. So, that gives you access to any loop system even without any additional streaming accessories. Now I will go back and just mention for the other RIE styles that didn't have a t-coil, you do still have the opportunity to use a t-coil. And that is through a ReSound Multi Mic. So, even the devices that don't have one built in, you still have the capability of fitting a user with styles that don't have a t-coil built in. But for those devices that have one built in, you've got your RIE size 13, the RU62, or your RU88, or RU77.

The RU88 is the only device that we offer as part of the OMNIA line that has a direct DAI compatibility. So, there is a boot that is available, so that you can connect a DAI/FM system directly to the RU88s. Again, for all the other form factors, if you are in need of DAI compatibility, but they'd like a different style, you can still utilize a Multi Mic as an intermediary device. Doing that, you only need the one FM receiver, rather than two. So, pluses and minuses with either pathway forward. And both of these devices are compatible with the Smart Hearing Alliance. Here are our fitting ranges. So, for the 77 you see, if you want to use the slim tube that has this navy, gray fitting range, whereas the plastic hook, the standard hook is shown in red, so it fills out the rest of that space.

As for the Power BTE, again, you do have the option to use the metal hook, it configures that to the high power BTE, it gives you some extra fitting range for, like I said, your more severely hearing impaired users. This is just a slide deck for color. Again, this is just an FYI slide. But you can order either the Power BTE or BTE in this

range of colors. For the BTEs, there's only the one charger option. And that is the desktop charger. This largely comes down to the fact that, with BTEs, there's the need for an external ear mold, which takes up a lot of space depending on the style that a user goes with. And that was the simplest way to allow for the space for those ear molds without any restrictions, is to simply use the desktop charger.

So, this is not something that has a battery power built-in. You would need an external power source. Moving right along, let's talk customs. So, for those of you who have worked with ReSound for a while, you may know these as customs by ReSound. We have now just included them as part of the ReSound OMNIA line. And the redesign to the face plate is really here to make this look like it's not a hearing aid, and make it feel like it's a little bit more of an in-ear earbud. You have all four receiver strengths as options with the custom devices. The one caveat here is that the LP, so the low power receiver is only available in your ITCs.

So, just for your information there. As being part of the OMNIA line, and this goes the same for the BTEs, this now provides a access with these form factors to the 360, all-around programming directional option, and your front focus directionality. So, these are two environmental programs that can give you a little bit of an extra boost in speech-in-noise. And we will highlight that benefit here in a little bit. As you can see on the screen, with these form factors, there's a central, larger push button. So, this makes this a little bit easier. It's not as small and harder to find on the face plate of the device for users. They can just find that push button, and press it.

These are your fitting ranges for the custom devices, again, highlighting that the LP is only an option in your ITC devices. But you can still fit all the way up to a UP receiver. And these fitting ranges are overlaid. Again, here's a quick look at the available colors for the custom devices. Obviously, a slightly different color palette than what was available in the RIEs and BTEs as you have your more stylish option with this anthracite

color, and then some blend in colors. Just so you know, you can order the shells in blue or red or clear. But that does not apply to the face plate. Those are gonna be one of these colors that's on the screen.

For the custom devices, as they are custom, they get treated a little bit differently. And then, so they have their own unique charger. It doubles as a carrying case. But what is important here is the structure of the charger itself is pretty basic. But what's customized for the users beyond just the hearing aid itself is actually the inserts where the hearing aids are placed. So, those are built using the same ear mold impressions that are taken as the device that's made itself. So, if you have to do a remake for these devices, you don't have to send the entire charger back, you can just send the inserts back. Those can come out. If they need to be replaced, those can come out rather than having to replace the entire charger.

Those custom inserts are made specifically for the custom devices. One other thing that is unique about the custom charger, and this is a little different from the other chargers for the RIEs and BTEs, is the lid has to be closed on this charger to initiate charging. Whereas the RIEs and the BTEs, you can just drop them in, and they start to charge. For the customs, because of the location of the induction loop for the charging, they need to actually be pressed a little bit further into the charger. That's what the lid doubles as. You will see indicators on these little LED lights that are here in the front, one on each side to show that the charging is started or is complete.

Now the last form factor that I'm gonna talk about today that is new to the OMNIA line is our CIC. Now this has been designed to be the smallest CIC that ReSound has ever made. And this can be ordered in three receiver strengths. So, you've got LP, MP, and HP. Now obviously the big one that's not here is the UP. And that is, because the ultra power is a larger receiver, it takes up extra space, which also means it would require more battery power, and more physical space in the device. So, for the sake of

discreetness and size, that is an option that is not available in the CIC. Now this is the only non-wireless form factor in the OMNIA family.

And again, this comes down to real estate in the device itself. So, as a smaller device, there's less room for the antenna, there's less battery power to facilitate that. And honestly, with it being so deep in the ear canal, the ear-to-ear communication can be inconsistent. So, this is still a non-wireless option. But it's the only non-wireless in the family. Again, here we have our fitting ranges overlapped on each other. And again, just to highlight, you only see the three receiver strengths here. So, no UP option for the CIC. Now the CIC colors should look pretty familiar, compared to the other custom devices as the same options are available here. The same goes for having the shells in red, or blue, or clear.

Something that does apply to all of the devices that are part of the ReSound OMNIA family is they are all weatherproof. So, they've all been IP 68 rated, and have a nano-coating inside and out. That's a hydrophobic coating to keep water from causing any excess damage to the devices. Now as I mentioned, the CIC is the only device that's part of the ReSound OMNIA family that is non-wireless. And when we look at research that's done externally, some numbers here from the Pew Research Center, hearing aid connectivity has gone from a nice to have, to critical to patient satisfaction with their devices. So, it's one of those things that actually has gone from, "Well, that's nice," to, "This is a necessity."

" People are more connected today than they ever have been. And that includes hearing impaired hearing aid users. So, when you look at hearing aid users today, most of them report streaming some sort of audio or music directly to the hearing aids and satisfaction with connectivity, have started to go more hand in hand. However, a lot of users still struggle with the connectivity itself. So, they see this as difficult to use, they see it as difficult to set up. But this is something that, we as audiologists, can help to

guide them through that process, so they can get the most out of their hearing aids, and use them in all the listening environments that they're in on a day-to-day basis.

So, one thing that has improved with the ReSound OMNIA, relative to the ReSound ONE, is that the range for robust connectivity has increased. So, the strength of the antennas has improved. So, these devices are able to be a little bit further away from the streaming source, and still provide a robust signal to both ears. This is another FYI slide, just nice to have included in your handouts, is to just map out what is and isn't compatible across different wireless options. Now all of our wireless devices, so that's your RIEs, BTEs, your customs that are non-CIC, are all ReSound Assist and ReSound Assist Live compatible. Those are also all compatible with any MFI phones and any ASHA, or it works with Android ASHA streaming protocol devices.

Now since Apple controls a lot of their infrastructure and iOS environment in-house, it's a lot simpler to be like, "Okay, it's gonna work with all of the iPhone devices, or iPods, or iPads." Whereas with Android being a more open platform, that compatibility sheet is changing every day with new devices being launched, new devices being updated to newer versions of the Android OS. So, if you are looking for devices that are gonna be compatible, that is something that you can find here at resound.com/compatibility. All of our wireless devices are also compatible with any of our streaming accessories. That includes the Multi Mic, the Micro Mic, the TV streamer, remote controls, or the phone clip.

The last one I wanna point out here is your Smart Hearing Alliance compatible devices are going to be either the BTEs or the RIE devices. Now we have talked a lot about what has been launched as part of the OMNIA family. But let's get underneath the form factors here. And talk about what's under the hood. Let's talk about benefits. So, part of ReSound's general philosophy when it comes to sound processing has always been this idea of organic hearing. It's trying to provide end users with benefits without taking

away what sounds natural, what sounds easy, what is actually going on around them in the environment. We don't want to take environmental awareness away from users for the sake of speech-in-noise benefit.

And what we've been able to find with this new algorithm that's in ReSound OMNIA is that we can kind of do both. So, we're gonna talk about how this sounds natural, feels natural, and how does this connect your patients? The first one, and this is the question that everybody has to ask, and is always being asked when you're not listening to me, and you're actually in the clinic, is hearing a noise. This is routinely the reason that end users, or the hearing impaired, actually come into the office in the first place. It's what drives people to actually purchase hearing aids is they come into the clinic, and say, "I was at my favorite restaurant," or, "I was out with my significant other, and I couldn't hear them across the table, because the music was too loud," or the environment was not great for hearing in this background noise.

Now even though this is still one of the first reasons and main drivers for people coming into the office and what brings people in, most hearing impaired users of hearing aids still report having trouble in background noise. So, this is not something that just fitting a hearing aid makes go away. But we need to look for ways that we can strive to improve in what are very difficult environments. We live in a very noisy world. So, being able to provide some level of benefit for these users is critical for them to not only continue to use their hearing aids, but to be out, and be social, and re-engaging in life's activities. So, when we talk about organic hearing here, I wanna highlight three different directional strategies that are built in to our 360, all-around, everyday program.

And that's your spatial cue preservation strategy, the binaural listening strategy, and the speech intelligibility strategy. Now what you're looking at right now are a lot of circles and triangles with colors all over the place. So, I'm gonna highlight a couple of these as what we're gonna talk about when it comes to benefits. The first one we're

gonna talk about, especially, when it comes to speech-in-noise understanding, is a speech intelligibility strategy that should come as no surprise. But what I wanna highlight here is that we have a bilateral beam former that is being utilized for for this particular strategy. Now you'll see in the animation here that there's still little, dotted circles on either side.

And this is to highlight that your low frequencies are still in an omnidirectional response. So, there's still some level of intentional sound awareness for the end users, even when the hearing aid is going into this speech intelligibility strategy. Now it will always be in this bilateral beam former when you use your front focus program. But this is just one of the other directional strategies that is employed in your 360, all-around program. So, when we're in this speech intelligibility strategy, how do we know that it works? How do we know that it's providing benefit? Well, we don't just get to say stuff, and say that it works really well, and then hand you devices, and just say, "Well, you have to trust us."

We do some internal testing of the devices, and we look at specific scenarios. So, what we're looking at here is how we actually tested the speech intelligibility improvements for the ReSound OMNIA devices. So, what you see here in figure three is the test subject. There is a speech presentation that was presented from directly in front. And then, you had a noise source off axis. So, about 70 dB of noise off, and 75 degrees off of that zero degree azimuth of the test subject. They were tested in three different scenarios, all-around or automatic program, your front focus program, and then an omnidirectional program. And this was compared between the ReSound OMNIA and the ReSound ONE devices. So, to not only see, if our previous technology was providing some benefit.

But to also highlight any improvements over that initial iteration that was there with ReSound ONE. So, ReSound ONE is where we actually, at first, formally introduced

this bilateral beam former. But OMNIA is really where we hone in on this, and really improve the algorithm to get better results. So, the way that this was tested is, that speech that's coming from the front, we are looking for a speech reception threshold in background noise. So, the noise would remain static at 70 dB. But as the participant went through these tests, the speech level would go up and down based on the patient performance. So, if they were doing better, that level of speech would go down. So, you'd ultimately see, a negative SRT would be a good result, because that meant that the speech could be softer than the noise, and they were still picking up about 50% of the words correctly.

So, here we're gonna look at directional performance. So, how much better than your baseline OMNIA did... Whoops, let's try that again. There we go. How much better than OMNIA did each hearing aid do on average? So, if we look at the ReSound ONE, you'll see here that there was about plus 4.2 dB of SNR benefit over omnidirectional alone. So, this was the average result across all of those that we tested. And this is a pretty good result. But what's really exciting is the results with the OMNIA. So, the improvements in the algorithm actually show the substantial benefit when you're really highlighting and really focusing in that forward bilateral beam former, you're seeing 8.6 dB SNR better than omni, and that's huge.

I mean, for them to be able to hear at almost nine dBs softer than the background noise for the speech. This is a huge improvement, a huge functional improvement for patients. And that's 4.5 dBs is still better than ultra focus with the ReSound ONE. So, not only is this a much better result than omni, but we're seeing this line over line, this improvement in that algorithm really highlighting the benefits here for your end users. Now, if you recall, I highlighted these, the different directional strategies that are employed in 360 all-around. And we've talked about the benefits of having that bilateral beam former really highlighting the speech that's coming from the front or the target sound that's coming from the front.

The problem that can arise is, if you just focus on what's coming from the front, you miss out on what's going on around. So, as part of ReSound's philosophy, sound processing strategy, we wanna make sure that the end users are not feeling like they're cut off from the sound and environments around them. So, this is part of what we call the binaural listening strategy. So, what you can see here is you've got these striped, red and blue directional responses. But you've also got these omnidirectional responses in the other ear. So, what this is highlighting is, one ear goes into a bilateral beam former. It utilizes the information that's shared from both sides of the head. And we'll go into some of those details in a little bit, while keeping its low frequencies in an omnidirectional response.

So, this is to provide some level of directional benefit while still providing environmental awareness in the off ear, the non-focus here. So, how do we test something like this? How do we make sure that the end user actually does receive some benefit from having that one ear completely open and more of an omnidirectional response? We're gonna go back and continue to use what's called the Dantalle II. This is the speech-in-noise test that... It's the same test that was used for the first experiment. But this time it's a little different. So, what we did for this test is, if we go back to this slide here, you'll see there's a monitor ear, which is the ear that's completely in omni, and a focus ear, which is in a directional response.

So, when you see that here, seeing the monitor and the focus on our figure, this is the ear that was in an omnidirectional response, and this is an ear that was in the focus response. This is the one that still had a little bit of low frequencies in omni, but was largely pointed forward. Again, this test was done with both OMNIA and ReSound ONE devices. But the desire here is actually for the user to listen for the female speech. So, that's coming from off axis and behind the user. So, this is best to say we're gonna get a lot of benefit. But it's, can you identify what's going on back there? If this is

somebody you wanted to talk to, would you hear enough to be like, "Oh, I need to turn, and start listening to her instead of this guy in front of me."

So, when we're doing this SRT test, the speech that would actually vary is the female speech here off to the side and a little behind the test subject. And this is what we see. So, this is presented slightly differently. But as I had alluded to before, they'll lower the score here. That means the softer the speech could be, and the test participant was still able to get about 50% of the words correctly. So, both 360 all-around and all-access directionality provided some level of benefit here. But what's important to note is that 360 all-around was providing on average a better result. Now, because this is not a significant difference, they're both providing statistically the same amount of benefit.

But what is good to see is that both devices, both processing strategies, are able to provide that level of sound awareness, environmental awareness for the end users wearing the devices. And this is something that we heard from test participants in our studies as well, is when they would go into a noisier restaurant, they'd be able to talk with somebody across the table pretty easily. But if there was somebody that was sitting alongside, if they were trying to get their attention, they were reporting this was a little bit easier than it had been in the past with other devices. Some of our test users have used previous GN or ReSound products in the past, others have worn other manufacturers.

And we had a lot of users saying that this is, by far, one of the best devices that they'd ever tried, particularly when it came to hearing-in-noise. So, we're gonna hop over to talking a little bit about fitting software here just to make sure that we get to cover some of that, and make sure you can maximize these fittings through the controls that you have in SmartFit. So, when I talk about 360 all-around, this is our automatic program. One thing that is a little bit different between 360 all-around and the

all-around directionality of ReSound, one is that this is trying to take into account a little bit more of the sound that's going on around in the environment.

But it's also switching faster. So, one thing that, if you've had a ReSound patient in the past, then they're upgrading to a ReSound OMNIA, they may pick up a little bit, and be like, "Oh, I'm hearing this processing change a little bit more distinctly than maybe I had in the past." And a lot of the end users appreciated that when we were taking in some subjective comments from these users when we tested internally. They were like, "Oh, I was able to identify when this was making a change." It wasn't something big that they noticed. But it was something there, they were like, "Oh, I know this is processing the environment that I'm in. So, this gives me the opportunity to know that this is taking the restaurant into account as I walk in."

This is just a screen grab from SmartFit. For those of you who might be new to ReSound fittings, just know that, if you are looking for your directionality options, you find them here underneath your Advanced Features tab, and specifically the speech related advanced features. So, you still have access to some of our older directionality options or you can just switch it to omni. But for your all-around program, there's gonna be that 360 all-around directionality option. All of our directionality options are specific to the environment, the programmed environment that you choose. So, your front focus will obviously have your front focus directionality, outdoor and music are gonna default to an omnidirectional response. Now let's talk about natural sound quality.

And we're gonna bounce back and forth now a little bit between some of the benefits, and also, how to find these things in fitting software, so that it's not just a lot of talking benefits. There's some practical applications here too. Now when we talk about natural sound quality, we have to come to what's called the proximity effect. And some of this has to do with just the location of the directional microphones relative to the patient's

own voice as a source. And what we can see is there's a substantial amount of roll off in these lower frequencies, compared to higher frequencies when it comes to a directional response. And this really comes down to the physics of your wavelengths, of these really lower pitched sounds aren't gonna be able to be recognized as either out of phase or as lower volumes at each microphone just by the nature of the physics of the of the signals.

So, there's a couple ways that you can try to mitigate this issue, one of which is to artificially amplify those lower sounds, so that they can still go into a directional response. The fallout from that is, you can cause a little, additional internal device noise, you can still attempt to put them into a directional response. But then you'll see this roll off in the lower pitches, because it just isn't able to differentiate between the input at the front mic versus the back mic. What ReSound does is it tries to leave those low frequencies alone. So, if you think about this as a purely omnidirectional response, this is your interaural cues, both ears in omni, this is what you expect to see is you're getting sound from all-around the user in this omnidirectional response.

But when you start to get into a noisy environment, the hearing aid user really needs to cut out some of that background noise, really needs that focus to be a little bit more forward. And that really does highlight more of your mid to high frequencies when you go into a directional response. So, what ReSound has done and has done this for a long time, has been to enable and utilize what's called band-split directionality. This allows the low frequencies to stay in an omnidirectional response, preserve some own voice sound qualities, some level of those interaural differences for the low frequencies can stay, and be recognized by the central auditory system of the patient, and utilize that signal more naturally.

As we've introduced the bilateral beam former, this has actually created a third group of frequencies. So, you'll see here this adjustable, directional mix level, up to 5,000

hertz is actually shared between the two devices. So, you can get that directional benefit from both devices, but it's now shared. So, if you rub the mics over one, you might actually hear it on the other side. And it's related specifically to these bilateral beam former frequencies. And that comes down to what's called the directional mix in ReSound software. So, I'm gonna bring up another screenshot here. And anytime you are in a directionality option that includes a directional response, that includes your automatic programs, that includes front focus, you'll have this option to select a directional mix.

Now these different choices from very low to high will change the adjustable crossover frequency for the directional mix. So, anything higher than that line will go into a directional response. Everything below that will be in an omnidirectional response. So, to maximize your directional response, you wanna set that mix to high. So, what that means is that the highest amount of frequencies will go into a directional response. And this will include, so if you go from very low, that crossover is about 1,500 hertz. The high setting shows the crossover at 500 hertz. And just to illustrate this a little bit, I've got a recording here from a colleague of mine. He's put this together to just to highlight the directional response of the ReSound OMNIA devices when set to front focus.

So, as you can see this boulder line-up across the top, that is the frequency response for the front facing microphone. And the curve below here, that's the softer curve, is the rear microphone. The directional mix was set to high. So, as you can see right here, about 500 hertz, just like I said it would, this is still in an omnidirectional response, so there's not really any difference between what we're seeing from the front or from the back when that directional mix is set to high. Now, if it was set to very low, that crossover frequency would be about here, 1,500 hertz. And these frequencies in the middle, probably shouldn't go into the directional response. Just for your information, if you wanna try this at home, this was set with the speech level at 75.

And the speech to noise ratio was set to plus three. Oh, that's running it again. So, we'll move on. One thing I just wanna note here, we're not gonna spend a lot of time on M&RIE today. But just know that the M&RIE, as I had mentioned earlier, is still an option to be fit with any ReSound OMNIA, RIE devices, including the new Mini RIE. And the M&RIE has a lot of documented benefits here. And as you can see, there's multiple articles that are out that showcase these benefits. If you have any questions about those benefits or you want to get your hands on any of these articles, feel free to reach out to me after the talk is over, and I can get those to you.

But just know the M&RIE is still an option for any OMNIA fittings. If you do choose to fit with a M&RIE, just know this does add a new directional option for that fitting in particular, for any of the directionality options that would utilize it. So, if you want that all-around program to solely use the M&RIE microphone, you can actually choose to do that. And your outdoor and music programs will have M&RIE as the default directional response for anybody fit with M&RIEs. Now again, you have to have that microphone on the receiver for the M&RIE to be an option. So, don't expect to see this in standard receiver fittings. It's just for your information.

If you want to really utilize the M&RIE, and the M&RIE only, you can make manual selections in your advanced features underneath the Speech tab as a directionality option. Now let's wrap up here with just some highlights of what's changed in the fitting software. So, one thing that has changed, it's a little bit for the better here, is gonna be your improvements in detection. Really, this comes down to the robustness of the connection detection. But also the fact that you can still use the push button on, now the customs that are part of the OMNIA line to assign them for the patient. They're preassigned, they're custom devices, so they should be. They're preassigned to either the left or the right.

All you have to do is press the button on the device itself to assign it to the fitting. That is still the same for any OMNIA devices or the devices that have been fit with SureFit 3 receivers. Now here you can see that there's already a linked pair of some legacy Quattro devices. They've already been assigned to left or right. Just know that those legacy, those older devices do not have side detectable receivers. So, it won't know by just pressing those legacy buttons. But anything from the ReSound OMNIA line will know for the RIEs or the customs, if you press that one, it's gonna assign it to the site automatically, provided it has that detectable receiver. Just know for the BTEs that is not an option.

The tone hooks and the slim tubes are, by their very nature, not electronic, they are plastic or metal, or plastic again for the slim tubes. So, they're not gonna tell the hearing aid that it's a left slim tube or a right slim tube. And the tone hooks obviously do not have an either/or side to them. So, those will still require you to manually assign them. Calibration updates here. This is more for repairs. So, for devices that are gonna come back in, if they've come in, you need to send them for repair and send them back. In the past there have been a lot of reports that DFS calibrations would be deleted upon getting the devices back, which would require the patient to come in and run another DFS calibration.

And then send them out the door, rather than just being able to come in, and pick up their devices, and carry on with their day. That has changed. So, unless there's a complete data corruption of some type with the devices, so something that's very edge case, you're going to see those calibrations coming back to the user. So, you should be able to just pick up where you left off. Now, if you opt to change the receiver strength, particularly changing to or from a M&RIE, you're gonna have to update the calibration. As you would imagine, putting a microphone closer to the receiver gives you a different frequency response when it comes to DFS calibration. So, anytime you fit a M&RIE, you're going to have to do that DFS calibration.

One thing that is new as well is introducing the option to use in-situ fittings for custom devices. Now you've been able to use in-situ for RIEs and BTEs in the past. Now this is available for customs. One thing that we always note with in-situs, this is, obviously it is not a replacement for a conventional hearing test. This is just a nice way to, as the name implies, hear the audiogram through the devices themselves. Take into account any changes based on the physical properties of the device in the ear. Now when you are running this, we recommend for RIEs, that you're using either a fully closed off ear mold or power domes. If you are doing this with BTEs or customs, you're trying to close off that vent as best you can to prevent any inaccuracies that could come up in the testing itself.

A few other pieces to note here, one thing, it's pretty simple, is just the introduction of when you go into your preferences and your defaults. So, you can actually have that fine tuning session launch to your data logging. So, you can just hit the ground running, talking about their experience with the devices. See how well they've been wearing them and how consistently they've been using the devices. Another update here is the recalculate tool in the fitting software. This is important, because in the past, what we had done is, the recalculate would reset your gains, your MPO, and any advanced features that you had done in either one or all of the programs. Now you have a lot more control over what recalculate actually changes.

So, you'll see you can reset the gain in the MPO only and weave any other advanced feature fine tunings. So, if you've tinkered with the programming for a while. And you're like, "I just need to restart from step one. But I wanna keep them in this directionality that I'd already set up or change their noise reduction." You can choose to just reset the gain and MPO first, as resetting the whole fitting will include the all fine tuning. So, that includes any advanced features that you've changed will go back to the default. You also have the option to do this to just one program, all of the programs or one or

both of the years. Lastly, you have the possibility to link or unlink accessories to your fitting.

So, if you've had them in the office, you wanted to demo a Multi Mic or a TV streamer, and they're like, "Well, this is great. But I don't need it today." You can bring them back in the fitting software and unlink that. The same goes, if they update from one accessory to another, and they just don't want to get confused as to which one is which. Looking at it in the three channels here, you can easily unlink them now using that linked button. Okay, we are at the end of our time here. So, just to recap a little bit, we have really brought into focus the full family of the ReSound OMNIA line of products. We've talked about their benefits.

We've talked about what each form factor can actually bring to the table that is a little unique in comparison to the others. And we talked about some updates to the fitting software. Now that we do have a few minutes left, I wanna open the floor to questions. Now I'm not seeing anything in the Q&A just yet. But what I will note is, if you do have any questions or if there's any of the data that I talked about today that you're interested in hearing more about, my email address is nwright, so N-W-R-I-G-H-T, nwright@gnresound.com. If you'd like to follow up with me, if there's any questions that you think of later, there's opportunity to get in contact with me.

You don't have to have all of your questions ready to go right now. And this also applies to anybody listening later. Awesome, well, thanks, everybody. Thank you everybody so much for coming and joining the conversation today. Like I said, any questions, feel free to reach out, and let me know.