



Grand Rounds with ReSound

ReSound GN

Grand Rounds With ReSound: Enhancing Hearing with ReSound Accessories

GN Making Life Sound Better

The image shows a close-up of two ReSound GN hearing accessories, a silver and black behind-the-ear model and a black behind-the-ear model with a clear tube, resting on a light-colored wooden surface. A red semi-transparent box on the left contains the text 'Grand Rounds with ReSound'. A red bar with a white ReSound GN logo is at the bottom right of the image area.

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Learning Objectives:

After this course, participants will be able to:

- Identify the ReSound streaming accessories and their functions
- pair ReSound accessories in the Aventa software
- cite an example of a situation in which each ReSound accessory might be useful.

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The slide contains learning objectives for a course. It starts with a small number '2' in the top right corner. The main heading is 'Learning Objectives:'. Below it, a paragraph states 'After this course, participants will be able to:'. This is followed by three bullet points: 'Identify the ReSound streaming accessories and their functions', 'pair ReSound accessories in the Aventa software', and 'cite an example of a situation in which each ReSound accessory might be useful.'. At the bottom left is the GN logo and 'Making Life Sound Better'. At the bottom right is the ReSound GN logo.

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Smart Solutions for Connectivity



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What are the ReSound Accessories?

Micro Mic

- Improves signal-to-noise ratio
- Exceptional speech understanding
- Range to over 80 feet



ReSound Micro Mic



ReSound Multi Mic

Multi Mic

- Doubles as tabletop/conference mic
- Connects with loop and FM systems
- 3.5 mm jack input for streaming

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What are the ReSound Accessories?



TV Streamer 2

Stream stereo sound from TV, computer, or stereo system directly to hearing aids with no neck loop or intermediary device

Range = 20 ft

What are the ReSound Accessories?

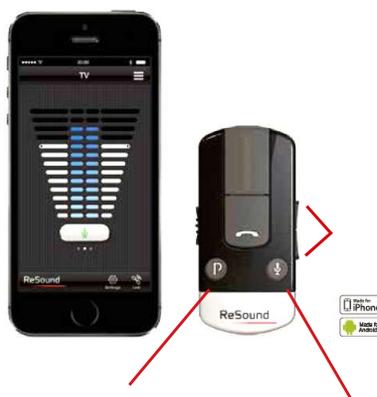
Phone Clip+

Stream phone calls from **any** Bluetooth enabled phone

Stream music, podcasts, or any audio

Also functions as a remote control:

Program change
Volume control
Mute



What are the ReSound Accessories?

Phone Clip+

ReSound Control App

Can be used in conjunction with Phone Clip+ on any Android or iPhone.

Features include:

- Program Change
- Streamer Activation
- Hearing aid volume
- Streamer volume
- Mute



What are the ReSound Accessories?

Remote Control 2

- Streamer activation
- Volume changes
(hearing instrument
and streamer)
- Program changes
- Mute
- LED screen



ReSound Unite® Remote Control 2

When would you recommend ReSound Accessories?

- Need for a better signal-to-noise ratio
- Poor word recognition ability
- For hearing a desired signal (speech, music, performances, etc.)
- Special circumstances in which a streamer would be useful, such as hands-free phone use.
- When distance is prohibitive to hearing a signal
- When a patient would like a 'private' listening experience
- Limited dexterity (Remote Control 2)

Reasons patients give for not using streamers:

“Shouldn't my hearing aids be enough?”

“Hmmm, that sounds kind of complicated/ I don't want to fool with that”

“How much?”

“I don't want my wife/husband/kids to be in charge of when it's on”

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RESOUND MULTI MIC Highlights



Extended Range: Up to 25 meters (80 feet) in clear line of sight	Rechargeable 11 hour battery life	Robust clothing clip rotates 360 for optimal voice pick-up	Compatible with all ReSound wireless hearing aids
Can be paired with an infinite number of hearing aids	<20ms latency to prevent echo and lip sync issues	Mute/Unmute button	LED status indicator lights
Drop detection	Volume control lock	Test Mode	Multi Mic Additional Features <ul style="list-style-type: none"> - Modes of Operation - Table functionality - Omni AND directional microphones

GN Making Life Sound Better 1st ReSound Pediatric Seminar - Cincinnati, June '14







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Case Studies:

Officer Harvey is a 46-year-old state trooper who wears a ReSound wireless custom ITE in his right ear, and has no aidable hearing in his left ear.

Challenge: When he makes a traffic stop, Officer Harvey typically turns his left (non-hearing) ear to the driver so that he can watch oncoming traffic. This obviously presents a compromise in terms of hearing. How do you suppose his provider solved his problem?







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ReSound wireless hearing aid ReSound Multi Mic



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Case Studies:

Mrs. Grimes is a resident of Shady Timbers assisted living center, where she is very active and participates in lots of social activities. She loves her ReSound Alera hearing aids, but occasionally has trouble hearing their activities director when they are in large groups.



She mentions this to you during a 6-month hearing aid check. She said that another resident who recently got new ReSound hearing aids has a “clip-on thing” that she gives to the activities director to wear when they are in groups, and she has no trouble hearing at all. She’d like to know if she can get one, too.

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GREAT NEWS!

Mrs. Grimes (and any other resident with wireless ReSound hearing instruments) can pair her wireless Alera hearing aids to the mini-, micro-, or multi- mic provided by the other patient. With just one mic, they can all stream the Activity Director's voice to their aids.



SO – **old** wireless hearing aids + **new** micro/multi mic = ✓

AND

many wireless hearing aids with **one** micro/multi mic = ✓

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Case Studies: Mrs. Lesley

Mrs. Lesley recently underwent BAHA surgery and struggles to hear, especially in noise. Her daughter (who is also her audiologist) had been encouraging her to try a Multi Mic for this challenge, but “she was discouraged by her perception that it would be a hassle.” Recently they went shopping for the afternoon together, and after watching her mom grow frustrated trying to hear, she said:

“I went to the car and paired my demo Multi Mic. . . We used it for the rest of the weekend and she was thrilled that she could hear in noisy environments and on the long ride home. She only has one request on her Christmas wish list: The Multi Mic.”*



*labeled Wireless Mini Microphone
2+ by Cochlear Americas

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Case Studies: Mrs. Meredith

Mrs. Meredith was recently fit with LiNX² 961s for her bilateral severe flat hearing loss. She has been looking forward to a trip to the beach with her daughter. On the first day, in the wee hours of the morning, she is already feeling stressed and getting more anxious by the minute due to the frustration of not being able to hear well at the airport. It's early, she hasn't had enough coffee, and she and her daughter, who also happens to be her audiologist, are getting cranky with each other.

If you were her daughter, what *one thing* would you wish you had in your bag to remedy this situation and get your vacation back on track?



Case Studies: Mrs. Meredith

GREAT NEWS!

Mrs. Meredith's daughter has a demo Multi Mic in her bag! Hooray! (It's actually one that she purchased as a gift for her mom but she's trying to introduce it on the sly. Her mother/patient is one of the folks whose objection was "seems too complicated").



Case Studies: Mrs. Meredith

GREAT NEWS!

Mrs. Meredith's daughter has a demo Multi Mic in her bag! Hooray! (It's actually one that she purchased as a gift for her mom but she's trying to introduce it on the sly. Her mother/patient is one of the folks whose objection was "seems too complicated").

"I paired the Multi Mic to my mom's hearing aids in about 7 seconds. I clipped the mic to my collar, and used my mom's Android Smart app to access streaming. This completely saved the day! After we boarded our flight and settled in, I showed her how to plug the 3.5 mm jack into her phone and the mic so she could listen to her audio book through her hearing aids."



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Mr. Kelly likes his hearing aids small! He is wearing LiNX² 961s, so he does not have a T-coil. He likes to attend performances at his local theater. He has asked if his hearing aids can "hook in" to the looped system they have. Is there a solution for him?



Of course! Mr. Kelly can use a Multi Mic, which has a T-coil Mode. He simply presses the mode function button on the Multi Mic to access the looped signal, which is then streamed to his hearing aids.



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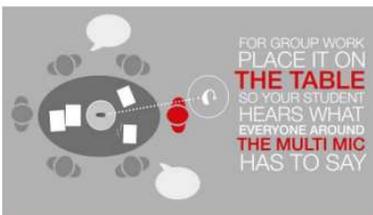
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One Micro- or Multi Mic can accommodate multiple sets of hearing aids (infinite). Ex: One teacher with Mic/ multiple students with wireless hearing aids.



Similarly, one TV streamer can accommodate multiple sets of hearing aids. Ex: A TV streamer in a common room of an assisted living center.

When wearing it VERTICALLY using the clip or lanyard, the Multi Mic will be in DIRECTIONAL MODE



When placed HORIZONTALLY on a flat surface, the Multi Mic will switch to an OMNIDIRECTIONAL MODE, ideal for picking up multiple speakers around the unit

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ReSound Multi Mic Operation Modes

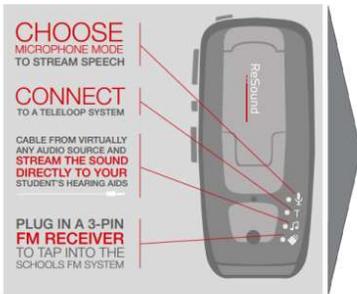
Mode of Operation

CHOOSE
MICROPHONE MODE
TO STREAM SPEECH

CONNECT
TO A TELELOOP SYSTEM

CABLE FROM VIRTUALLY
ANY AUDIO SOURCE AND
STREAM THE SOUND
DIRECTLY TO YOUR
STUDENT'S HEARING AIDS

**PLUG IN A 3-PIN
FM RECEIVER**
TO TAP INTO THE
SCHOOLS FM SYSTEM



- **Microphone Mode:** The Multi Mic will stream sound from the environment directly to the hearing instrument(s)
- **Telecoil Mode:** With the built-in telecoil, users can receive audio streamed from a teleloop system
- **Line-in Mode:** When an external audio source is connected with a mini-jack cable, the audio is streamed to the hearing instrument(s)
 - When an audio source is connected, the line-in mode will automatically be activated
 - Virtually any audio source device can be connected using an appropriate cable ending in a stereo jack plug
- **FM Mode:** When an external FM receiver is attached to the Multi Mic in the 3-pin Euro adapter, the Multi Mic can receive audio from an FM transmitter
 - When an FM receiver is plugged in, the FM mode will automatically be activated

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1st ReSound Pediatric Seminar - Cernobbio June 1st





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Case Studies:

Mrs. Griffin has just been fit with LiNX² 961 hearing aids. One of her primary difficulties before getting amplification was hearing the television. Her husband has a TV streamer which he purchased to use with his Verso 761s. She would like something like this to use with her hearing aids.



Great news!

Mrs. Griffin can use the same TV streamer as her husband, because ReSound wireless hearing instruments are backward-compatible to any streamer. Plus, they can both be paired and streaming at the same time.



SO— **new** custom wireless hearing aids + **old** TV streamer = ✓

AND

multiple wireless hearing aids with **one** TV streamer = ✓

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Case Studies: Mr. Vargas

Mr. Vargas is a commercial truck driver. He wears LiNX² Mic-In-Helix hearing instruments for his moderate hearing loss. Even though he has an iPhone 5, and could stream directly to these instruments, he is required to use a hands-free device for phone use, so he has a Phone Clip+. This allows him to accept calls without touching his phone at all.

Also, because of the extremely noisy conditions, his hearing healthcare provider optimized his signal so that he does not have to make any changes while driving. Here's what she did:



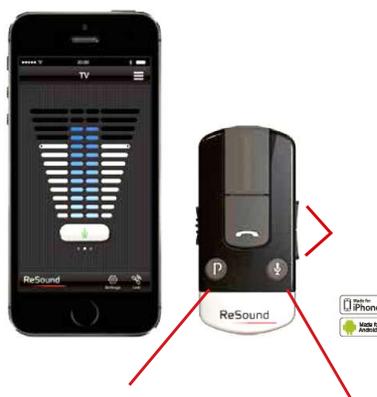
Phone Clip+

Stream phone calls from **any** Bluetooth enabled phone

Stream music, podcasts, or any audio

Also functions as a remote control:

Program change
Volume control
Mute



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Phone Clip+

ReSound Control App

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Case Studies: Phone Clip+

Easy overview

WITH RESOUND SMART HEARING AIDS, YOUR PATIENT GETS ACCESS TO:

- An iPhone, iPad or iPod touch
- A Phone Clip+
- Any combination of three streaming a
- A Remote Control 2

PHONE AND APP OPTIONS

Phone		Smart Hearing aids
IPHONE (iOST OR LATER)	Phone call	Made for iPhone
	App use	ReSound Smart
ANDROID PHONES (SELECTED MODELS)*	Phone call	Phone Clip+
	App use	ReSound Smart
OLDER IPHONE OR OTHER ANDROID* PHONES	Phone call	Phone Clip+
	App use	ReSound Control
OTHER BLUETOOTH-ENABLED PHONES	Phone call	Phone Clip+
	App use	

NOTE: Other combinations are also possible
* See www.resound.com/compatibility for list of phone models compatible with ReSound Smart app

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CONTROL OPTIONS

	ReSound Smart	ReSound Control*	Phone Clip+	Remote Control 2
VOLUME AND PROGRAM FUNCTIONS				
Volume adjustments	Mono-/binaural	Mono-/binaural	Binaural	Mono-/binaural
Hearing aid program selection	Direct select	Direct select	Toggle (1-2-3-1...)	Toggle (1-2-3-1...)
Streamer selection	Direct select	Direct select		Toggle (1-2-3-1...)
Balance hearing aid volume vs. streaming volume	●	●		●
Hearing aid mute	●	●	●	●
OTHER FUNCTIONS				
Phone operation			●	
Program/streamer name customization by user	●	●		
Bass/treble adjustment	●			
Display	●	●		●
Create favorite programs with or without geotags	●			
Sound Enhancer adjustments**	●			
Tinnitus Management adjustments	●			
Find your lost hearing aid	●			

* ReSound Unite Phone Clip+ is needed to use the ReSound Control app
 ** Available in ReSound LiNX² 9 and ReSound ENZO² 9

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Mr. Lee has an N6 cochlear implant on the right and wears a LiNX² 762 on the left. What is the best option for him for phone use?

Because of ReSound's partnership with Cochlear Americas, Mr. Cooper is able to pair both devices to a Phone Clip+. This way, he can stream to both devices simultaneously for binaural input of the phone signal.

Pairing is done outside of the Aventa software, so that both devices can be paired to the Phone Clip+ at the same time.

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Case Studies: Mrs. Griffin, follow up visit

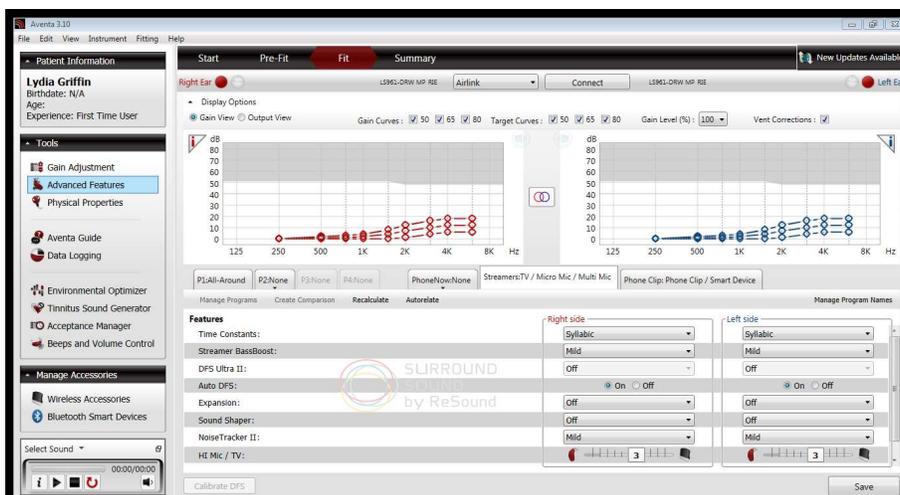
Remember Mrs. Griffin, our patient who was thrilled to learn she could pair her hearing aids to the TV streamer that her husband was already using? Well, she's back today, and says the function of the streaming is great, and she loves being able to hear dialogue even in the presence of background music, but is wondering if you can make it sound, "better." She can't quite describe what doesn't sound right about the sound from the tv, but "maybe it's tinny, and the voices sound like they are far away."



MORE GREAT NEWS!

We can! In the Aventa software.

Case Studies: Mrs. Griffin, follow up visit



Case Studies: Mrs. Griffin, follow up visit

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Case Studies: Mrs. Griffin, follow up visit

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	All	250	500	750	1K	1.5K	2K	3K	4K	6K
50	0	0	3	4	8	12	16	18	18	
65	0	1	1	2	4	7	10	12	12	
80	0	0	0	0	0	1	4	6	6	
CR	1.0	1.1	1.1	1.2	1.3	1.7	1.7	1.7	1.7	
MPO	96	99	99	99	104	109	113	116	108	

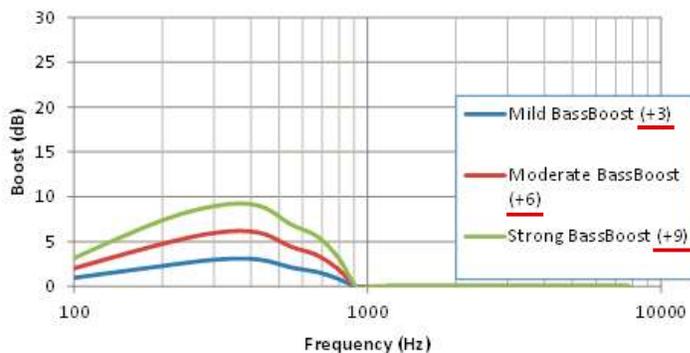
	All	250	500	750	1K	1.5K	2K	3K	4K	6K
50	0	2	3	4	8	12	16	18	18	
65	0	1	1	2	4	7	10	12	12	
80	0	0	0	0	0	1	4	6	6	
CR	1.0	1.1	1.1	1.2	1.3	1.7	1.7	1.7	1.7	
MPO	96	99	99	104	109	113	116	108	108	

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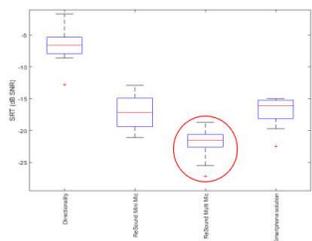
Case Studies: Mrs. Griffin, follow up visit

Streamer bass boost



Multi Mic Proof of Benefit

Multi Mic provides, on average, +15 dB SNR *above* what directionality provides



- The new ReSound Multi Mic on average provides 15dB of SNR benefit above what directionality provides.
- It provides a significantly better SNR improvement (Tukey's Honest Significant Difference) than the existing ReSound Mini Mic.
- The new Multi Mic on average provides 5 dB more SNR benefit compared to the first generation Mini Mic.

Jespersen & Kirkwood, 2016

Let's Review:

Q: How many people can be paired and connected to a ReSound TV streamer?

A: Unlimited! A tv streamer can be used by one person, a couple at home together, or a room full of people wearing any ReSound wireless hearing aid (such as in an assisted living facility)– if they can agree on what to watch!



Q: Can an older hearing aid, like an Alera, be paired to a ReSound wireless device?

A: Yes! ANY ReSound hearing instrument that has been introduced since we launched our 2.4 GHz wireless platform can be paired to a wireless streamer, even a much newer streamer. A quick update *to the streamer itself* may be needed. This desktop icon appears when you download Aventa software.



Q: Can a patient have multiple “broadcast” devices, such as two TV streamers?

A: Yes. There are three channels available for broadcast streaming, so that a patient can be paired to any combination of up to three TV streamers and/or Mini-/Micro-/Multi Mics. For example . . .



TV in
Channel 1



Micro Mic in
Channel 2

Q: Can adjustments be made to the sound of a streamed signal?

A: Absolutely. Each accessory has a “tab” in the Aventa software, and can be adjusted for sound quality and personal preferences. For example . . .

Also, the ratio of streamed signal vs. hearing instrument mic input can be altered, using the Smart App, as in this animation:

Q: T/F- A ReSound Mini Mic (predecessor to Micro- and Multi Mics) can be used with a new LiNX² product.

A: True. Remember that the Mini Mic may need to be updated via the Accessory Update



Q: I have a patient who has an iPhone 6 but would like to use a Phone Clip+ for hands-free phone use. Can he disable the streaming function of the iPhone and still stay “paired” to the phone for using the Smart App?

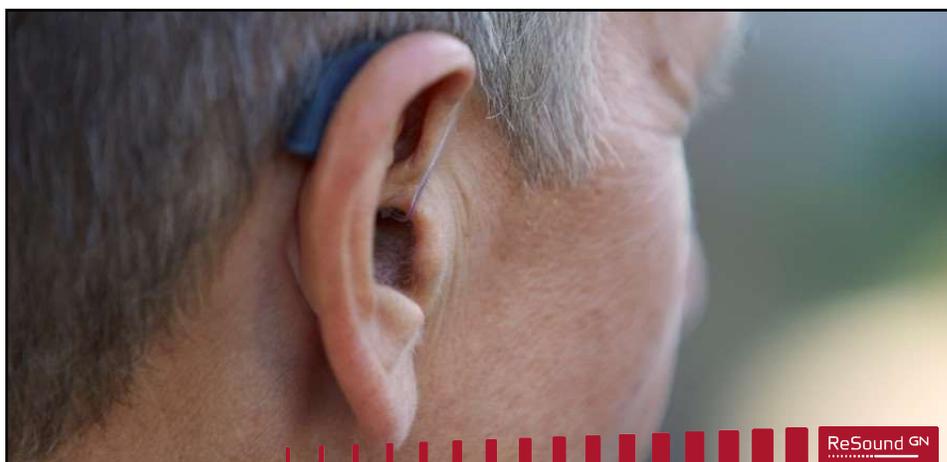
A: Yes! In the iPhone settings menu, under Accessibility, you may select whether or not direct streaming is enabled for one or both ears.

Q: Is a patient required to have a RIE- or BTE-style hearing aid for wireless connectivity?

A: ReSound wireless connectivity is available not only in RIE and BTE models, but also in several **custom devices**, including ITE, ITC, and MIH (Mic-in-Helix).



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QUESTIONS?

Thank you.

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