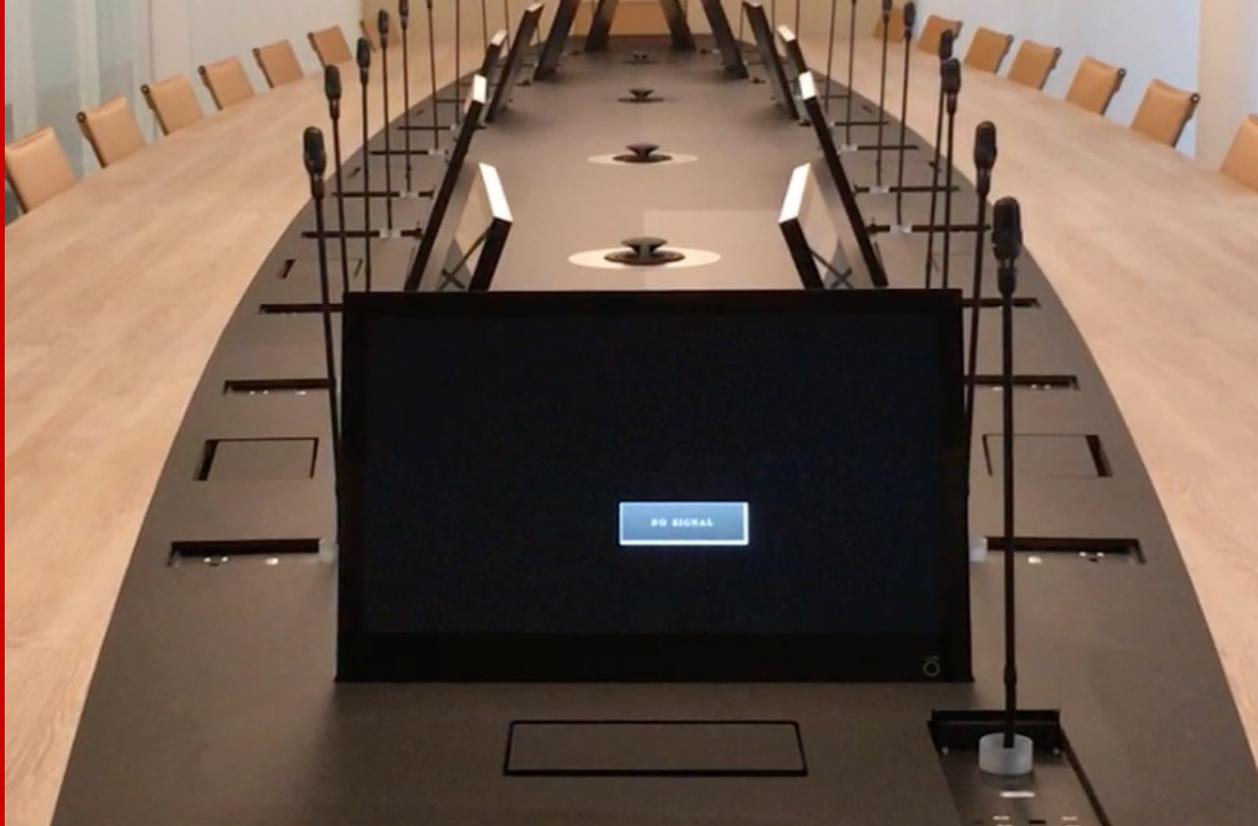


White Paper:
The Advantages of the
Motorized DynamicSpeaker

February 2026


ARTHUR HOLM

Make**YourMeetings**Count



The Advantages of the Motorized DynamicSpeaker

Acoustic Enhancement, Speech Intelligibility, Space Optimization and System Compatibility

Executive summary

In modern boardrooms, council chambers, courtrooms, and high-end meeting environments, audio performance is as critical as visual communication. Poor speech intelligibility, uneven sound distribution, and acoustic reflections can significantly reduce meeting effectiveness, particularly in hybrid environments combining in-room and remote participants.

Arthur Holm's **motorized DynamicSpeaker** has been specifically engineered to address these challenges. Unlike traditional ceiling speakers, front soundbars, or wall-mounted systems, the DynamicSpeaker delivers optimized voice reproduction directly at the meeting table — where communication happens.

This white paper explains why the DynamicSpeaker represents a superior solution in terms of:

- ▶ Acoustic enhancement
- ▶ Speech intelligibility
- ▶ Space optimization

Seamless integration with audioconference and videoconference systems



1. Rethinking Audio in Meeting Spaces

Conventional room audio systems typically rely on:

- ▶ Ceiling loudspeakers
- ▶ Front soundbars beneath displays
- ▶ Side-wall speaker installations

While common, these solutions often suffer from:

- ▶ Uneven sound coverage
- ▶ Acoustic reflections and reverberation
- ▶ Energy dispersion throughout the room
- ▶ Reduced speech intelligibility
- ▶ Architectural compromise

In contrast, the Arthur Holm DynamicSpeaker introduces a table-centered, motorized approach that places sound precisely where it is needed.

2. Acoustic Enhancement Through Proximity

The Importance of Source Position

Sound clarity is directly influenced by the distance between the loudspeaker and the listener. Traditional ceiling or wall-mounted speakers distribute audio across the entire room volume, resulting in:

- ▶ Reflections from walls and ceilings
- ▶ Standing waves and vibrations
- ▶ Loss of acoustic energy
- ▶ Reduced intelligibility

The DynamicSpeaker is installed at the center of the meeting table, ensuring proximity to participants. This proximity:

- ▶ Minimizes sound dispersion into the room
- ▶ Reduces reflections and reverberation
- ▶ Increases direct sound-to-reflected sound ratio
- ▶ Improves clarity without increasing volume

By focusing acoustic energy on listeners rather than the room, the system enhances efficiency and reduces the need for excessive amplification.

3. Superior Speech Intelligibility

Engineered for Voice Reproduction

The DynamicSpeaker is designed with a **linear frequency response optimized specifically for speech**. This ensures:

- ▶ Clear articulation of consonants
- ▶ Natural tonal balance
- ▶ High intelligibility even at moderate levels

Unlike generic room speakers, the DynamicSpeaker prioritizes the frequency ranges critical to human speech comprehension.

Omnidirectional Dispersion

When deployed at the center of the table, the speaker's **omnidirectional dispersion** ensures uniform sound distribution across all seating positions.

This eliminates:

- ▶ Volume disparities between near and far participants
- ▶ Sound quality inconsistencies
- ▶ “Hot spots” and “dead zones”

Every attendee receives the same acoustic experience, enhancing meeting equity and effectiveness.

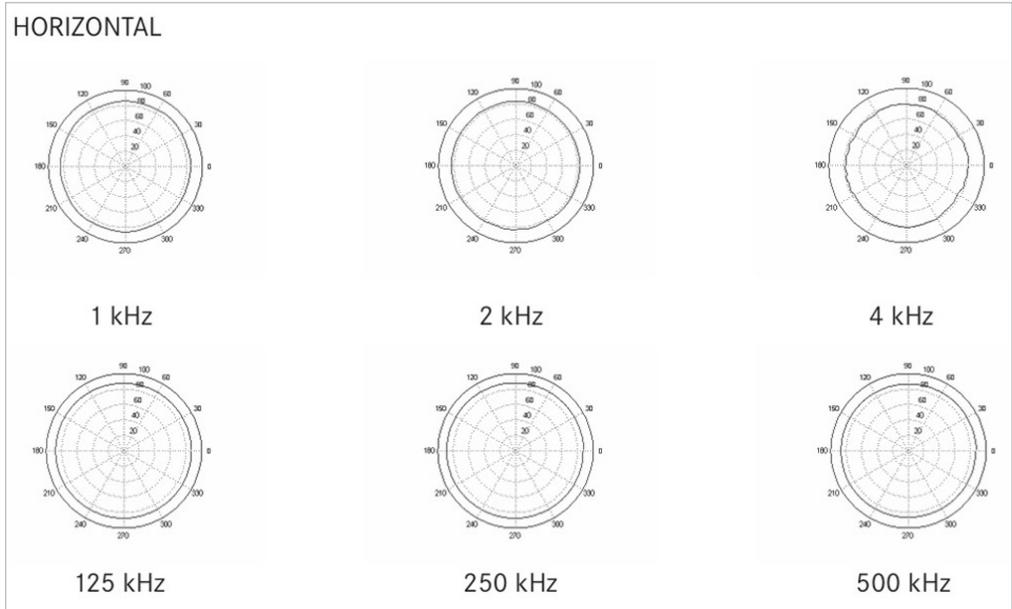
4. Advanced Electroacoustic Design

At the heart of the system is a 4” coaxial loudspeaker powered by two independent digital amplifiers:

- ▶ One amplifier dedicated to low frequencies
- ▶ One amplifier dedicated to high frequencies

This bi-amplified configuration ensures:

- ▶ Precise frequency control
- ▶ Greater efficiency
- ▶ Reduced distortion
- ▶ Improved dynamic response



Integrated DSP Processing

The built-in DSP (Digital Signal Processor) includes:

1. Crossover

Separates low and high frequencies for optimized amplification.

2. Equalization

Fine-tunes the frequency response to maximize speech clarity.

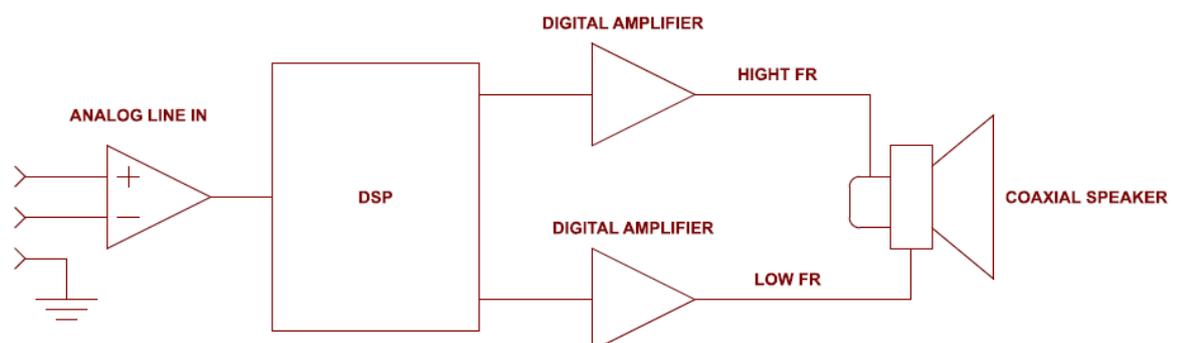
3. Independent Limiters

Protect both low- and high-frequency sections from distortion and damage in the event of excessive input signals.

4. AHnet Control Protocol

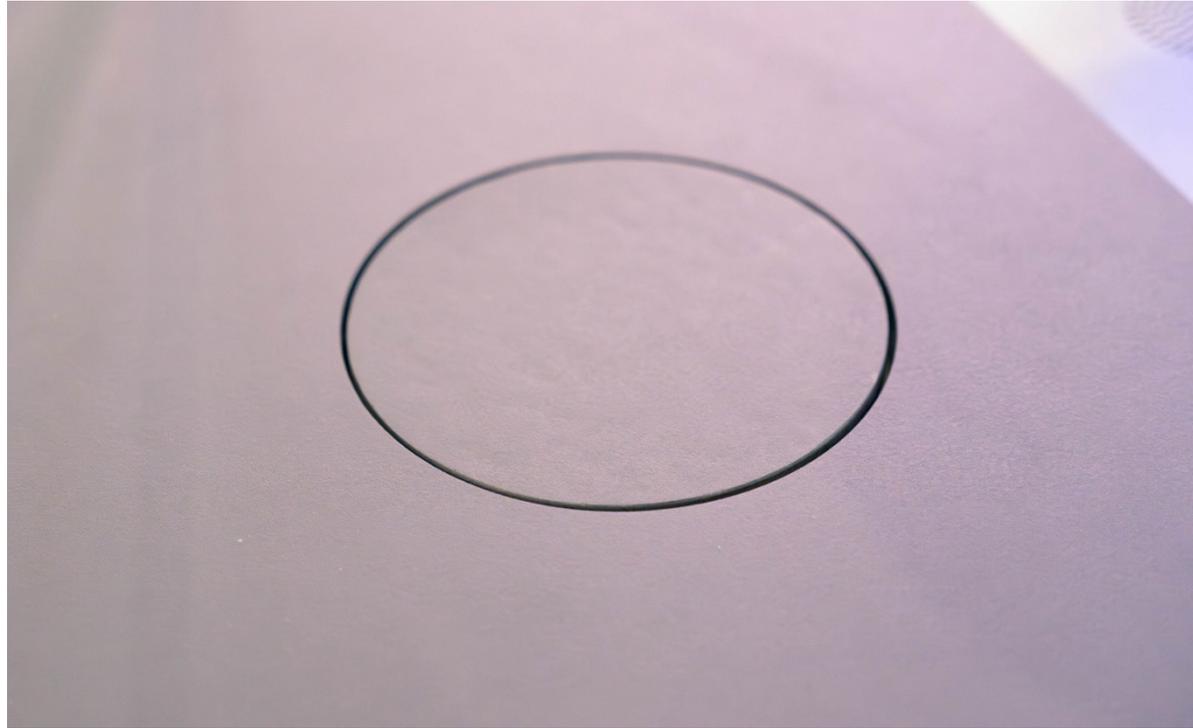
Enables remote monitoring and control, allowing system integrators to manage performance parameters efficiently.

This intelligent signal processing ensures stable, controlled, and high-performance operation in professional environments.



5. Space Optimization Through Motorization

Invisible When Not in Use



As a motorized solution, the DynamicSpeaker remains discreetly concealed within the table surface when not in operation. This provides:

- ▶ Clean architectural lines
- ▶ Minimal visual impact
- ▶ Preservation of premium interior design

The system rises automatically when needed, combining technological performance with refined aesthetics.

Eliminating Architectural Compromise

- ▶ Unlike ceiling or wall-mounted solutions, the DynamicSpeaker:
- ▶ Does not require visible grilles or side installations
- ▶ Does not interfere with room architecture
- ▶ Maintains a clutter-free environment

This makes it ideal for executive boardrooms, parliaments, courtrooms, and high-end conference spaces.

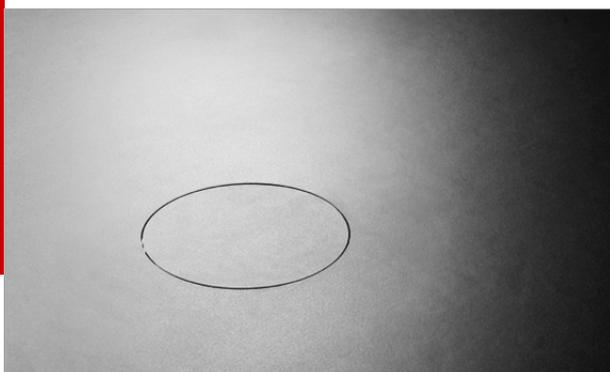


DynamicSpeaker is available in 2 versions:

Tabletop installation with a visible frame with a capacitive touch button:



And a version for veneer:

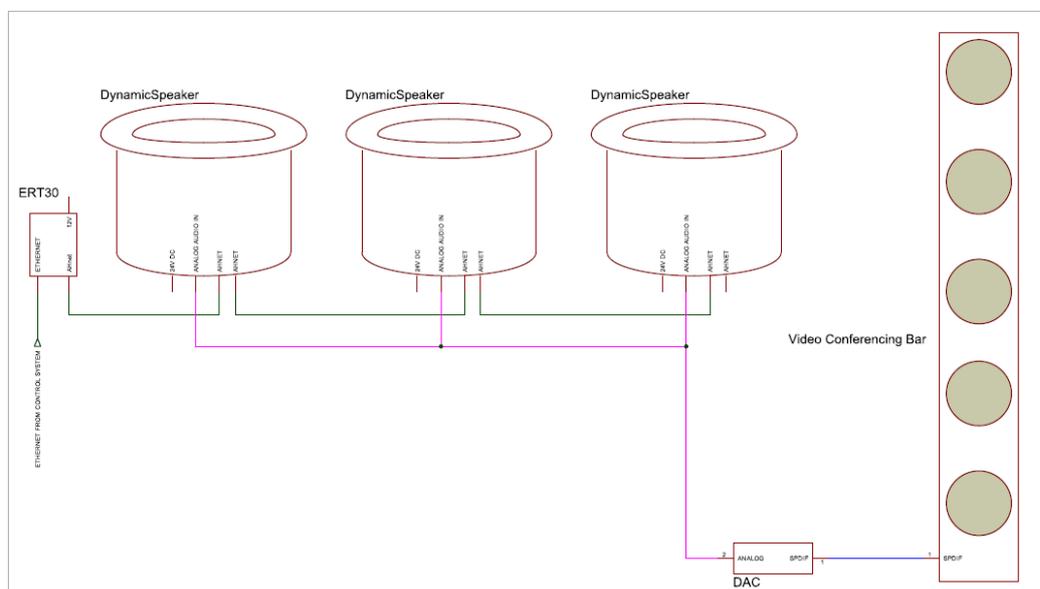




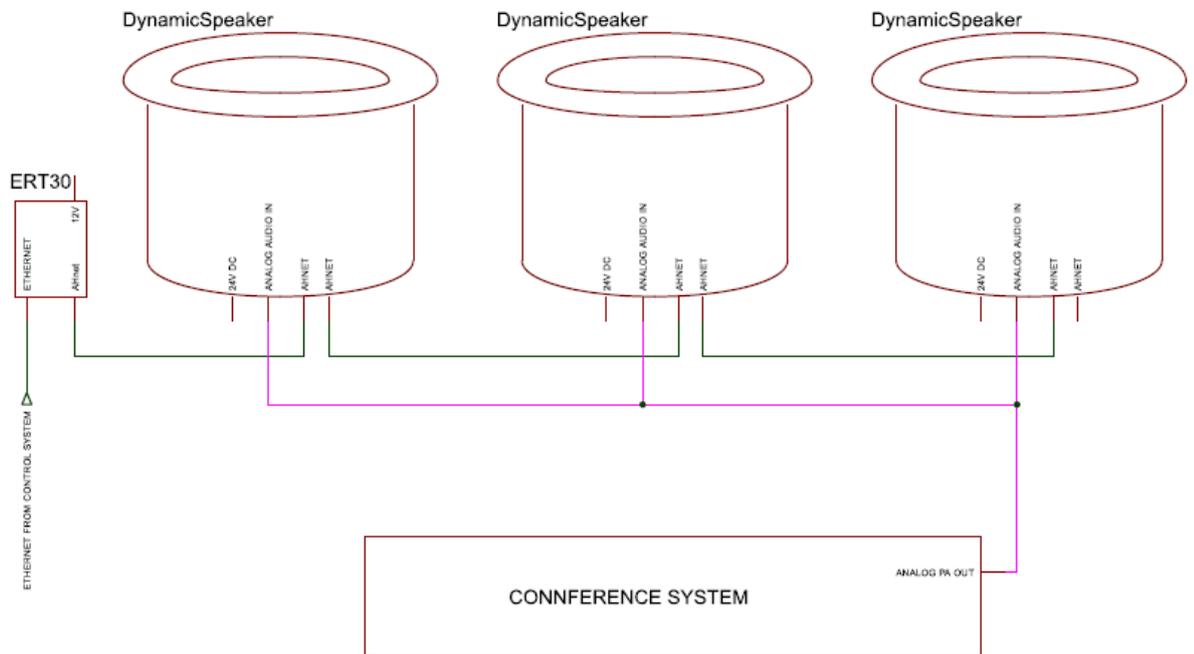
6. Seamless Integration with Audioconference and Videoconference Systems

Modern meeting spaces must integrate seamlessly with:

- ▶ Audioconference systems
- ▶ Videoconference platforms
- ▶ Digital signal processors
- ▶ Public address (PA) systems



Example of connection with a Video Conferencing bar



Example of connection with a conference system

Direct Compatibility

Most audioconferencing systems provide outputs for external audio systems. These outputs typically come in two formats:

1. Analog Line-Level Outputs

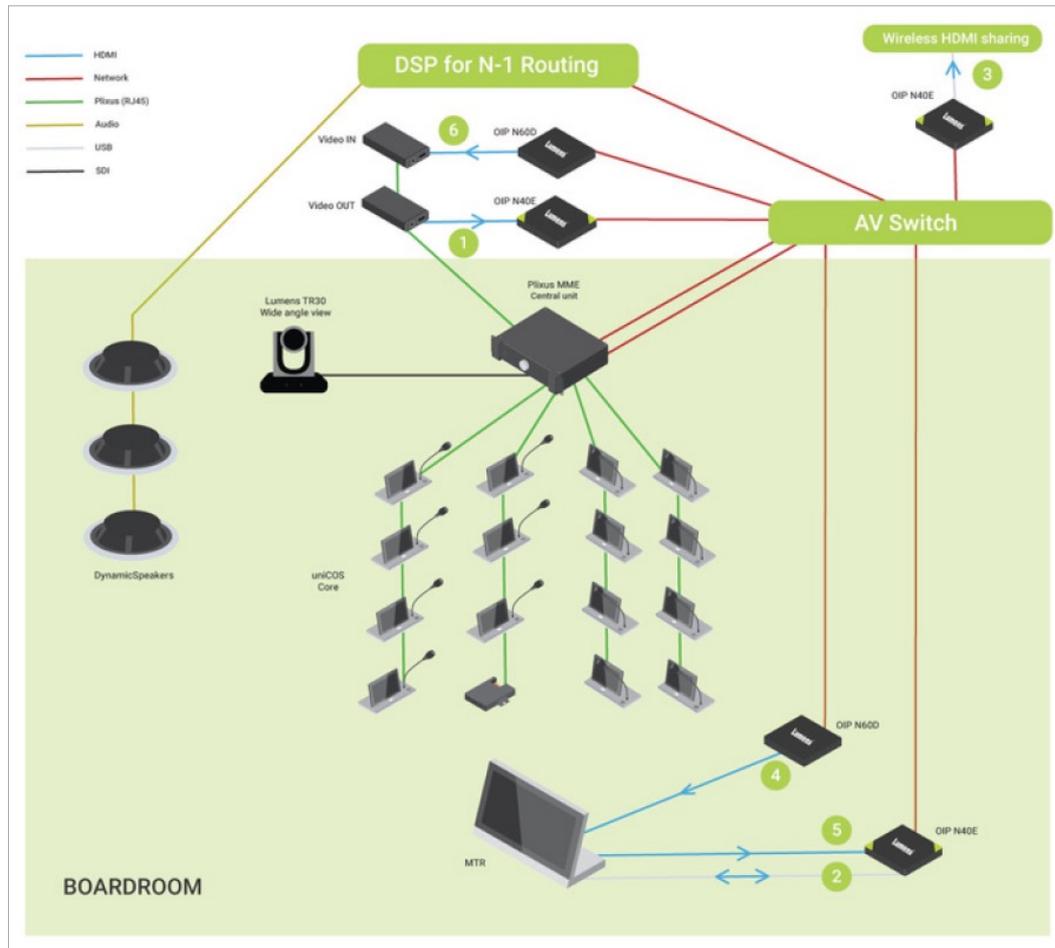
These can be connected directly to the DynamicSpeaker.

2. Digital Outputs (Dante, SPDIF, etc.)

In these cases, external adapters such as Dante AVIO modules can be used for integration.



This flexibility ensures compatibility with leading unified communication platforms and professional AV infrastructures.



Example of connection with a Televic conference setup

Remote Control and System Management

Through the proprietary AHnet protocol, the DynamicSpeaker can be:

- ▶ Remotely controlled
- ▶ Monitored
- ▶ Integrated into centralized control systems

This simplifies system management and enhances reliability in mission-critical environments.

7. Why Choose DynamicSpeaker Over Traditional Solutions?

Feature	Ceiling / Wall Speakers	Front Soundbars	Arthur Holm DynamicSpeaker
Proximity to Users	Low	Medium	High
Speech Intelligibility	Moderate	Moderate	Very High
Acoustic Reflections	Moderate	Moderate	Low
Uniform Coverage	Limited	Directional	Omnidirectional & Even
Architectural Impact	Invisible	Visible	Invisible when retracted
Integration	Standard	Standard	Advanced (AHnet + Analog/Digital)

The DynamicSpeaker offers a **focused, intelligent, and architecturally integrated solution** tailored specifically for professional meeting environments.

Conclusion

The Arthur Holm motorized DynamicSpeaker redefines audio performance in meeting spaces by combining:

- ▶ Optimized speech intelligibility
- ▶ Controlled acoustic dispersion
- ▶ Intelligent DSP processing
- ▶ Architectural elegance
- ▶ Seamless system integration

By placing the sound source at the center of communication — the meeting table — the DynamicSpeaker ensures consistent clarity, efficiency, and user experience that traditional ceiling or wall-mounted systems cannot match.

In environments where every word matters, precision matters.

Arthur Holm DynamicSpeaker — Intelligent Sound. Invisible Presence. Exceptional Clarity.

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