

Directional Sound Technology Expands: Audfly Launches New Ultrasonic Modules for Smart Cities and Digital Signage

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EINPresswire.com/ -- Ultrasonic [directional sound](#) technology is gaining momentum across smart infrastructure and commercial applications. Recently, audio technology innovator Audfly Technology introduced a new range of directional audio modules for integration into smart city terminals, digital signage, interactive kiosks, and service robots—a move that signals a major evolution in how sound is projected and controlled in public environments.

By combining ultrasonic sound projection with [directional pickup](#) microphone arrays, the new solutions aim to improve communication clarity, enhance user privacy, and provide more effective [noise control](#) in public spaces.

“Directional sound is becoming a key enabler for smarter, quieter, and more human-centered cities,” said Dr. Laura Bennett, Urban Technology Analyst. “It allows targeted audio delivery where it’s needed, without adding unnecessary noise pollution.”

Precision Sound Projection for Smart City Terminals

Traditional PA systems and loudspeakers broadcast sound broadly, often causing overlapping messages and noise complaints. In contrast, Audfly’s directional sound emission modules use ultrasonic transducers to create narrow sound beams, similar to how a spotlight focuses light.

This technology is now being adopted across a growing range of smart city and commercial applications:



- Outdoor digital signage can deliver localized audio advertising or real-time announcements only to listeners standing in the target zone.
- Public information terminals can provide clear instructions in noisy transport hubs without disturbing surrounding areas.
- Hospital queuing systems can call patients privately, protecting personal data and reducing crowd noise.
- Interactive terminals and service robots can hold focused, natural conversations even in busy environments.

“Directional sound modules enable integrators to define acoustic zones with remarkable precision,” noted Michael Alvarez, a smart infrastructure researcher. “It’s a scalable solution for both smart city deployments and commercial spaces.”

Directional Pickup Technology: Sharper Voice Capture in Noisy Spaces

Alongside its emission products, Audfly is advancing directional pickup technology—highly focused directional microphone arrays optimized for short- to mid-range voice capture (1–3 meters).

This technology allows interactive kiosks, digital avatars, and autonomous service robots to isolate human speech from ambient noise, making voice interaction clearer, more accurate, and more private. In noisy public environments, this ensures smoother AI-human communication and improves the reliability of speech recognition systems.

“Directional pickup is the missing piece that turns sound projection into a two-way intelligent interaction,” Alvarez added. “Together, they enable next-generation smart terminals.”

FocusAura™ Solution: Emission and Pickup in One Module

To simplify system integration, Audfly offers the FocusAura™ solution, which combines directional sound emission and directional pickup microphone arrays into a single, ready-to-deploy audio module.

FocusAura™ is designed for public terminals, kiosks, and service robots that require precise sound delivery and accurate voice capture simultaneously. This all-in-one module helps system integrators accelerate product development while maintaining high levels of sound privacy and communication efficiency.

“With FocusAura™, we provide developers a turnkey solution for building smarter and quieter public terminals,” said Gu, Senior Engineer at Audfly Technology. “By controlling both how sound is projected and where it’s captured, we enable more respectful and efficient audio interactions

in shared spaces.”

Beyond Smart Cities: Expanding Commercial Applications

While smart city terminals are a primary focus, directional audio modules are also gaining traction in digital signage networks, retail environments, museums, and transportation hubs. Businesses are increasingly using directional sound technology to create localized audio experiences, improve engagement, and control acoustic environments without major infrastructure changes.

“Audio is finally being treated strategically—on par with visual displays and connectivity,” said Dr. Bennett. “Directional sound and pickup technologies offer flexibility and precision that traditional systems can’t match.”

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