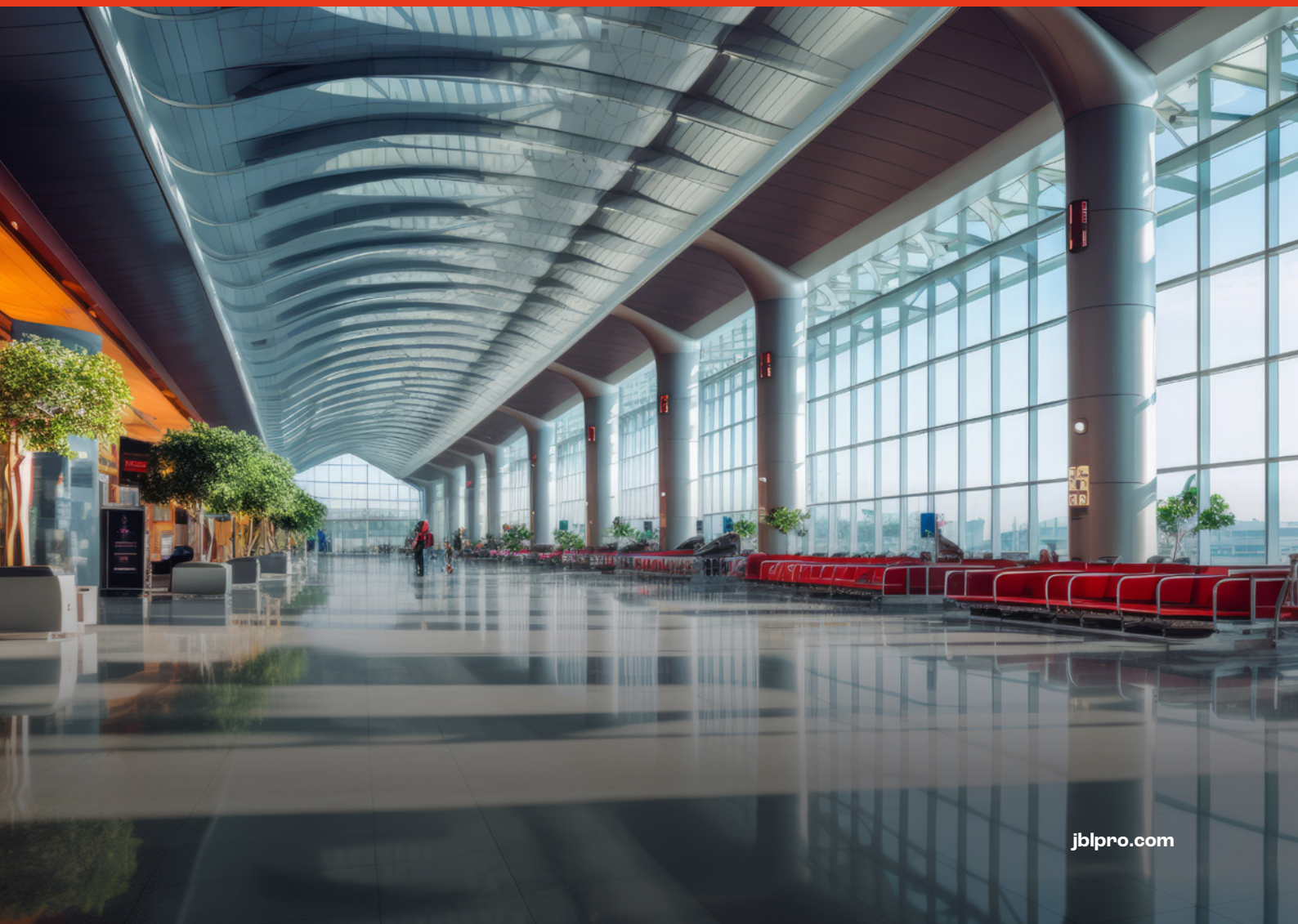


The JBL logo is displayed in a bold, white, sans-serif font within a white square. The letters are closely spaced and have a slight shadow effect.

PROFESSIONAL

JBL Intellivox Beyond Beam Steering

Precision sound control for challenging spaces



The JBL logo is displayed in white, bold, sans-serif capital letters within a red square.

PROFESSIONAL

Decades of acoustic engineering, focused on clarity.

Heritage You Can Hear

For over 75 years, JBL has been at the forefront of professional sound reinforcement, trusted in venues where performance, reliability, and clarity are critical. From landmark cultural buildings to major transport hubs, JBL solutions are engineered to meet real-world acoustic challenges. Intellivox represents the application of this heritage to one of the most demanding problems in audio: delivering intelligible sound in large, reverberant spaces.

A photograph of a modern church interior. The space features a high, vaulted ceiling with a stone wall at the front. The lighting is warm and focused, highlighting the architectural details and the altar area. The foreground shows rows of white pews.

What Is Intellivox

PRECISION CONTROL OF AUDIO COVERAGE

Intellivox is a family of digitally controlled column loudspeakers designed to precisely control where sound is delivered. Using advanced digital directivity technology, Intellivox focuses sound onto the audience while avoiding reflective surfaces, dramatically improving speech intelligibility and consistency. The result is clear, even coverage in spaces where conventional loudspeakers can't deliver.

Key Features

- Digital beam control and shaping
- Self-powered, networkable columns
- Integrated monitoring and surveillance
- Slim, architecturally discreet design

The Intellivox Advantage

- Enables high direct-to-reverberant ratio
- Consistent SPL over long throw distances
- Precise vertical control with wide horizontal coverage
- Reduced interaction with reflective surfaces

Why Intelligibility Matters

Intellivox is designed for spaces where reverberation, distance and architecture work against intelligibility.

- Speech is clearly understood
- Even sound level from front to back
- Fewer reflections
- Less listening fatigue
- Fewer loudspeakers, simpler systems



What Is Speech Intelligibility?

The primary function of any public address system is clear communication. Speech intelligibility describes how easily spoken information can be understood, and it is a critical measure of system performance—particularly in large or reverberant spaces.

Increasing level alone does not improve intelligibility. Excessive sound levels can raise listener discomfort while simultaneously increasing reflections, further reducing clarity. Effective intelligibility is achieved through controlled sound distribution, ensuring that

direct sound reaches listeners before reflected energy dominates.

Modern audiences are accustomed to high-quality audio in everyday life, and the same expectations apply to public spaces. Achieving this standard in large environments is challenging: as room size and reverberation increase, maintaining clarity becomes more complex. Successful systems address these challenges through precise control of sound energy, not simply higher output levels.

Category	Nominal STI value	Comment
A+	>0.76	Excellent intelligibility
A	0.74	High speech intelligibility
B	0.7	High speech intelligibility
C	0.66	High speech intelligibility
D	0.62	Good speech intelligibility
E	0.58	High quality PA systems
F	0.54	Good quality PA systems
G	0.5	Target value for voice alarm systems
H	0.46	Normal lower limit for VA systems
I	<0.42	Not suitable for PA systems

Precision Control of Audio Coverage



Identifying the Problem: Direct vs Reflected Sound

What listeners hear is a combination of:

- **Direct sound** arriving straight from the loudspeaker
- **Reflected sound** arriving later after bouncing off hard surfaces
- **Ambient background noise**

As room size, height and reflectivity increase, reflected sound can dominate. The key to intelligibility is maximising the **direct-to-reverberant ratio**—delivering more useful sound to the listener, while minimising energy placed onto reflective surfaces.

This is where controlled directivity becomes essential.

The Intellivox range is the ideal solution to one of the most difficult problems facing modern sound system designers - designing an intelligible sound reinforcement or public address system for a large reverberant space.

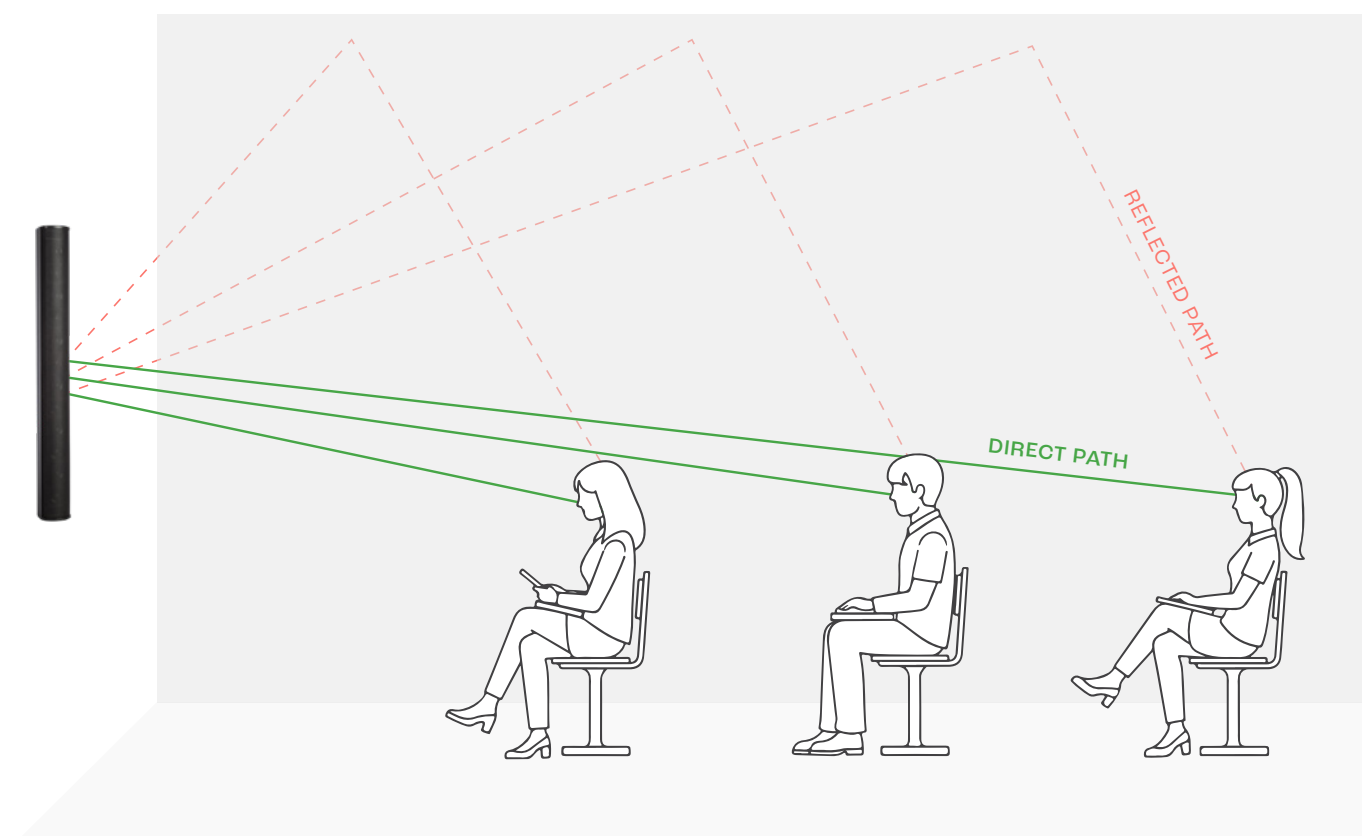
Beyond Beam Steering

In acoustically challenging environments, controlling sound energy is critical to achieving intelligibility. Reflections from walls, ceilings and architectural features arrive at the listener after the direct sound, reducing clarity and consistency. As reflected energy increases, speech becomes harder to understand—even when direct sound levels are high.

Modern column loudspeakers address this challenge by electronically controlling directivity: shaping how sound

is distributed vertically so that more energy reaches listeners directly, and less energy excites the room. However, not all directivity control methods behave in the same way, particularly as spaces become more complex.

JBL Intellivox is based on the principle that precise, predictable control of sound—designed in software, verified through modelling, and proven in real installations—is the most effective route to intelligible, uniform coverage in reverberant spaces.



Conventional Beamforming

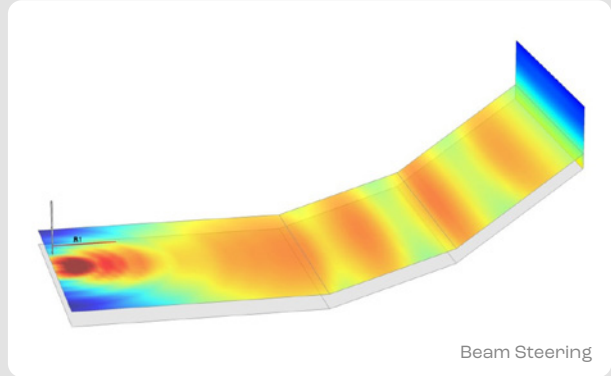
Traditional beam steering electronically aims one or more beams by applying time delays and level adjustments to multiple drivers within a column. The beam can be tilted up or down, allowing sound to be directed towards a target listening area rather than straight ahead.

This approach works well in **simple environments** with flat audience planes—such as long corridors or single-level spaces—where a single beam can cover the audience evenly.

However, challenges arise when:

- Multiple audience planes are present (balconies, raked seating)
- Near and far listeners must be covered simultaneously
- Additional beams are introduced to compensate

As more beams are added, they begin to interact with each other. This interaction creates **lobing, hot spots and cancellation**, resulting in uneven sound pressure levels and reduced intelligibility—particularly in complex spaces.



JBL Intellivox Beamshaping

Intellivox goes **beyond beam steering** with beam shaping. Instead of generating multiple beams, Intellivox creates a single, coherent sound field that is shaped to match the exact geometry of the audience area. The result is smooth, even coverage across near and far listening zones, with sound energy directed only where it is needed and actively avoided where it is not.

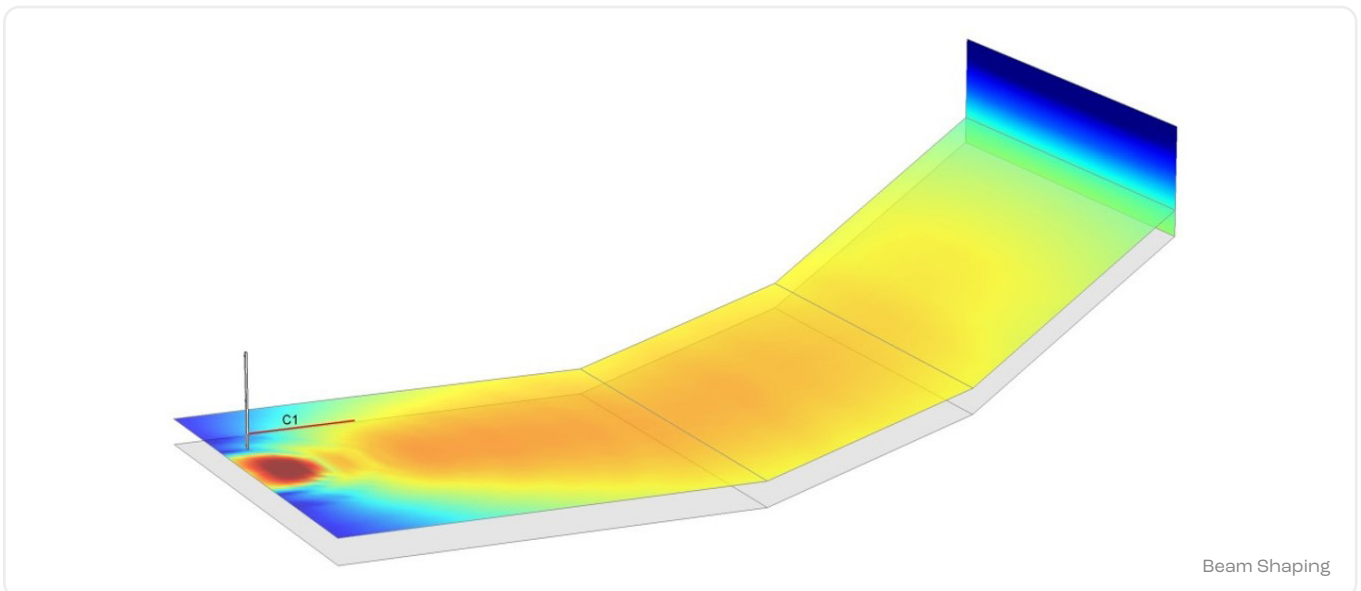
Benefits of beam shaping include:

- Uniform coverage across complex audience planes
- Improved intelligibility and tonal consistency
- No destructive interference between beams

Beam shaping enables capabilities that are difficult or impossible with conventional beam steering:

- Single, coherent beam with no destructive interference
- Uniform SPL across complex audience planes
- Independent control of near-field and far-field coverage
- Consistent tonal balance throughout the listening area
- Reduced excitation of ceilings, walls and architectural features

By precisely controlling where sound energy is placed, Intellivox delivers clarity without relying on excessive sound levels—improving intelligibility, comfort and overall system performance.



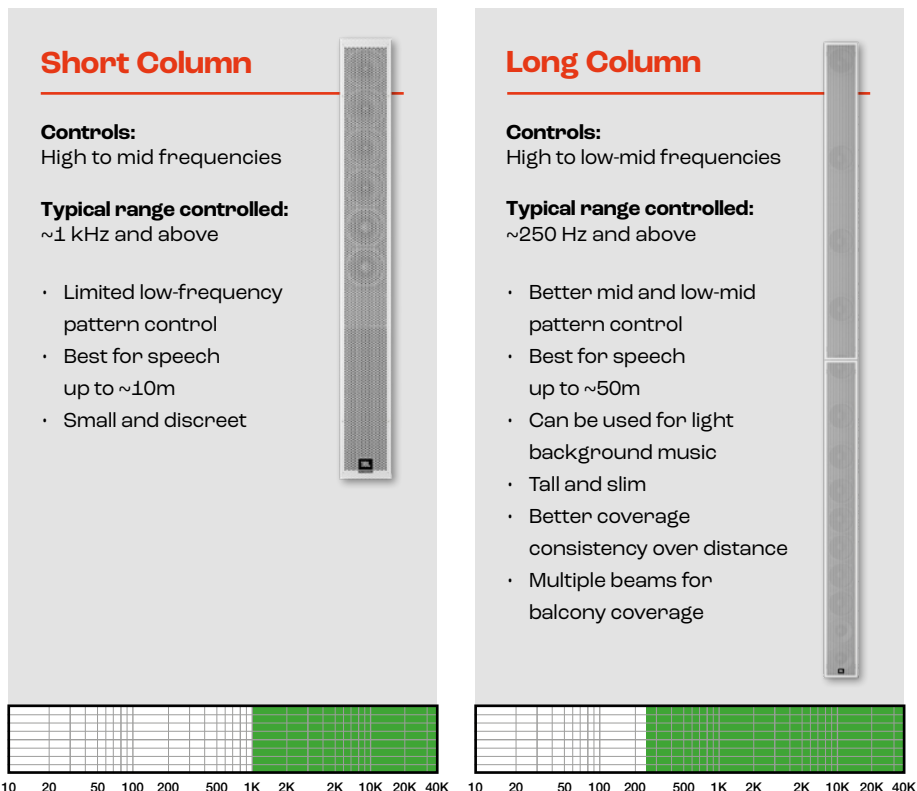
Why Array Length Matters

A column loudspeaker is an acoustic array, and its physical length plays a critical role in how effectively it controls sound—especially at lower frequencies.

Key principles:

- **Control at longer distances requires taller columns**
- **Lower frequencies require longer arrays for control**
- **Insufficient array length results in reduced beam control**

Lower frequencies necessitate longer arrays for effective control, while insufficient array length leads to reduced beam control. Taller columns offer greater control over beam shaping, resulting in improved performance at greater distances. Furthermore longer arrays enhance directivity at lower frequencies, contributing to better intelligibility over distance.



Inside Intellivox

Each Intellivox column is a complete, self-contained system with loudspeakers, amplification and DSP built in. Every driver is individually powered and precisely controlled, allowing the array to behave as a single, highly focused acoustic source.

For specifiers:

Predictable performance, accurate directivity control and consistent SPL coverage, even in acoustically difficult spaces.

For installers:

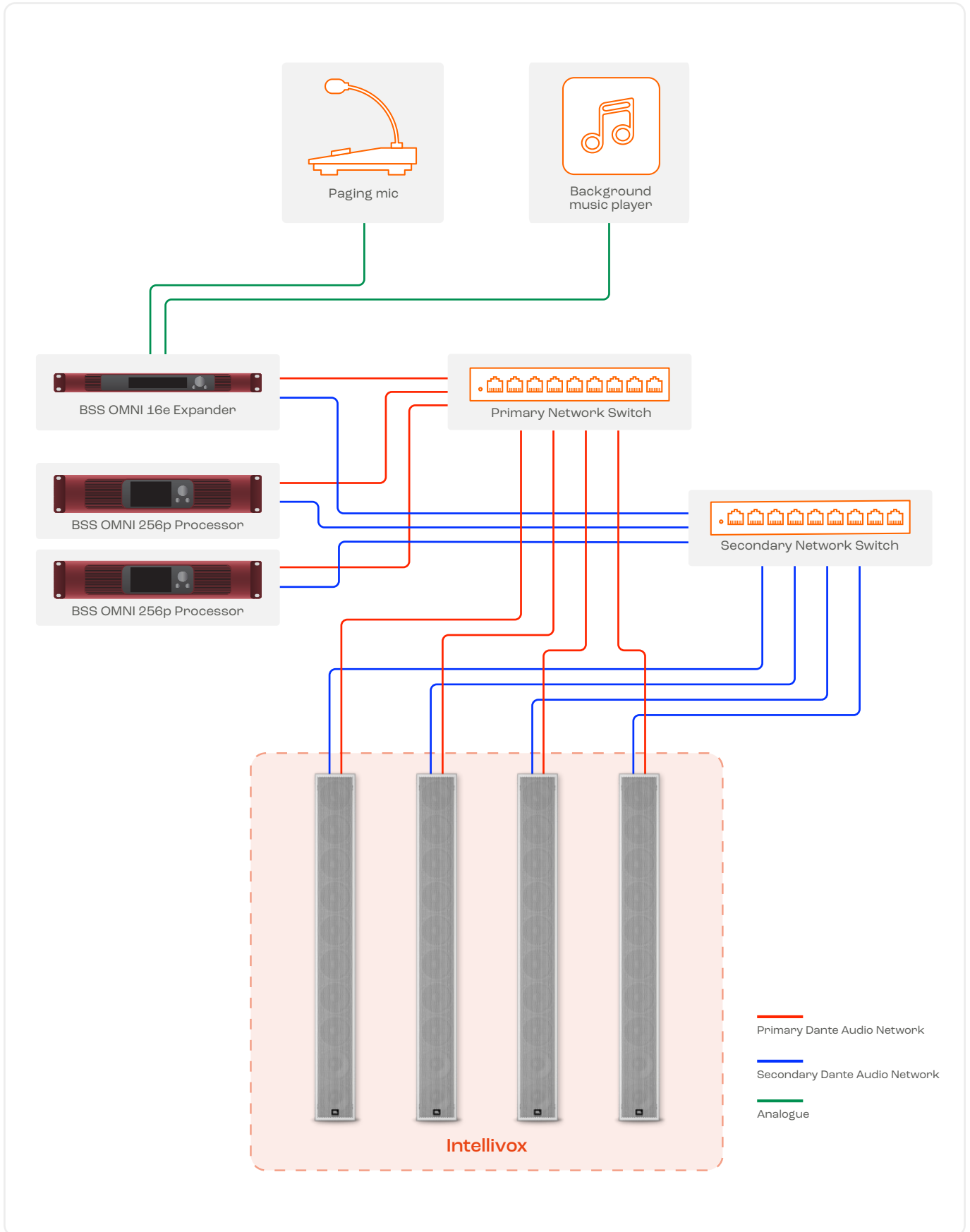
Matched amplification, processing and loudspeakers, with fewer external components, faster setup, and repeatable results on every project.

The result:

Clear, intelligible sound exactly where it's needed, with minimal spill and visual impact, delivering better communication and listening comfort.



A Connected System

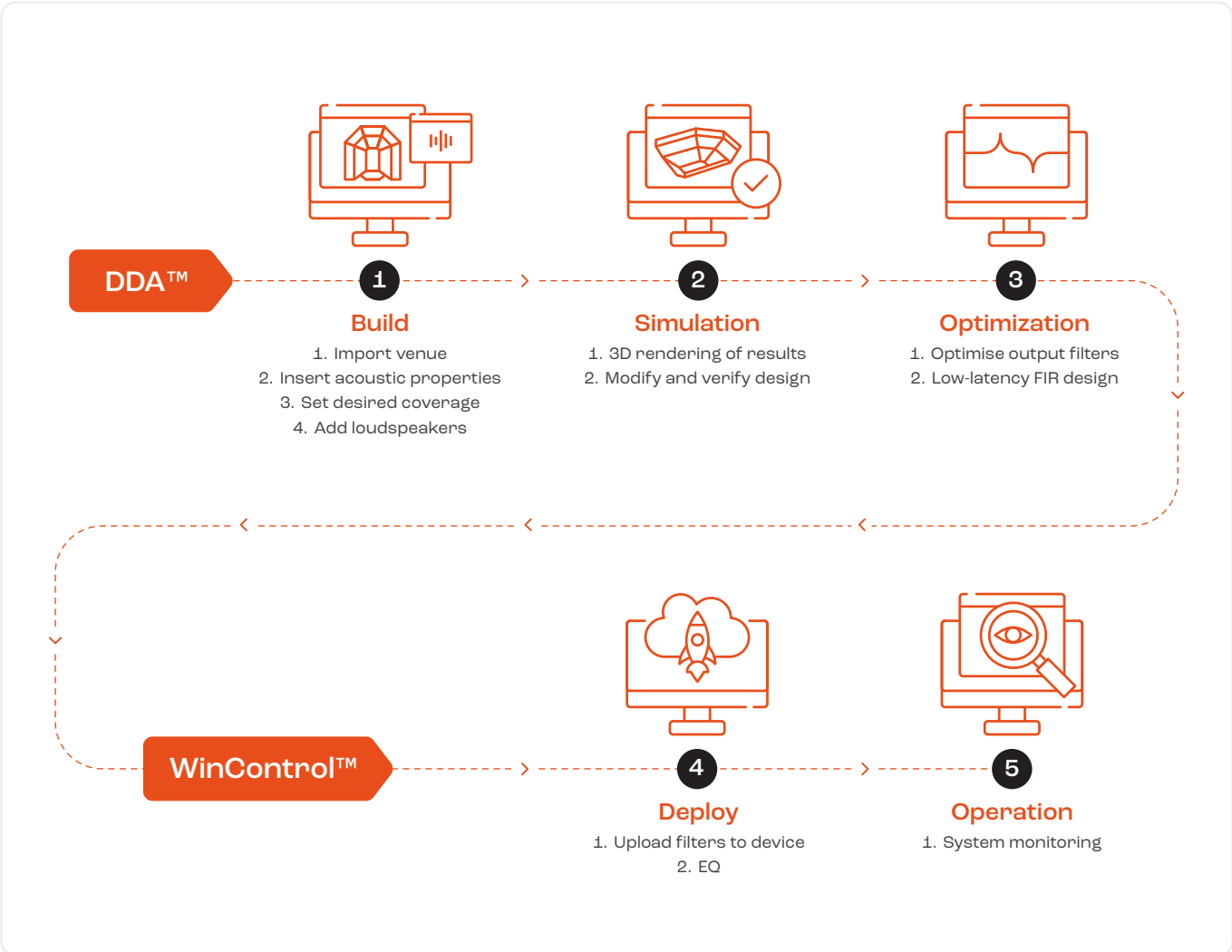


Design Verified Before Installation

Intellivox systems are designed and verified using JBL's Digital Directivity Analysis (DDA) software. DDA allows designers to model the acoustic space, define audience and avoidance areas, and predict system performance before installation. By visualising coverage, sound pressure level and intelligibility, DDA ensures that system behaviour is understood in advance, reducing risk and delivering predictable, repeatable results on site.



Design & Workflow

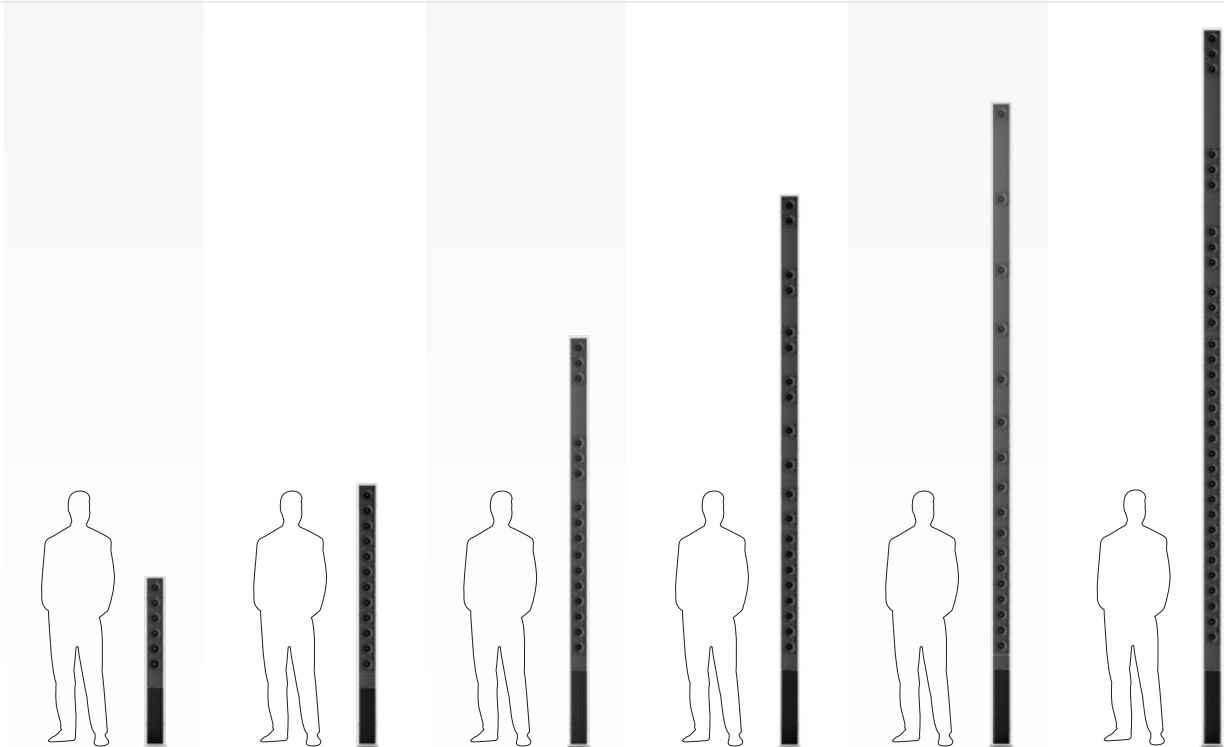


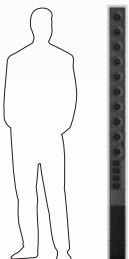
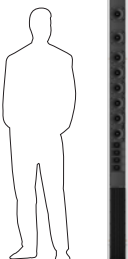
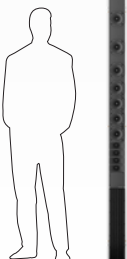
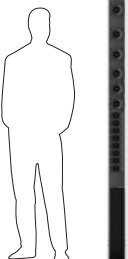
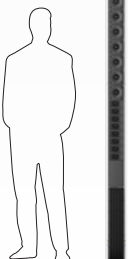
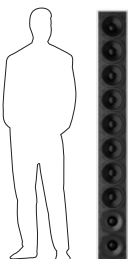
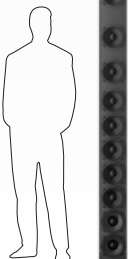
The Intellivox Range

A complete portfolio designed to scale from compact architectural fills to high-performance long-throw systems.

- **DS Series** - advanced beam shaping for complex spaces.
- **DSX Series** - extended frequency range for rich speech and background music
- **HP-DS Series** - higher-output solutions for larger venues or outdoor spaces

Model	DS115D	DS180D	DS280D	DS380D	DS430D	DS500D
Dimensions	1149 x 134 x 92 mm / 45.3 x 5.3 x 3.6"	1780 x 134 x 92 mm / 70 x 5.3 x 3.6"	2800 x 134 x 92 mm / 110.2 x 5.3 x 3.6"	3750 x 134 x 92 mm / 147.6 x 5.3 x 3.6"	4350 x 134 x 92 mm / 171.3 x 5.3 x 3.6"	4930 x 134 x 92 mm / 194 x 5.3 x 3.6"
Weight	13 kg / 28.6 lb	19 kg / 41.8 lb	25 kg / 55.1 lb	35 kg / 77 lb	37 kg / 81.5 lb	44 kg / 97 lb
Frequency Range	130 Hz - 10kHz	130 Hz - 10kHz	130 Hz - 10kHz	130 Hz - 10kHz	130 Hz - 10kHz	130 Hz - 10kHz
Max Continuous SPL	85dB	90dB	92dB	92dB	92dB	97dB
Max Peak SPL	88dB	93dB	95dB	95dB	95dB	100dB
Typical Throw	10-20m / 33-66 feet	15-25m / 49-82 feet	20-35m / 66-115 feet	30-45m / 98-148 feet	40-55m / 131-181 feet	50-70m / 164-230 feet
Horizontal (fixed)	130°	130°	130°	130°	130°	130°
Vertical (adjustable)	Defined by DDS	Defined by DDS	Defined by DDS	Defined by DDS	Defined by DDS	Defined by DDS
Idle	58 VA	58 VA	58 VA	84 VA	84 VA	84 VA
Full Load	325 VA	408 VA	450 VA	800 VA	750 VA	920 VA
Inputs	Analog / Dante	Analog / Dante	Analog / Dante	Analog / Dante	Analog / Dante	Analog / Dante



DSX180D	DSX280D	DSX380D	DSX430D	DSX500D	HP-DS170D	HP-DS370D
1780 x 134 x 92 mm / 70 x 5.3 x 3.6"	2800 x 134 x 92 mm / 110.2 x 5.3 x 3.6"	3750 x 134 x 92 mm / 147.6 x 5.3 x 3.6"	4350 x 134 x 92 mm / 171.3 x 5.3 x 3.6"	4930 x 134 x 92 mm / 194 x 5.3 x 3.6"	1698 x 198 x 189 mm / 66.9 x 7.8 x 7.4"	3738 x 198 x 189 mm / 147 x 7.8 x 7.4"
19 kg / 41.8 lb	25 kg / 55.1 lb	35 kg / 77 lb	37 kg / 81.5 lb	44 kg / 97 lb	56 kg / 123 lb	82 kg / 181 lb
130Hz - 18kHz	130Hz - 18kHz	130Hz - 18kHz	130Hz - 18kHz	130Hz - 18kHz	140 Hz - 18 kHz	140 Hz - 18 kHz
89dB	90dB	91dB	91dB	96dB	97dB	97dB
92dB	93dB	94dB	94dB	99dB	105dB	105dB
15-25m / 49-82 feet	20-35m / 66-115 feet	30-45m / 98-148 feet	40-55m / 131-181 feet	50-70m / 164-230 feet	10-25m / 33-85 feet	25-50m / 82-164 feet
130°	130°	130°	130°	130°	100°	100°
Defined by DDS	Defined by DDS	Defined by DDS	Defined by DDS	Defined by DDS	Defined by DDS	Defined by DDS
58 VA	58 VA	84 VA	84 VA	84 VA	35 W	40 W
408 VA	450 VA	800 VA	750 VA	920 VA	860 W	860 W
Analog / Dante	Analog / Dante	Analog / Dante	Analog / Dante	Analog / Dante	Analog / Dante / 100V	Analog / Dante / 100V
						



Transport

CLARITY OVER DISTANCE

Transport environments combine large volumes, long throw distances and highly reflective surfaces. Intellivox is designed to maintain intelligibility across platforms and concourses while minimising spill and reverberant build-up.



Intellivox benefits

- **Clear announcements over long distances.**
- **Reduced reverberation and spill.**
- **Fewer loudspeakers covering large areas.**

Built for Safety-Critical Applications

Intellivox systems are designed to support use in safety-critical and voice alarm applications, where reliability and intelligibility are essential. Integrated monitoring continuously supervises key system parameters, enabling faults to be detected and reported without interrupting audio operation.

- Continuous monitoring of amplifiers, DSP and loudspeaker load
- Pilot tone and signal path supervision
- Networked fault reporting and status monitoring
- Integration with central monitoring and building management systems





Houses of Worship

THE MESSAGE, WITHOUT DISTRACTION

Houses of worship often feature long reverberation times, reflective surfaces and visually sensitive architecture. Intellivox delivers high speech intelligibility and natural sound while integrating discreetly into the space.



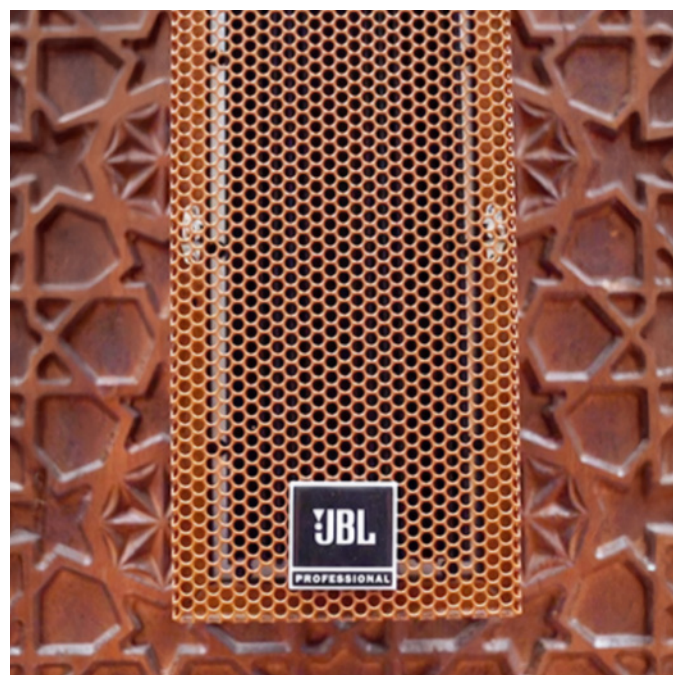
Intellivox benefits

- High speech intelligibility without excessive volume
- Natural music reproduction
- Slim columns that visually disappear into the space

Architectural Integration

Intellivox columns are designed to integrate seamlessly into a wide range of architectural environments.

- No mechanical aiming required
- Vertical mounting for consistent alignment
- Can be recessed into walls or architectural features
- Colour matching available to suit surrounding finishes
- Slim, unobtrusive column design
- Suitable for both historic and contemporary buildings





Performing Arts & Cultural Spaces

EVERY WORD, EVERY SEAT

Theatres and cultural venues often combine complex seating layouts, balconies and varied listening distances, with higher sound pressure level requirements. Precise beam shaping enables Intellivox to deliver consistent coverage, clarity and headroom across multiple audience planes while controlling unwanted reflections.



Intellivox benefits

- Consistent coverage across stalls and balconies
- Precise control of near and far seating
- Improved clarity for speech and programme audio

Simplified Installation and Maintenance

Intellivox systems are designed to reduce installation complexity and long-term maintenance requirements compared with conventional distributed loudspeaker systems.

- Fewer loudspeakers and connection points than traditional distributed systems
- Centralised configuration and monitoring
- Flexible mounting options with multiple cable entry points
- Front and rear access to components, allowing in-situ servicing
- Electronics module available at the top or bottom of the enclosure for added installation flexibility





**Explore case studies,
technical documentation
and design support.**



Scan the QR code or visit
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Beyond Beam Steering



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