

# Constellation

ACOUSTIC SYSTEM



“Constellation is, to my ears, living proof that skilled engineering and technology can indeed improve the physical spaces where we listen to music.”

**John Adams**

Pulitzer Prize-Winning Composer



Nine Trees Shanghai Future Art Center • Shanghai, China

## Change Room Acoustics with the Push of a Button

Constellation is an electronically adjustable room acoustics system that combines ambient sensing microphones, advanced digital signal processing, and a system of loudspeakers to modify the reverberant characteristics of a space. Meyer Sound’s team of highly specialized designers and technical support personnel work closely with the architect, acoustician, audio-visual consultant, theatre consultant, and installer from conception to final commissioning.



## OPTIMIZE VENUE ACOUSTICS

One of the biggest challenges for architects and acousticians is optimizing a venue's acoustics for a range of performances. If a concert hall is designed for a specific genre of music or type of performance, its acoustics can be tailored to that use. But, ideal reverb times vary: Cinemas and lecture halls, for example, require dry, reverb-free environments to ensure maximum speech intelligibility. Jazz and small classical ensembles benefit from a moderate reverb time of about one second. Large classical ensembles require much longer reverb times to develop their signature warmth and fullness; the world's leading opera and symphony halls exhibit reverb times measuring two seconds and beyond.

## NEW LEVEL OF ACOUSTIC FLEXIBILITY

Before Constellation, offering this range of acoustic flexibility would require physically manipulating spaces with stage shells, acoustic banners and curtains, and other materials—a financially prohibitive, time-consuming process that produces inconsistent results.

Constellation transcends the limitations of physical acoustics management, introducing a new level of acoustic flexibility not possible through physical methods. Instead, Constellation works by digitally fine-tuning room reverberation and early reflections to perfect the acoustic space.

Constellation integrates a system of microphones and loudspeakers into a space. Each loudspeaker and microphone is connected to the Meyer Sound D-Mitri digital audio processing system, which includes microphone inputs, loudspeaker outputs, and the complex signal processing necessary to implement active acoustics management.

Constellation can be controlled via a simple iPad, laptop, or Crestron/AMX panel interface that lets users select acoustic settings for any performance type. Constellation is also a powerful creative tool, giving performers the ability to manipulate a room's acoustic profile in the context of a composition, or sound designers the ability to immerse the audience in a different space for every scene.

“If you have a space that is even slightly problematic, do yourself a favor and perfect the experience for both musician and listener, install Constellation.”

### **Wynton Marsalis**

Managing and Artistic Director,  
Jazz at Lincoln Center