Lecture Hall*

Design Objective

As a value-add distributor, Midwich strives to bring you useful and practical information such as this Lecture Hall Design Guide.

The various stages of lockdown, may provide unique opportunities to upgrade facilities within the Events, Government or Education sectors.

This design is intended to utilise proven, high bandwidth, switching and transportation technology to facilitate simple dissemination of ideas and information, electronically, within a lecture-type environment. **Take a look to discover whether it may help you stimulate new business during these challenging times.**

Our Goals...

- Provide a flexible, multi-purpose space that may be subdivided and used as an information delivery space as well as an active learning space
- Audience capacity 30-100 individuals
- Cater to B.Y.O.D (bring your own device) requirements. (unknown source types, both wired and wireless)
- Provide configurable audio system satisfying both front of house audio and voice reinforcement
- Accommodate source devices - for today and tomorrow - through the connectivity choices
- Flexibility to distribute Video and Audio, on campus or wider area
- Deliver flexibility to distribute video and audio on campus or to a wider area
- Provide for recording, remote participation and VC
- Display capability for up to UHD HDR video plus multi-channel audio to several screens and locations within the hall
- Ensure security of all data including voice, vision and meta

Use Case:

Lecture spaces are designed for lecture or Front of House style presentations usually based around a lectern or presenters desk.

A presenter could make use of a desk with a document camera and either wired or wireless screen sharing capability to send support material to any display and the audio system within the room. Additionally, all AV signals can be routed to recording and lecture capture devices or sent to additional break out spaces either on campus or externally in any convenient format. (HDbaseT, AVoIP, IPTV etc)

The Atlona AT-OPUS-68M Matrix Switcher at the heart of the AV system is capable of taking up to six 4K HDR (up to UHD@60 4:4:4) signals (18Gbps data rate) and flexibly routing them to six HDBaseT outputs along with two HDMI outputs.

The Opus switcher is compatible with the Atlona AT-OPUS-RX receiver for transmission of HDMI, ethernet pass-through, and bidirectional IR and RS-232 control signals up to 100 meters over CAT6a/7 cable, thus catering to both local and distant display requirements.

Local display could be via a confidence monitor mounted in the presenter's desk or podium whereas distant displays could be a large projected image displaying presentation material with additional support screens either side.

Presentation of visual content could be accompanied by 5.1 audio if required, or down-mixed to 2 channels for recording, streaming and sharing. The switcher is equipped with a flexible, independent audio matrix switcher for routing de-embedded HDMI input audio, TOSLINK and analogue stereo audio sources.

Freedom to route video and audio signals independently and to break out analogue or digital audio signals, allows for comprehensive management and control.

Video conferencing over dedicated hardware or via soft codecs, can be facilitated by routing signals directly through the matrix switcher or pre switched via the Atlona AT-OME-MS52W wireless screen sharing switcher.

Independent audio processing allows for microphones and line level sources to be processed discreetly to ensure performance is not compromised.

The use of breakout spaces and or remote streaming should only be undertaken when sufficient security analysis has been carried out to ensure any privacy issues are addressed. Technologies such as Haivision's SRT real time streaming protocol, provides end-to-end security, resiliency and dynamic endpoint adjustment based on real-time network conditions.

Product Sku	Description
AT-OME-MS52W	**ATLONA** - 5×2 Matrix Switcher with USB and Wireless Link
AT-OME-EX-RX	**ATLONA** - HDBaseT Receiver for HDMI with USB
OPUS-SWITCHERS	**ATLONA** - 4K HDR HDMI to HDBaseT Matrix Switchers
AT-OPUS-RX	**ATLONA** - 4K HDR HDBaseT RX for Opus Matrix Switchers
AT-HDVS-200-TX-WP	**ATLONA** - Wallplate Switcher
AT-OME-RX11	**ATLONA** - HDBaseT Receiver for HDMI with Audio
AT-VTP-800	**ATLONA** - AT-VTP-800
AT-VGW-HW	**ATLONA** - Hardware Gateway for AV Control and Management plus Room Scheduling
AT-HDVS-CAM	**ATLONA** - PTZ Camera with USB

Product Sku	Description
PS752	**LUMENS** - Desktop Document Camera
VS-LC102	**LUMENS** - Capture Vision System
MIMO4040DN	**ECLER** - Digital Matrix with Dante™ interface
VIC8X	**ECLER** - In-ceiling Loudspeaker
IC38X	**SE AUDIOTECHNIK** – Surface Mount Column Speaker
CONNECT 354D	**LEA PROFESSIONAL** – AMPLIFIERS Dante Amplifiers
390041	**TEAMMATE** – Educator 3 Single LECTERN
999-9950-009	**VADDIO** – PTZ ROBOSHOT 20
S-292E-DVI	**HAIVISION** – IP ENCODER

Control overview: Velocity (AMS)

Regardless of room type, simple, flexible control is provided by the Atlona Velocity Control and monitoring system (AMS) by taking advantage of the devices GUI-based integrated web servers. Provided as either a hardware appliance or as a software VM, Velocity provides simple system and device configuration, deployment and management with the interactions, flow, and visual elements of a web or mobile app GUI.

The Velocity AT-VGW Server Gateway supports industry-standard, secure data communications, and can run within a private, dedicated AV device network. An innovative, network-based system architecture allows full redundancy and failover with two VGW-HW or SW instances in operation, maximizing AV system reliability while preventing downtime for such critical applications.

The Velocity control system is utilised to control and manage all the room 'devices', maintaining control over audio and video routing, volume control, source selection, source control etc. It could be interfaced with existing building management systems or augmented with in-room occupancy sensors to create a "contactless" BYOD solution whereby the room resets and configures itself whenever a presenter scans a QR code or logs in to a scheduled presentation. (Requires integration with Exchange/O365 or G-suite calendaring).

Asset Management (AMS) and Room Scheduling functions are also incorporated into Velocity.

AMS enables centralized organization and management of networked Atlona device installations throughout a facility or residence, greatly reducing integration time while serving as a convenient portal for helpdesk support.
The Room Scheduling platform is easy to install and configure for integrators, and simple to access for meeting participants. It offers a refined, user-friendly touch panel GUI for viewing meeting room availability status, browsing for available rooms, scheduling a meeting or event time, extending meetings as necessary, and initiating ad hoc meetings. Compatible with G Suite™ and Microsoft® Office 365™.

AT-VGW-SW (Software Gateway) supports up to 20 rooms. Extra licenses available ATVGW-HW (Hardware Gateway) available in 3 capacities.

*A room can include AV control, room scheduling, or both. For example, with the AT-VGW-HW-10 there can be a total of 6 rooms with AV control only, 4 rooms for control and scheduling, and 16 rooms with scheduling only.

Note: Overall capability will depend on the requirements and complexity of each specific use case. When designing a solution there are often a variety of brand options available and we invite you to discuss these with your Midwich sales representative.