OVERCOMING THE CHALLENGES OF DESIGNING A COMPLETE PROFESSIONAL A/V SYSTEM

In today's fast-paced virtual work environments, a complete professional A/V system is necessary to deliver the immersive, seamless experiences tech-savvy customers, employees and end users expect. But, what exactly is a complete A/V system? Your A/V solution can be customized to your needs, but the basic components are digital signage, sound and paging, collaboration and conferencing, infrastructure and control. Deciding what components your system requires and getting these five different areas to work together can be challenging. Below, we've defined what to consider when designing your A/V solution for maximum benefit.

Common Digital Signage Challenges

Digital signage is a key technology that helps disseminate and support strategic messaging to employees and customers. Digital signage solutions can deliver information or training to stakeholders in a one-to-one or one-to-many scenario.

- Creating a content development process - With the right software, it is easy to manage the content that is displayed on your networked screens. Beyond having the right tools to manage content, you will need an internal strategy and plan for generating new content and keeping it up to date.

- Enabling maximum visibility - Screen size, lumen count and location are key things to consider when choosing displays for optimal visibility.

- Providing robust networking - Digital signage solutions can be networked in several ways. Your networking requirements will vary depending on the intended use of the signage (i.e. basic conference room with flat panel or projector, video wall, networked digital signage display, etc.)

- Harnessing Power over Ethernet - Many modern displays can be powered over standard networking cable, eliminating the need for power cables. HDBaseT (PoH) is a version of PoE that not only provides power, but also ultra-high-definition video and audio, Ethernet, controls and USB.

Common Sound and Paging Challenges

Sound reinforcement enhances communication in a presentation and enables effective emergency communications. A professional audio system can be used in conjunction with sound and paging or provide background music or messaging in any environment.

- Enabling audibility and intelligibility - To select products that meet your needs for audibility and intelligibility, you must consider not only the size of the space but all the intended uses of the space—for example, video playback, streaming presentations, background music or mass notification. The system should be designed to meet the requirements of the Speech Transmission Index (STI) and can be tested during installation.

- Maintaining regulatory compliance - Standards for public address and mass notification in a large venue may vary depending on the industry and the municipality. We recommend working with a qualified integrator to meet local and industry requirements.

- Providing flexibility in usage - A networked IP-based audio solution designed for the specific needs of the environment can provide the greatest control, automation and targeting of communications.

- Managing integration of complex systems - To ensure the interoperability of building communications, an audio system must be properly integrated with other systems, such as mass notification and video displays.

Common Collaboration and Conferencing Challenges

A mixed live and virtual workforce requires the ability to communicate as if they were all in the same location. Depending on the needs of your team, you may use any or all of the collaboration and conferencing technologies available.

- Specifying budget-conscious systems - A number of conferencing solutions are available in a range of price options. To define a solution that meets your needs and stays within your budget, you must go through a needs-versus-wants analysis to ensure that you do not overspecify the requirements of the room.

- Enabling component compatibility - Selecting products that work together is essential to a smoothly functioning collaboration and conferencing system. To achieve this, engage a qualified integrator to help ensure compatibility.

- Maintaining network security - Collaboration and conferencing applications typically run on the network, which makes them a potential entry point for cyber attacks. Follow industry encryption standards to secure your system.

- Seamless integration and networking - Conferencing and collaboration systems must be properly integrated with digital signage in order to ensure a seamless experience that will enhance the quality of communications and improve productivity and engagement.

Common Infrastructure Challenges

Cabling, devices, signal distribution and accessories connect and manage data flow between audiovisual equipment. A standards-based approach allows for a flexible system that is scalable and future-ready.

- Enabling interoperability between systems - Similar to a LAN environment for a data center, we recommend a standards-based approach to structured cabling that will allow active products to perform at a high level, regardless of the vendor

- Following standards-based cable installation practices - Cables must be connectorized and dressed appropriately to allow for smooth operation. A qualified contractor will be able to achieve this.

- Utilizing future-ready deployment - To maximize the benefits of your infrastructure installation, we recommend deploying Category 6A cabling, which will allow for future upgrades to HDBaseT and PoE.

- Providing redundancy for system reliability - A professional A/V system that works over a wireless network should have a wired backup so that communications and productivity are not disrupted by technical difficulties.

Common Control Challenges

A well-planned control system helps to ensure that your audiovisual system is user-friendly. The type of control for a given environment is determined by how a space is used and the skill level of the users.

- Custom programming and integration - Professional A/V systems typically require customized programming that involves expensive integrator certifications. We recommend open solutions to promote flexibility and ease of modifications.

- Providing scalability within the building - When a traditional control system is installed, adding additional rooms can be cost-prohibitive. We recommend a scalable system, such as a single-room system that can be easily replicated, or a cloud-based system that allows for rooms to be easily added.

- Simplifying moves, adds and changes - Another benefit of an open solution system is that it allows moves, adds and changes to be accomplished by IT personnel without having to engage programmer resources.

- Enabling component compatibility - As with collaboration and conferencing, selecting products that work together is key to a smoothly functioning A/V system. To achieve this, you should engage a qualified integrator to help ensure compatibility.

In addition to the challenges defined above, one of the most important things to consider when designing a complete professional A/V solution is ensuring ease of use for operators. You must fully define the use of a room and work with a qualified integrator to design a solution that meets your needs without being more complex than necessary.

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