









**ALF-SUK8-8K**  
 VIDEO DISTRIBUTION WITH AUDIO, MICROPHONE AND CONTROL

-   
HDMI
-   
LAN
-   
DANTE
-   
USB 2.0
-   
USB-C
-   
HDBT
-   
SPEAKER
-   
AUDIO

## The Solution

The solution is designed to distribute a single high-resolution HDMI source—supporting up to 8K video—to eight displays while simultaneously delivering de-embedded audio to ceiling loudspeakers and providing centralized control of all video and audio functions. At the core of the system is the Alfatron ALF-SUK8-8K distribution amplifier, which offers two selectable HDMI inputs for effortless source switching and advanced EDID management that allows installers to apply optimized EDID presets or copy EDID from any connected display. This ensures stable handshaking and consistent performance across mixed-resolution installations. The SUK8-8K also includes intelligent downscaling, enabling 8K or 4K input signals to be converted to 1080p for legacy displays without affecting output quality on modern screens.

Users operate the system through the ALF-IP6 controller, which powers on all displays, unmutes the amplifier, and sets the room audio to a predefined level on the ALF-MA15075D amplifier. The selected HDMI source is then distributed to all eight displays via the SUK8-8K, which simultaneously de-embeds HDMI audio and outputs a balanced analogue signal to the MA15075D for amplification. The system also supports presenter voice reinforcement through the integration of either a fixed gooseneck microphone or a wireless handheld/lavalier system, with microphone signals routed to the amplifier's microphone inputs. This allows presenter audio to blend naturally with program audio while maintaining clarity and preventing feedback through proper gain structure.

Room audio is delivered through ALFC-606 2-way 6-inch ceiling loudspeakers connected to the amplifier's 70/100V output. Eight loudspeakers are used in the standard configuration; however, the system is easily scalable. When adding more loudspeakers, a 20–25% headroom margin must be maintained to ensure safe operation, with tap adjustments used to balance total load and coverage requirements.

The ALF-IP6 controller provides intuitive adjustment of overall room volume, including both program audio and microphone reinforcement. When the system is no longer needed, the controller can power off all displays and mute or disable the amplifier output, including microphone inputs, ensuring the space is left in a secure, quiet, and energy-efficient state. As illustrated in the accompanying schematic, all components operate cohesively to deliver a unified, dependable, and user-friendly solution for multi-display video distribution, audio reinforcement, and centralized room control.

## ALF-IP6 Controller overview

The ALF-IP6 is a programmable wall-mounted keypad controller designed for simple and intuitive AV system control. Featuring six configurable buttons, it allows users to manage key room functions such as display power, input selection, volume control, and system on/off. The unit communicates over IP and includes RS-232 and dual IR ports for flexible integration with displays, switchers, and amplifiers. Its clean, low-profile design makes it ideal for meeting rooms, training spaces, classrooms, and hospitality environments requiring reliable, straightforward control.

## ALF-SUK8-8K Overview

The ALF-SUK8-8K is a high-performance HDMI distribution amplifier that delivers a single HDMI source to up to eight displays, supporting resolutions up to 8K. It offers dual HDMI inputs with source switching, advanced EDID management, and built-in downscaling to 1080p for legacy displays. The unit also features HDMI audio de-embedding with a balanced analogue output for easy integration with external audio systems. This makes the ALF-SUK8-8K an ideal solution for meeting rooms, classrooms, and digital signage applications requiring reliable multi-display distribution with flexible audio support.

## ALF-MA15075D Overview

The ALF-MA15075D is a compact 1U Class-D digital mixing amplifier designed for both low- and high-impedance systems. It delivers 2 × 75W at 4/8Ω or 150W at 70/100V, making it ideal for distributed commercial audio applications. Its Class-D design ensures energy efficiency, low heat output, and reduced inrush current, with automatic standby to minimize power consumption. It features Dante, optical, balanced analogue inputs, and two microphone inputs with phantom power support, along with stereo low-impedance, 70/100V, and balanced line-level outputs. Integrated DSP includes a five-band graphic EQ, TCP/IP web control, trigger input, and front-panel status LEDs, ensuring flexible control and efficient system integration.

## ALF-TSC6 Overview

The ALF-TSC6 is a versatile table-mounted connectivity hub that combines power outlets, USB charging, HDMI, USB-C, networking, and audio cables in a sleek, durable, easy-to-install enclosure. Its slidable cover and brushed aluminum design make it ideal for maintaining a clean, professional conference table surface.

## Solution Bill of Quantities

- 1 x ALF-IP6 Controller
- 1 x ALF-TSC6 Table Box/AV Interface
- 1 x ALF-SUK8-8K Distribution Amplifier
- 1 x ALF-MA15075D Amplifier
- 8 x ALFC-606 Ceiling Loudspeakers
- 2 x ALF-HDMI 6/10ft HDMI Cable
- 8 x ALF-HDMI 35/50ft HDMI Cables

### Third Party Equipment

- 8 x Displays
- 8 x Display mounting brackets
- 1 x PoE Network Switch
- 1 x Gooseneck microphone and shock mount
- 1 x Wireless microphone receiver and transmitter

## Solution Use Cases

### 1. Multi-Display Presentation Room

This system is ideal for a corporate boardroom or training center where presenters need to display content across multiple projectors and flat-panel displays simultaneously. A laptop or PC connects to the system, distributing HDMI signals to eight displays while also feeding audio to ceiling speakers for clear room reinforcement. Built-in control-panel integration allows presenters to control presentation audio levels, mute/unmute audio, or lower screens without needing technical assistance. This results in smooth, professional presentations suited for leadership meetings and client pitches.

### 2. Multi-Display Training Room

In corporate training/learning spaces, this solution supports instructor models where instructors present educational multi-media content to attendees. The system allows content from a laptop or PC to be displayed on multiple displays along associated presentation audio. Instructors can connect their device quickly, rely on automated audio routing, and use a single wall control panel to manage the session. This setup creates a flexible learning environment that adapts to learning, group discussions, and multimedia demonstrations.

### 3. Hospitality or Conference Venue Breakout Room

For hotels, convention centers, and event venues, this configuration provides a reliable and scalable AV distribution platform for guest events. Staff or presenters can plug in at the table box, with the system distributing HDMI signals to eight displays while also feeding audio to ceiling speakers for clear room reinforcement. Built-in control-panel integration allows presenters to control presentation audio levels, mute/unmute audio, or lower screens without needing technical assistance. The system handles audio amplification and display switching. This reduces setup time for event staff and offers a polished, user-friendly experience for guests who may have little or no AV expertise.

### 4. University Lecture Hall or Classroom

This solution supports lecture environments where instructors need clear video distribution and intelligible audio reinforcement. The lecturer connects their device at the input panel, sending content to both projectors and side displays for improved student visibility. The amplifier delivers even audio coverage to the ceiling speakers for multimedia material, while a gooseneck or wireless microphone ensures the instructor's voice is reinforced consistently across the room. With the ALF-IP6 controller, the instructor can easily power displays, adjust audio, and manage microphone levels at the start of each lesson.

### 5. Small/Medium Retail Space (Microphone variation)

With a small variation - Swapping gooseneck / wireless microphones for a Push-to-Talk (PTT) microphone—the system can be adapted perfectly for small to medium retail environments. Promotional content can be displayed across multiple screens while background marketing messages play through the ceiling speakers. When the PTT microphone is activated, the system's ducking function automatically reduces the background music and other audio sources, allowing store announcements to come through clearly before returning to normal levels. Staff can easily control the system the keypad controller.