









ALF-SUK8-8K
 VIDEO DISTRIBUTION WITH AUDIO 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 both video and audio functions. At the core of the system is the Alfatron ALF-SUK8-8K distribution amplifier, which features two selectable HDMI inputs, enabling effortless switching between sources. The SUK8-8K incorporates advanced EDID management, allowing installers to select optimized EDID presets or copy EDID from any connected display to ensure stable handshaking and consistent performance across mixed-resolution environments. In addition, the SUK8-8K provides downscaling capabilities, enabling high-resolution 8K or 4K input signals to be downscaled to 1080p for legacy displays, ensuring full compatibility across both modern and older display hardware.

Users activate the system via the ALF-IP6 controller, which automatically powers on the displays, unmutes the amplifier, and sets the room audio to a predefined level on the ALF-MA15075D amplifier. From the same controller, users can select which HDMI source they wish to display, and the selected source is then distributed to all eight displays through the SUK8-8K. The distribution amplifier also de-embeds HDMI audio and outputs a balanced analogue signal, which is fed into the line-level input of the ALF-MA15075D for amplification.

Audio playback is delivered through ALFC-606 2-way 6-inch ceiling loudspeakers, connected to the 70/100V output of the ALF-MA15075D amplifier. In this configuration, eight loudspeakers are installed; however, the system is scalable. Should additional loudspeakers be required, integrators must maintain a 20–25% headroom margin when calculating total speaker load, which can be achieved by adjusting the tap settings on the speakers to ensure optimal power distribution and system protection.

The ALF-IP6 controller provides intuitive volume control by adjusting the amplifier's output level for room audio playback. When the system is no longer in use, the controller can power off all displays and mute or disable the amplifier output, including microphone inputs, ensuring the room is left in a secure and energy-efficient state. As illustrated in the accompanying schematic, all system components work together to deliver a unified, reliable, and user-friendly solution for video distribution, audio reinforcement, and 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 $2 \times 75W$ at $4/8\Omega$ 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

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.