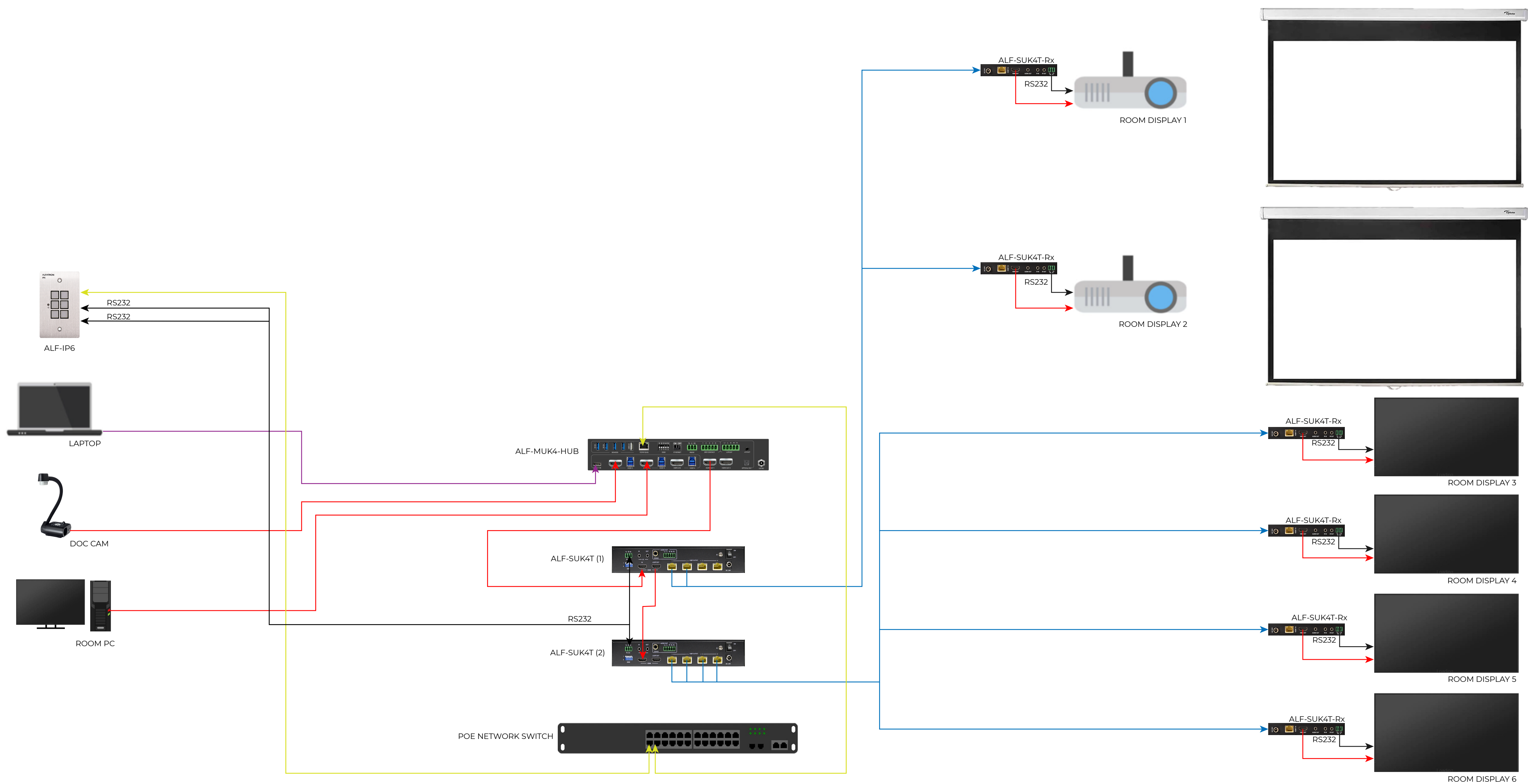




ALF-SUK4T
HDBT LONG DISTANCE SIGNAL DISTRIBUTION SOLUTION



HDMI



LAN



DANTE



USB 3.0



USB 2.0



USB-C



HDBT



SPEAKER



AUDIO

The Solution

This solution provides a flexible and reliable long-distance AV distribution system designed to deliver high-quality video to multiple displays across several zones, with the ALF-SUK4T 1:4 HDBaseT distribution amplifier forming the core of the system. A range of input sources, including a laptop, document camera, and room PC, are connected to the ALF-MUK4-HUB, which operates as a seamless video switcher in this application. The MUK4-HUB ensures fast, clean switching between sources with no visible delay or interruption, providing a smooth and professional presentation experience. While the unit also supports USB switching capabilities, this function is not required in this design, allowing the focus to remain on stable and efficient video management.

Once a source is selected, the video signal is passed to the ALF-SUK4T, where it is distributed to multiple endpoints using HDBaseT technology. The SUK4T features a single HDMI input along with an HDMI loop output, allowing the signal to be easily cascaded to additional SUK4T units where further distribution is required. This makes the system highly scalable and well suited to larger installations where more than four displays need to be supported, without the need for complex matrix switching. The ability to loop the signal forward ensures consistent signal integrity while maintaining a simple and structured system architecture.

The ALF-SUK4T provides four independent HDBaseT outputs, each capable of delivering 1080p video up to 100 metres (328 feet) over standard CAT cabling. Each output connects to a dedicated HDBaseT receiver at the display location, ensuring reliable signal transmission and consistent image quality across all screens, whether they are located within the same room or distributed across multiple areas.

In addition to video distribution, the system supports bidirectional IR and RS-232 pass-through over the HDBaseT links, allowing for effective control of connected devices such as flat panel displays and projectors. This enables commands from a central control system, such as the ALF-IP6 keypad shown in the schematic, to be transmitted directly to each display endpoint, providing control over functions such as power, input selection, and volume.

Overall, this solution combines seamless source switching with robust long-distance distribution, creating a scalable and easy-to-deploy AV system. By leveraging the strengths of the ALF-MUK4-HUB for input management and the ALF-SUK4T for signal distribution, the system delivers consistent performance, simplified control integration, and the flexibility to expand as required, making it ideal for training rooms, classrooms, multi-zone presentation environments, and other professional AV applications where reliability and ease of use are critical.

ALF-IP6 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-MUK4-HUB Overview

The ALF-MUK4-HUB is a professional seamless video and USB switcher designed for reliable source management in modern AV environments. It supports multiple input formats, allowing connection of devices such as laptops, room PCs, and document cameras, with clean, instantaneous switching that eliminates screen blanking or delays for a smooth presentation experience.

The unit features built-in scaling to ensure consistent output resolution and optimal image quality regardless of the input source. While it includes USB host and device switching for peripherals such as cameras and microphones—making it suitable for BYOM and UC applications—it can also operate purely as a high-performance video switcher where USB functionality is not required.

Compact and easy to integrate, the ALF-MUK4-HUB provides dependable performance and flexible deployment, making it an ideal front-end switching solution for meeting rooms, training spaces, and larger distributed AV systems.

ALF-SUK4T Overview

The ALF-SUK4T is a professional 1:4 HDBaseT distribution amplifier designed to reliably extend and distribute a single HDMI source to multiple display locations over long distances. Featuring one HDMI input and a dedicated HDMI loop output, the unit allows for easy signal pass-through and cascading to additional SUK4T units, making it ideal for scalable installations where more outputs are required.

Equipped with four independent HDBaseT outputs, the ALF-SUK4T can transmit high-quality 1080p video up to 100 metres (328 feet) over standard CAT cabling, ensuring stable performance without signal degradation. The system also supports PoC (Power over Cable), enabling connected HDBaseT receivers to be powered directly from the transmitter, reducing the need for local power supplies and simplifying installation at display endpoints.

In addition to video distribution, the SUK4T supports bidirectional IR and RS-232 pass-through over the HDBaseT link, allowing for remote control of connected devices such as displays and projectors. This enables seamless integration with control systems, ensuring centralized management of display functions including power, input selection, and volume.

With its robust design, long-distance transmission capabilities, and flexible expansion options, the ALF-SUK4T provides a reliable and efficient solution for multi-display AV distribution in environments such as training rooms, classrooms, and commercial installations.

Solution Bill of Quantities

- 1 x ALF-MUK4-HUB Seamless video switcher
- 2 x ALF-SUK4T 1:4 HDBT distribution amplifier
- 1 x ALF-IP6 Keypad Controller
- 3 x ALF-HDMI 6ft HDMI Cables
- 1 x ALF-HDMI 6.5ft Cables
- 1 x ALF-TSC6 Table box (optional)

Third Party Equipment

- 6 x Displays
- 6 x Display mounting bracket
- 1 x PoE Network Switch

Solution Use Cases

1. Multi-Room Training Facility

In a corporate or educational training environment, the system allows a presenter to connect a laptop, document camera, or in-room PC to the ALF-MUK4-HUB and instantly switch between content sources without interruption. The selected content is then distributed via the ALF-SUK4T to multiple displays located in different training rooms, ensuring all participants receive the same high-quality visual experience. With HDBaseT extending up to 100m, displays can be positioned freely, while IR and RS-232 pass-through enables centralized control of each screen, simplifying operation for instructors.

2. Classroom and Lecture Distribution

In a classroom or lecture hall setup, instructors can seamlessly switch between teaching materials such as presentations, visualisers, or PC content using the MUK4-HUB. The SUK4T distributes the selected source to multiple displays or projectors across the room or adjacent overflow areas. This ensures consistent content delivery for larger audiences, while maintaining a simple system design that avoids complex matrix switching. Control integration allows lecturers to power displays on/off and manage inputs directly from a central interface.

3. Corporate Meeting Rooms with Overflow Areas

In a corporate environment, this solution enables a main meeting room to share content with additional overflow spaces. A presenter connects to the MUK4-HUB, and the selected source is distributed through the SUK4T to displays in both the main room and adjacent areas. The HDMI loop output allows for future expansion if more rooms need to be added. With long-distance HDBaseT transmission and centralized control via IR and RS-232, the system ensures a synchronized and professional experience across all spaces.

4. Digital Signage and Information Distribution

For applications such as reception areas, campuses, or commercial spaces, the system can be used to distribute a single source—such as a signage player or PC—to multiple displays across different zones. The SUK4T ensures stable 1080p distribution over long distances, while PoC simplifies installation by reducing the need for power at each display location. Centralized control allows displays to be managed remotely, making it easy to update content and maintain consistent messaging across all screens.