

KVM Switcher Wired Control Principle



Overview

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Key Takeaways

A wired KVM switch controls multiple computers by physically routing keyboard, video, and mouse signals through dedicated cables and switching circuits, allowing a single set of peripherals to interact with one computer at a time. Core Principle

A wired KVM switch functions as a central hub connecting multiple computers to a single keyboard, monitor, and mouse. Each computer is linked to the switch via dedicated cables that carry keyboard, video, and mouse signals. When a user selects a computer—either by pressing a physical button on the switch, using a wired QuickSwitch button, or entering a keyboard hotkey—the switch electronically redirects the input/output signals to the chosen computer, while isolating the others.

Signal Transmission

- Keyboard and Mouse: Wired KVM switches handle USB or PS/2 signals. When switching, the device may perform USB enumeration, making the selected computer recognize the keyboard and mouse as if they were directly connected.
- Video: The video signal (VGA, DVI, HDMI) is routed through the switch to the monitor. The switch ensures that only the selected computer's video output is displayed.

- Audio (if supported): Some KVM switches also route audio signals through the same cables, allowing seamless switching of speakers or microphones .

Wired QuickSwitch Button

Many wired KVM switches include a QuickSwitch button, which is a physical control on the switch or a connected cable. Pressing this button sends a control signal to the internal switching circuitry, instantly changing the active port without requiring software intervention . This provides a fast and reliable method for switching between computers.

Hotkey Switching

In addition to physical buttons, wired KVM switches often support keyboard hotkeys. When a specific key combination is pressed, the switch detects the signal and activates the corresponding port. This method relies on the switch's internal microcontroller to interpret the hotkey and reroute the signals accordingly .

LED Indicators and Status Monitoring

Wired KVM switches typically include LED indicators to show which port is active. This visual feedback is achieved by the switch's internal logic, which monitors the selected port and illuminates the corresponding LED .

Summary

In essence, the wired control principle of a KVM switch is based on dedicated cabling, electronic signal routing, and control logic. The switch ensures that only one computer at a time receives input from the keyboard and mouse and outputs video to the monitor. Wired QuickSwitch buttons, hotkeys, and LED indicators enhance usability, providing fast, reliable, and intuitive control over multiple computers from a single workstation .

Article Content

Complete Guide To KVM Switching & Extension

KVM offers extension of AV and control/peripheral signals over CATx, fibre or IP at very low latency and is especially suitable for

KVM-0223 Cable KVM Switch, 2 Ports, VGA, USB, Audio User

There are three methods to control your KVM Switch for computer and Audio/Mic channel selection: using (1) the QuickSwitch Button

Related Video Reference

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