

SECURE KVM COMBINER SWITCHES

Interact with multiple computers presented on the same display at the same time using a single set of audio, keyboard, video and mouse peripherals.

The KVM Combiner switch offered by HSL provides increased productivity in challenging multi-computer environments where users are required to view and interact with several computers at the same time.

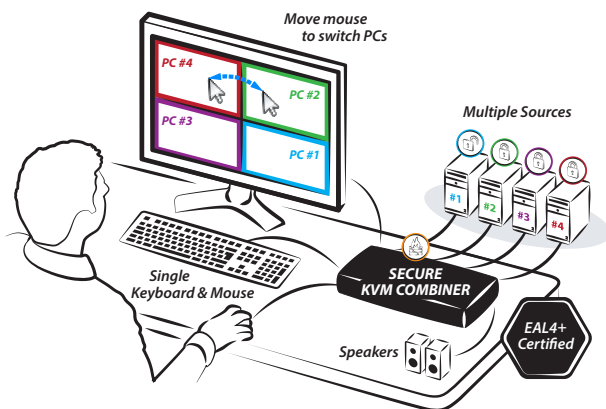
Optimize user experience while maintaining the highest isolation between computers and peripherals. Obviate the need for purchasing and installing dedicated, per-computer peripheral sets.

KVM COMBINER HIGHLIGHTS

- **EAL4+ Certification, designed to meet NIAP requirements**
HSL KVM Combiner switches are designed to meet with NIAP requirements and are EAL4+ certified as secure peripheral sharing switch devices.
- **Safely share peripherals across different security domains**
Safely share peripherals between computers that belong to different security classification levels while keeping the highest possible data separation security.
- **Prevent information leaks**
Obstacle threats derived from sharing and switching of vulnerable, untrusted or unauthorized peripheral devices. Block peripheral exploits, information leaks, eavesdropping, signal transmission, computer malware, hardware and firmware tampering by enforcing multilayered security mechanisms.
- **View and control multiple computers simultaneously**
Present and work with up to 6 computers at the same time. Cascade combiners to view and control up to 36 (6x6) computers on a single or dual displays.
- **Filter USB Peripherals**
Block unauthorized USB devices while allowing secure switching of smart card and biometric authentication devices between computers. Whitelist and blacklist specific USB devices based on VID/PID characteristics.

SECURITY FEATURES

- **USB Security**
 - Block unauthorized USB devices.
 - USB authentication devices are authorize by default.
 - Whitelist and blacklist specific USB devices based on VID/PID characteristics.
- **Video Security**
 - Computer video input interfaces are isolated through the use of different electronic components, power and ground domains.
 - The display is isolated by a dedicated, read-only, EDID emulation for each computer.
 - Access to the monitor's Extended Display Identification Data (EDID) is blocked.
 - Access to the Monitor Control Command Set (MCCS commands) is blocked.
- **Keyboard & Mouse Security**
 - The keyboard and mouse are isolated by a dedicated, USB device emulation for each computer.
 - One-way, peripheral-to-computer data flow is enforced through unidirectional optical data diodes.
 - Communication from computer-to-keyboard/mouse is blocked.
 - Non HID (Human Interface Device) data transaction is blocked.
- **Audio Security**
 - Enforce computer-to-speaker, one-way flow of sound through unidirectional optical data diodes.
 - Prevent eavesdropping and line-in re-tasking by blocking speaker-to-computer communication.
- **Hardware Anti-Tampering**
 - Any attempt to open the product enclosure will activate an anti-tamper system making the product inoperable.
 - Blinking LEDs provide a clear indication of a tampering event.
 - Special holographic tampering evident labels on the product's enclosure provide a clear visual indication if the product has been opened or compromised.
- **Firmware Anti-Tampering**
 - There is no access to the product's firmware or memory through any port.
 - Firmware is permanently stored on a non-reprogrammable Read Only Memory (ROM) to prevent any modification.
 - Firmware integrity is verified through a self-test procedure during power-up. Upon detection of a critical failure the device disables normal operation and provides the user with a clear visual indication of failure.



HSL4-Port Secure Combiner KVM Switch
System Diagram





SC42DU-3



SC42HU-3



SC21H-3

OPERATIONAL HIGHLIGHTS

- Freeze USB**
 Assign the USB port to a specific computer while switching the keyboard, video, mouse and audio between other computers. Useful for various scenarios, for instance, when a USB smart card reader must remain mapped to a certain computer.
- Freeze Audio**
 Assign the audio port to a specific computer while switching the keyboard, video, mouse and USB between other computers. Useful for scenarios where a user has to listen to audio originating from one computer while working on another computer.
- Smoothly switch between computers (Virtual Display Technology)**
 Automatically switch control from one computer to another by dragging the mouse cursor over the computer's display border. Peripherals switch to the next computer without having to press any buttons once the mouse is passing the display border.
- View applications in Ultra High Definition (UHD) 4K video quality**
 Never compromise on video quality. Run graphic-intensive, ultrahigh definition applications on all single and dual monitor KVM models.
- Avoid typing mistakes**
 Since two-way communication is blocked by the KVM security, keyboard lock LEDs do not function. Help users avoid typing mistakes by visually indicating the status of keyboard locks (CAPS-LOCK | NUM LOCK | SCROLL LOCK) on the product's front facing panel.
- Native touch screen support**
 Interact with all the computers that are connected to the KVM Combiner using touch screen gestures. No need to install any driver or software.
- Flexible screen layout**
 Resize source scaling and aspect ratio to create Tile, Scale and Custom display layouts that fit user needs.

SPECIFICATION

PART NUMBER	SC42DU-3	SC42HU-3	SC21H-3
No. of Sources	4	4	2
CONSOLE PORTS			
Displays	2 x DVI-I, single-link/ dual-link	2 x HDMI 1.4	1 x HDMI 1.4
Mouse and Keyboard	USB Type A	USB Type A	USB Type A
Audio Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack
fUSB Port	USB Type A	USB Type A	N/A
COMPUTER PORTS			
Display Type	1 x DVI-I, single-link/ dual-link	1 x DVI-I, single-link/ dual-link	1 x HDMI 1.4
Max Resolution	UHD 4K - 3840X2160 @ 30 Hz (via DVI to HDMI cable) DVI dual-link - 2560X1600 @ 60 Hz (via DVI cable)	Supporting UHD 4K resolutions up to 3840x2160	Supporting UHD 4K resolutions up to 3840x2160
Mouse and Keyboard	USB Type B	USB Type B	USB Type B
Audio Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack
fUSB Ports	USB Type B	USB Type B	N/A
PHYSICAL			
Dimensions	342 x 149 x 42 mm / 13.7 x 5.8 x 1.7 inches		177 x 81 x 35 mm / 7 x 3.1 x 1.4 inches
Weight		1.6 kg (3.2 lbs)	0.5 kg (1 lbs)
POWER			
Power Requirements		35W Max	12V DC, 1.5A
AC Input		100 to 240V AC	100 to 240V AC
Power Type		Internal	External
ENVIRONMENTAL			
Operating Temperature		32° to 104° F (0° to 40° C)	
Storage Temperature		-4° to 140° F (-20° to 60° C)	
Humidity		0-80% RH, non-condensing	
SOFTWARE			
Supported OS		Windows, Linux, Mac	
CERTIFICATION			
Security Certification		EAL4+ Certification	
Product Certification		CE, RCM, FCC class B, VCCI, TUV US, TUV Canada	
GENERAL INFO			
Made In		ISRAEL	
Product life-cycle		10 years	
Warranty		2 Years	

CABLES

PART #	DETAILS
CPN05485	KVM Cable short (1.8 m), DVI-D to DVI-D Single-Link, USB, Black
CPN05486	KVM Cable short (1.8 m), DVI-D to DVI-D Dual-Link, USB, Black
CPN05489	KVM Cable short (1.8 m), DVI-A to VGA, extended USB, Black
CPN05490	KVM Cable short (1.8 m), Audio Out, Black-Green
CPN05493	KVM Cable short (1.8 m), USB Type-A to USB Type-B, Black
CPN07466	KVM Cable short (1.8 m), 2 DVI-D to DVI-D Dual-Link, 1 USB Type-A plug to USB Type B
CPN05492	DVI to VGA adapter -molded

