HighSecLabs
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SECURE 2-4-8 PORT SINGLE-HEAD KVM SWITCHES

Ultra HD 4K

*NIAP PP PSS 4.0 COMPLIANT COMMON CRITERIA*

Securely share keyboard, video, mouse, audio and USB devices to simplify user experience when working with multiple computers.

Keyboard Video Mouse (KVM) switch offered by HSL allows securely sharing of keyboard, video, mouse, audio and USB peripherals between multiple computers while maintaining the highest isolation.

Obviate the need for purchasing and installing dedicated, per-computer peripheral sets.

KVM HIGHLIGHTS

- **NIAP Common Criteria PP4.0 Compliant**
  HSL KVMs qualify to the latest NIAP Common Criteria Protection Profile version 4.0 (PP4.0) certification for peripheral Sharing Switch (PSS) devices.

- **DP/HDMI Combined Connector**
  Allows connecting both type of cables – Display Port and HDMI.
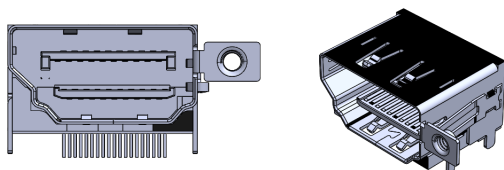
- **4K 60HZ - Never Compromise on Video quality**
  High Resolution 4K 60HZ 4:4:4 for the most demanding users.
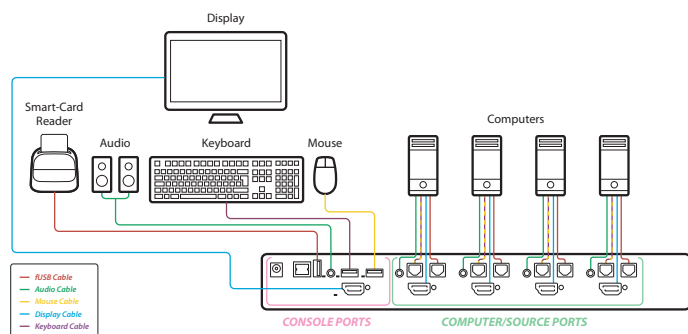
HSL Single-Head 4-Port Secure KVM Switch System Diagram

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 diodes.
  - Low Pass Filter - All sounds passing through the Audio Diode go through a low-pass filter that restricts the audio frequencies to the range compatible only with the human ear.

- **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.

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OPERATIONAL HIGHLIGHTS

- **Freeze USB (PHU-4)**
  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.

- **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.

- **Flexible Installation**
  Mix HDMI and DP sources and displays with no need for external converters and adapters.

- **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.

- **Keep up with future requirements through interchangeable KVM / KM functionality**
  Adjust with versatile setup scenarios. The device can be configured in two modes, KVM and KM. In KVM mode (default) one display, keyboard and mouse set is shared between all computers. In KM mode each computer is connected to a separate display while keyboard and mouse are shared, thus allowing simultaneous work on multiple computers.

SK21PH-4

SK41PH-4

SK41PHU-4 / 4T

SK81PH-4

SPECIFICATION

PART NUMBER	SK21PH-4	SK41PH-4	SK41PHU-4/4T*	SK81PH-4
No. of Sources	2	4	4	8
CONSOLE PORTS				
Displays	2 x DP 1.2/HDMI 2.0	2 x DP 1.2/HDMI 2.0	2 x DP 1.2/HDMI 2.0	2 x DP 1.2/HDMI 2.0
Max Resolution (Input & Output)	Supporting UHD 4K resolutions up to 3840x2160 @ 60 Hz			
Mouse and Keyboard	USB Type A	USB Type A	USB Type A	USB Type A
Audio Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack
fUSB Port	N/A	N/A	USB Type A (U)	N/A
COMPUTER PORTS				
Display Type	2 x DP 1.2/HDMI 2.0	2 x DP 1.2/HDMI 2.0	2 x DP 1.2/HDMI 2.0	2 x DP 1.2/HDMI 2.0
Mouse and Keyboard	USB Type B	USB Type B	USB Type B	USB Type B
Audio Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack
fUSB Ports	N/A	N/A	USB Type A (U)	N/A
PHYSICAL				
Dimensions	177 x 82 x 35 mm / 7 x 3.2 x 1.4 inches	342 x 148 x 42 mm / 13.7 x 5.8 x 1.7 inches		440 x 192 x 48 mm / 17.3 x 7.5 x 1.9 inches
Weight	0.52 kg (1.1 lbs)	1.6 kg (3.2 lbs)		2.6 kg (5.7 lbs)
POWER				
Power Requirements	12V DC, 1.5A			35W Max
AC Input	100 to 240V AC			100 to 240V AC
Power Type	External			Internal
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	Compliant with NIAP Common Criteria PP4.0 for Peripheral Sharing Switch (PSS) devices			
Product Certification	CE, RCM, FCC class B, VCCI, TUV US, TUV Canada			
GENERAL INFO				
Product life-cycle	10 years			
Warranty	2 Years			

* TEMPEST version available.

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