



NIAP PP PSD 4.0  
CERTIFIED  
COMMON CRITERIA

# SECURE KVM COMBINER

View, control, and resize multiple computers simultaneously with a single set of keyboard, video, mouse, and USB peripherals.

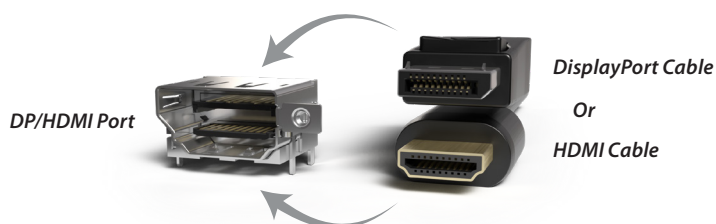
HSL's KVM Combiner combines the functionality of a KVM switch, a scaler, and an ultra-HD multi-viewer in a single product. It allows simultaneous viewing and interacting with multiple computers presented on the same display, using a single set of keyboard, video, mouse, USB, and audio peripherals.

HSL's secure Combiners allow seamless switching between computers while ensuring they remain

isolated from each other, preventing data leaks between computers. They are certified against NIAP's Common Criteria PP4.0 Protection Profile and are perfect for air-gapped environments where computers may have different levels of security classification.

## KEY FEATURES

- **View and control multiple computers simultaneously:**  
Display and work with up to 16 computers at the same time. Cascade Combiners to view and control up to 256 (16x16) computers on a single or dual display.
- **NIAP Common Criteria PP4.0 Compliant:**  
HSL's Secure Combiner models comply with the latest NIAP Common Criteria Protection Profile version 4.0 (PP4.0) certification for Peripheral Sharing Devices (PSD).
- **Prevent Information Leaks:**  
Prevent threats derived from sharing and switching of vulnerable, untrusted, or unauthorized peripheral devices. Block peripheral exploits, information leaks, eavesdropping, signal transmissions, and computer malware. Prevent hardware and firmware tampering attacks by enforcing multi-layered security mechanisms.
- **Built-in Flexibility:**  
The Combiner has multiple built-in presets to accommodate a wide range of setups, including additional displays and single- or dual-head computers.
- **Filter USB peripherals (U):**  
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.
- **DP/HDMI Combo Connectors:**  
The KVM features combo connector ports that support both DisplayPort and HDMI cables.



## SECURITY FEATURES

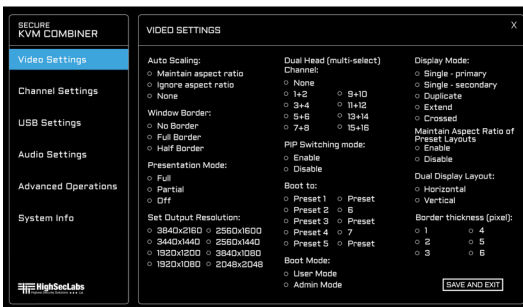
- **USB Security**
  - Block unauthorized USB devices.
  - USB authentication devices are authorized by default.
  - Whitelist and blacklist specific USB devices based on VID/PID characteristics.
- **Video Security**
  - Computer video input interfaces are isolated using different electronic components, 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 mouse is blocked.
  - Non-HID (Human Interface Device) data transactions are 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**
  - 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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VIDEO



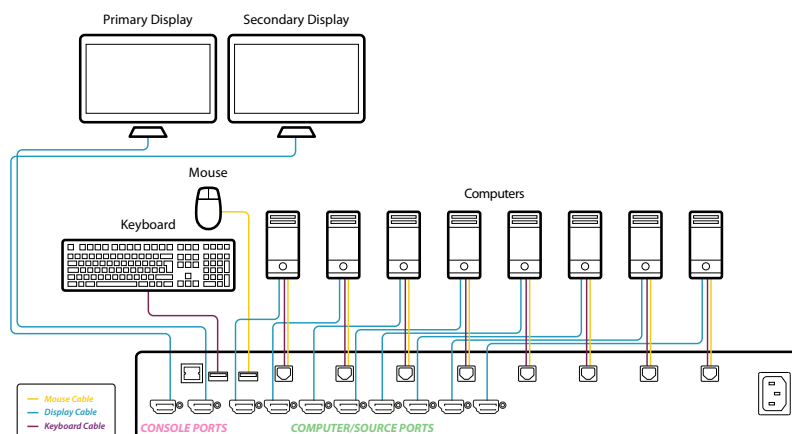
## OPERATIONAL HIGHLIGHTS

- View Video in Ultra HD**  
 The Combiner can display video at resolutions up to 4K 30Hz for uncompromised quality.
- Upscale and downscale capabilities:**  
 Scale any source to 4K or downscale any source from 4K to lower resolutions. Seamlessly support different resolutions on the same display at the same time, using the HSL smart scaler.
- Smoothly Switch Between Computers:**  
 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 passes the display border.
- On-Screen Display:**  
 In addition to using keyboard hotkeys, HSL's KVM Combiner is equipped with an On-Screen Display (OSD) interface for easy configuration of options, including video settings, audio settings, and USB interfaces.
- Flexible Installation:**  
 Seamlessly mix HDMI and DP sources and displays, without external converters and adapters.



## SPECIFICATION

PART NUMBER	SC42PHU-4	SC82PH-4	SC162PH-4
<b>No. of Sources</b>	4	8	16
<b>CONSOLE PORTS</b>			
<b>Displays</b>	2 x HDMI	2 x DP/HDMI	2 x DP/HDMI
<b>Mouse and Keyboard</b>	USB 2.0 Type A	USB 2.0 Type A	USB 2.0 Type A
<b>Audio Jack</b>	3.5 mm Jack	N/A	N/A
<b>fUSB Port</b>	USB Type A	N/A	N/A
<b>COMPUTER PORTS</b>			
<b>Displays</b>	4 x DP/HDMI	8 x DP/HDMI	16 x DP/HDMI
<b>Max Resolution</b>	Supporting UHD 4K resolutions up to 3840x2160		
<b>Mouse and Keyboard</b>	USB 2.0 Type B	USB 2.0 Type B	USB 2.0 Type B
<b>Audio Jack</b>	3.5 mm Jack	N/A	N/A
<b>fUSB Port</b>	USB 2.0 Type B	N/A	N/A
<b>PHYSICAL</b>			
<b>Dimensions</b>	342 x 148 x 42 mm / 13.4 x 5.8 x 1.6 in	439x250x58 mm / 17.3x9.8x2.3 in	439x222x89 mm / 17.3x8.7x3.5 in
<b>Weight</b>	1.61 kg (3.5 lbs)	3.7 kg (8.1 lbs)	7.0 kg (15.4 lbs)
<b>POWER</b>			
<b>Power Requirements</b>	35W Max		
<b>AC Input</b>	100 to 240V AC		
<b>Power Type</b>	Internal		
<b>ENVIRONMENTAL</b>			
<b>Operating Temperature</b>	32°F to 104°F (0°C to 40°C)		
<b>Storage Temperature</b>	-4°F to 140°F (-20°C to 60°C)		
<b>Humidity</b>	0%-80% RH, non-condensing		
<b>SOFTWARE</b>			
<b>Supported OS</b>	Windows, Linux, Mac		
<b>CERTIFICATION</b>			
<b>Security Certification</b>	NIAP PP4.0 Certified		
<b>Product Certification</b>	CE, RCM, FCC class B, VCCI, TUV US, TUV Canada		
<b>GENERAL INFO</b>			
<b>Manufactured</b>	TAA / BAA Compliant		
<b>Product Life-cycle</b>	10 years		
<b>Warranty</b>	2 Years		



HSL 8 Ports KVM Combiner with two connected displays

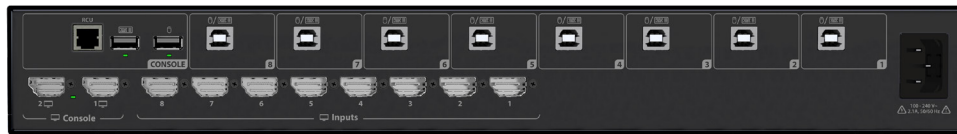


## ORDERING INFORMATION

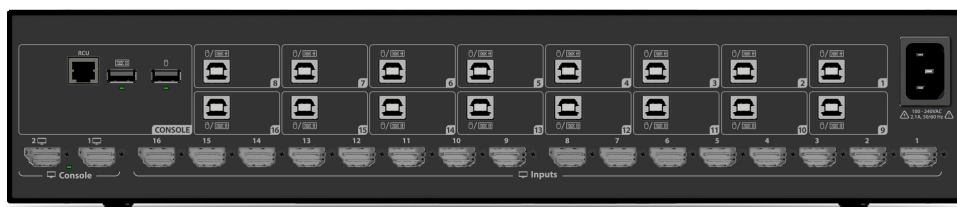
MODEL NUMBER	PRODUCT NUMBER	DESCRIPTION	QTY
SC42PHU-4	CPN19446	Secure 4-Port KVM Combiner w/Filtered USB, DP/HDMI, PP4.0 Compliant	1
		Wall-Mounted 12V DC Power Source	1
		Secure 8-Port KVM Combiner, DP/HDMI, PP4.0 Certified	1
SC82PH-4	CPN19448	C13 Female to C14 Male Power Cable	1
		8/16-Port Rack Mount Kit	1
		Adapters Kit- Plugs UK/USA/AU/EU to ERC230/C13	1
		Secure 16-Port KVM Combiner, DP/HDMI, PP4.0 Certified	1
		C13 Female to C14 Male Power Cable	1
SC162PH-4	CPN19450	8/16-Port Rack Mount Kit	1
		Adapters Kit- Plugs UK/USA/AU/EU to ERC230/C13	1



SC42PHU-4



SC82PH-4



SC162PH-4

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