



SECURE KVM MINI-MATRIX

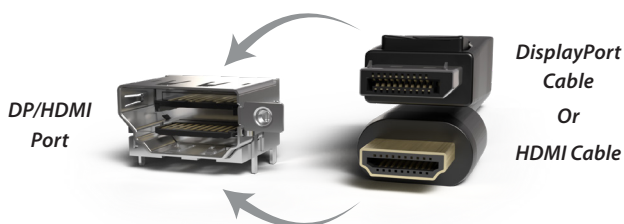
View and control multiple computers simultaneously with a single set of keyboard, video, mouse, and USB peripherals.

The KVM Mini-Matrix from High Sec Labs optimizes the user experience when working with multiple computers, allowing simultaneous control of two computers and viewing up to four or eight, while securely sharing keyboard, video, mouse, audio, and USB devices. By eliminating the need for purchasing and installing dedicated peripheral sets for each computer, the Mini-Matrix frees up space on

the desk. This is ideal for multi-computer environments like meeting rooms and control rooms, where multiple computers need to be displayed and controlled at the same time with as little clutter and confusion as possible.

MINI-MATRIX HIGHLIGHTS

- Simultaneous Control of Two Computers, Extended-Screen Viewing of All Computers:**
 Connect four/eight computers and two displays to the Mini-Matrix. Select which computer to present on each of the two attached displays. Displays can be positioned in various layouts (Horizontal / Vertical / Custom). Duplicate the screen of any computer by presenting it on both Mini-Matrix displays at the same time. Extend the screen of any computer to an additional external display.
- NIAP Common Criteria PP4.0 Compliant:**
 HSL's Secure Mini-Matrix 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 Mini-Matrix 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 Mini-Matrix 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-keyboard/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**
 - 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.

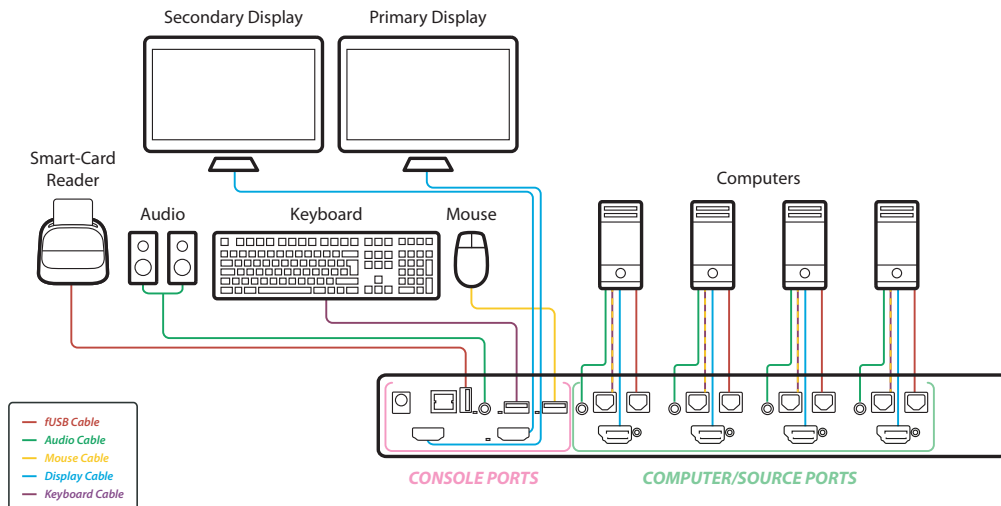


OPERATIONAL HIGHLIGHTS

- View Video in Ultra HD:**
 The Mini-Matrix can display video at resolutions up to 4K 60Hz for uncompromised quality.
- 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 passes the display border.
- Flexible Installation:**
 Seamlessly mix HDMI and DP sources and displays, eliminating the need for external converters and adapters.

SPECIFICATION

PART NUMBER	SX42PH-4	SX42PHU-4 /4T	SX82PH-4	SX82PHU-4 /4T
No. of Sources	4	4	8	8
CONSOLE PORTS				
Displays	2 x DP/HDMI	2 x DP/HDMI	2 x DP/HDMI	2 x DP/HDMI
Max Resolution (Input & Output)	Supporting UHD 4K resolutions up to 3840x2160 @ 60 Hz			
Mouse and Keyboard	USB 2.0 Type A	USB 2.0 Type A	USB 2.0 Type A	USB 2.0 Type A
Audio Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack
fUSB Port	N/A	USB Type A	N/A	USB Type A
SOURCE/COMPUTER PORTS				
Display Type	4 x DP/HDMI	4 x DP/HDMI	8 x DP/HDMI	8 x DP/HDMI
Mouse and Keyboard	USB 2.0 Type B	USB 2.0 Type B	USB 2.0 Type B	USB 2.0 Type B
Audio Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack
fUSB Ports	N/A	USB Type B	N/A	USB Type B
PHYSICAL				
Dimensions	342 x 148 x 42 mm / 13.4 x 5.8 x 1.6 inches		440 x 192 x 48 mm / 17.3 x 7.5 x 1.9 inches	
Weight	1.6 kg (3.5 lbs)		2.6 kg (5.7 lbs)	
POWER				
Power Requirements	12V DC, 2.5A		35W Max	
AC Input	100 to 240V AC		100 to 240V AC	
Power Type	External		Internal	
ENVIRONMENTAL				
Operating Temp.	32° to 104° F (0° to 40° C)			
Storage Temp.	-4° to 140° F (-20° to 60° C)			
Humidity	0-80% RH, non-condensing			
SOFTWARE				
Supported OS	Windows, MacOS, Linux			
CERTIFICATION				
Security Certification	NIAP PP4.0 Certified	NIAP PP4.0 Compliant, TEMPEST Certifiable	NIAP PP4.0 Certified	NIAP PP4.0 Compliant, TEMPEST Certifiable
Product Certification	CE, RCM, FCC class B, VCCI, TUV US, TUV Canada			
GENERAL INFO				
Manufactured	TAA / BAA Compliant			
Product life-cycle	10 years			
Warranty	2 Years			

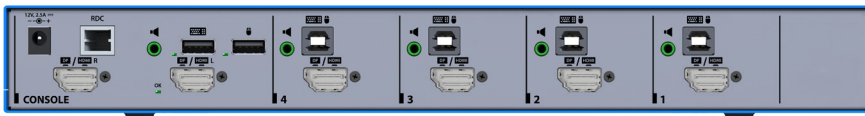


HSL 4-Port Secure Mini-Matrix KVM Switch System Diagram

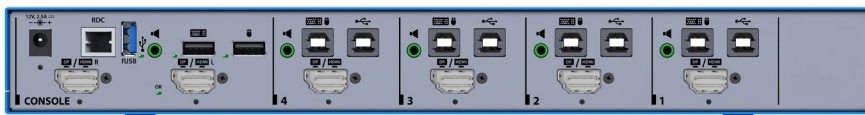


ORDERING INFORMATION

Model Number	Product Number	Description	Qty
SX42PH-4	CPN19452	Secure 4-Port KVM Mini-Matrix, DP/HDMI, PP4.0 Certified	1
		Wall-Mounted 12V DC Power Source	1
SX42PHU-4	CPN19263	Secure 4-Port KVM Mini-Matrix w/Filtered USB, DP/HDMI, PP 4.0 Compliant	1
		Wall-Mounted 12V DC Power Source	1
SX42PHU-4T	CPN28126	Secure 4-Port KVM Mini-Matrix w/Filtered USB, DP/HDMI, PP 4.0 Compliant, TEMPEST Certifiable	1
		Wall-Mounted 12V DC Power Source	1
		Adapters Kit- Plugs UK/USA/AU/EU to ERC230/C13	1
		Secure 8-Port KVM Mini-Matrix, DP/HDMI, PP4.0 Certified	1
SX82PH-4	CPN19459	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 8-Port KVM Mini-Matrix w/Filtered USB, DP/HDMI, PP4.0 Compliant	1
		C13 Female to C14 Male Power Cable	1
SX82PHU-4	CPN27760	8/16-Port Rack Mount Kit	1
		Adapters Kit- Plugs UK/USA/AU/EU to ERC230/C13	1
		Secure 8-Port KVM Mini-Matrix w/Filtered USB, DP/HDMI, PP4.0 Compliant, TEMPEST Certifiable	1
		C13 Female to C14 Male Power Cable	1
SX82PHU-4T	CPN28130	8/16-Port Rack Mount Kit	1
		Adapters Kit- Plugs UK/USA/AU/EU to ERC230/C13	1
		Secure 8-Port KVM Mini-Matrix w/Filtered USB, DP/HDMI, PP4.0 Compliant, TEMPEST Certifiable	1



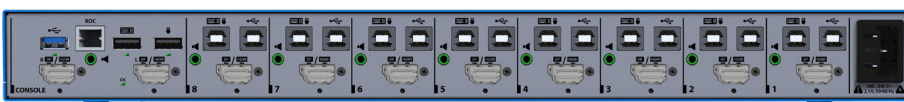
SX42PH-4



SX42PHU-4 /4T



SX82PH-4



SX82PHU-4 /4T

