



NEOUS SECURE IP MATRIX: COPPER TRANSMITTER/RECEIVER ENDPOINTS FOR VIDEO AND KVM

Transmit and receive KVM or video data over IP with the highest possible security.



The Neous IP Matrix from High Sec Labs is a highly secure, standards-based KVM-over-IP solution for connecting distributed source computers and user workstations across multiple security domains. Source computers and workstations connect through dedicated Endpoints—either a Transmitter (Tx) or Receiver (Rx)—each paired with a secure NIAP PP4.0-certified Encrypting Isolator that enforces unidirectional video and/or KVM data flow. By combining FIPS 140-3 compliant encryption for data in transit with hardware-level isolation, Neous Endpoints prevent cross-domain data breaches while enabling secure many-to-many connectivity across multiple classification levels. All copper models use standard RJ45 connections and support distances of up to 100 meters. Select models support power delivery via PoE and/or external power adapters.

KEY FEATURES

- **KVM Over IP Extension:** Neous Matrix Endpoints operate on a closed network that isolates computers of different security classifications, enabling secure access from the workstation to any permitted source computer.
- **On-Screen Display:** Neous Receiver Endpoints feature an on-screen display that enables users to connect to available sources per the permissions managed by the Neous Controller.
- **Copper Ethernet Connection:** Neous Copper Endpoints have a range of up to 100m, and select models support power delivery via PoE (Power over Ethernet).
- **4K UHD Support:** Neous Endpoints can stream video at 4K resolution up to 30Hz, with zero latency.
- **Secure KVM/Video Isolation:** To ensure the flow of information is always secure, every Neous Endpoint includes a NIAP PP4.0-certified isolator. These Isolators use hardware-based protection measures to filter unnecessary information and enforce unidirectional data flow.
- **Isolator Auto-Detection:** Upon startup, each Neous Endpoint automatically detects whether its Isolator is connected and will not function without one.
- **Dual Combo DisplayPort and HDMI Connectors:** Connect either DisplayPort or HDMI sources into the same port using HSL's dual-source video connector, without any need for adapters or converters.

SECURITY FEATURES

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 Extended Display Identification Data (EDID) emulation for each computer.
- Access to the monitor's EDID is blocked.
- Access to the Monitor Control Command Set is blocked.

Phylax Data Encryption

- Each Neous Isolator performs FIPS 140-3 compliant encryption on HID traffic, preventing man-in-the-middle hijacking of data and ensuring positive identification between users and sources.

System Management

- When integrated into the Neous Matrix, the Neous Controller locks the product with a shared secret, preventing unauthorized management devices from communicating with them.

Hardware Anti-Tampering

- Special holographic tampering evident labels on the product's packaging 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), preventing 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 a clear visual indication of failure.

SPECIFICATION

MODEL NUMBER	SVCX10PHT-M / SVCX01PHR-M	SKCX10PHT-M / SKCX01PHR-M	SVCX10PHT-ME / SVCX01PHR-ME	SKCX10PHT-ME / SKCX01PHR-ME
Endpoint Pair	Neous IP Video Matrix Copper Endpoints	Neous KVM IP Matrix Copper Endpoints	Neous IP Video Matrix Copper PoE Endpoints	Neous IP KVM Matrix Copper PoE Endpoints
No. of Sources	1		1	
Extension Type	Copper		Copper	
Link Port	RJ45		RJ45	
Extension Length	100m		100m	
ENCODER UNIT				
Transmitter Model	SVCX10PHT-M	SKCX10PHT-M	SVCX10PHT-ME	SKCX10PHT-ME
Video Port	DP / HDMI		DP / HDMI	
Max Resolution	UHD 4k up to 3840x2160 30Hz		UHD 4k up to 3840x2160 30Hz	
Mouse and Keyboard	n/a	USB B	n/a	USB B
Isolator Model	FV11PH-MT	FI11PHT-ME	FV11PH-MTX	FI11PHT-ME
Video Input Port	1x DP/HDMI		1x DP/HDMI	
Video Output Port	1xDP/HDMI		1xDP/HDMI	
Mouse/Keyboard In	n/a	1x USB B	n/a	1x USB B
Mouse/Keyboard Out	n/a	2x USB A	n/a	2x USB A
DECODER UNIT				
Receiver Model	SVCX01PHR-M	SKCX01PHR-M	SVCX01PHR-ME	SKCX01PHR-ME
Video Port	DP / HDMI		DP / HDMI	
Max Resolution	UHD 4k up to 3840x2160 30Hz		UHD 4k up to 3840x2160 30Hz	
Mouse and Keyboard	n/a	2x USB A	n/a	
Isolator Model	FV11PH-MR	FI11PHR-ME	FV11PH-MR	FI11PHT-ME
Video Input Port	1x DP/HDMI		1x DP/HDMI	
Video Output Port	1xDP/HDMI		1xDP/HDMI	
Mouse/Keyboard In	n/a	1x USB B	n/a	1x USB B
Mouse/Keyboard Out	n/a	2x USB A	n/a	2x USB A
PHYSICAL				
Dimensions	140x210x28mm / 5.5x8.3x1.1in (Transmitter or Receiver), 145x105x28mm / 5.7x4.1x1.1in (Isolator)			
Weight	0.6kg / 1.2lb (Transmitter or Receiver), 0.3kg / 0.6lb (Isolator)			
POWER				
Power Requirements	12V DC		12V DC	
AC Input	100V to 240V AC		100V to 240V AC	
Power Supply Type	External; Isolator powered independently or via Tx/Rx.		PoE (Power over Ethernet) or External	
ENVIRONMENTAL				
Operating Temperature	0°C to 40° C / 32°F to 104° F		0°C to 40° C / 32°F to 104° F	
Storage Temperature	-20°C to 60° C / -4°F to 140° F		-20°C to 60° C / -4°F to 140° F	
Humidity	0%-80% RH, non-condensing		0%-80% RH, non-condensing	
SOFTWARE				
Supported OS	Windows, MacOS, Linux		Windows, MacOS, Linux	
SECURITY				
Compliance	Isolators Compliant to NIAP Common Criteria PP4.0 PSD Protection Profile			
Encryption	AES-256 Encryption for HID			
GENERAL INFO				
Manufactured	TAA / BAA Compliant		TAA / BAA Compliant	
Product Lifecycle	10 Years		10 Years	
Product Warranty	2 Years		2 Years	

IMPORTANT NOTE: The Neous IP Matrix requires connection to a 10Gbps network.

SECURE NEOUS COPPER TX/RX ENDPOINTS



SVCX10PHT-M

Neous Copper Video Matrix TX
with Adjunct Isolator



SVCX01PHR-M

Neous Copper Video Matrix RX
with Adjunct Isolator



SKCX10PHT-M

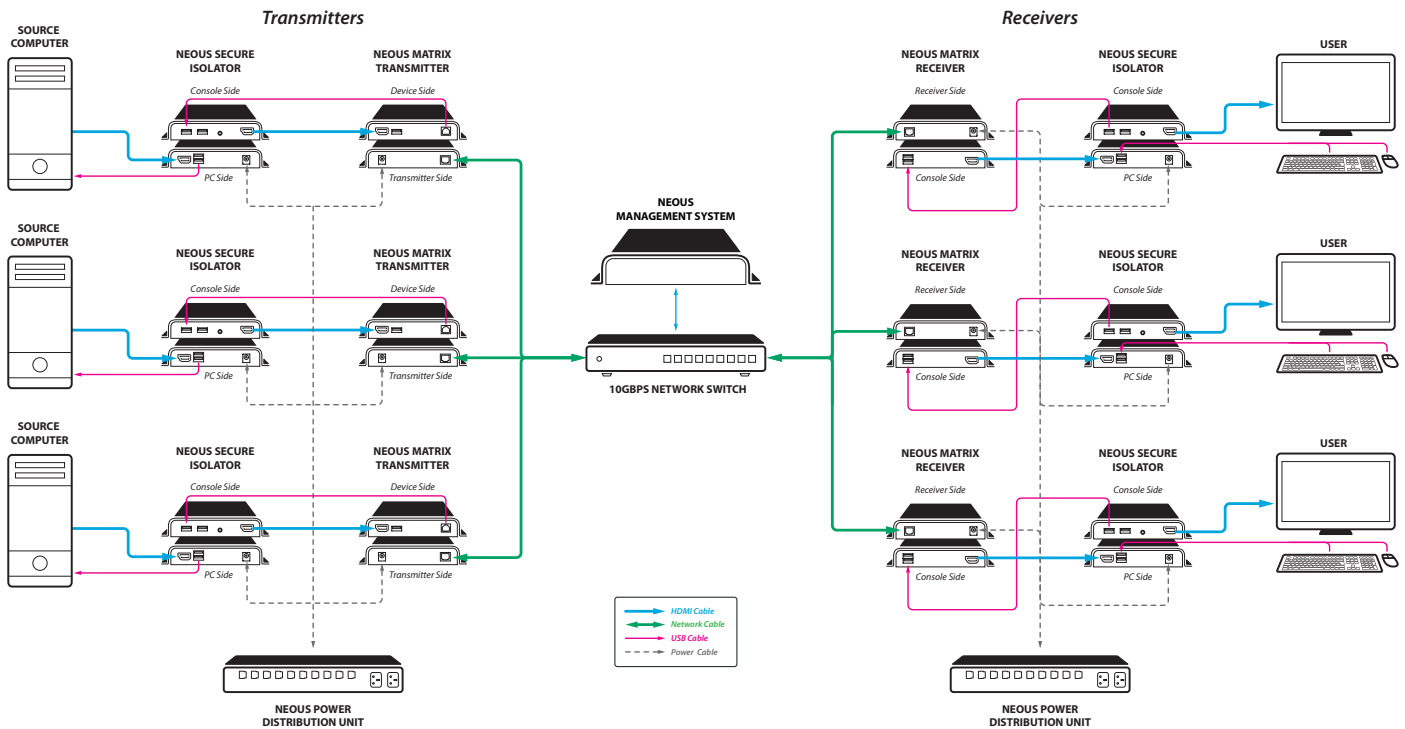
Neous Copper KVM Matrix TX
with Adjunct Isolator



SKCX01PHR-M

Neous Copper KVM Matrix RX
with Adjunct Isolator

NEOUS MULTI-DOMAIN MATRIX SYSTEM DIAGRAM



ORDERING INFORMATION

MODEL NO.	P/N	DESCRIPTION	QTY
SVCX10PHT-M	CPN34278	Neous Copper Video Transmitter	1
		0.15m HDMI 1.0 Cable	1
		Secure 1-Port Video Isolator Transmitter	1
		Wall-Mounted 12v DC Power Supply	2
SVCX01PHR-M	CPN34279	Neous Copper Video Receiver	1
		0.15m HDMI 1.0 Cable	1
		Secure 1-Port Video Isolator Receiver	1
		Wall-Mounted 12v DC Power Supply	2
SKCX10PHT-M	CPN34282	Neous Copper KVM Transmitter	1
		0.15m HDMI 1.0 Cable	1
		Secure 1-Port KVM Isolator Receiver	1
		Wall-Mounted 12v DC Power Supply	2
SKCX01PHR-M	CPN34283	Neous Copper KVM Receiver	1
		0.15m HDMI 1.0 Cable	1
		Secure 1-Port KVM Isolator Receiver	1
		Wall-Mounted 12v DC Power Supply	2
SVCX10PHT-ME	CPN36739	Neous Copper Video Transmitter with PoE	1
		0.15m HDMI 1.0 Cable	1
		Secure 1-Port Video Isolator Transmitter	1
		Neous Copper Video Receiver with PoE	1
SVCX01PHR-ME	CPN36740	0.15m HDMI 1.0 Cable	1
		Secure 1-Port Video Isolator Receiver	1
		Neous Copper KVM Transmitter with PoE	1
		0.15m HDMI 1.0 Cable	1
SKCX10PHT-ME	CPN36741	Secure 1-Port KVM Isolator Transmitter	1
		Neous Copper KVM Receiver with PoE	1
		0.15m HDMI 1.0 Cable	1
		Secure 1-Port KVM Isolator Receiver	1