



Product Highlights

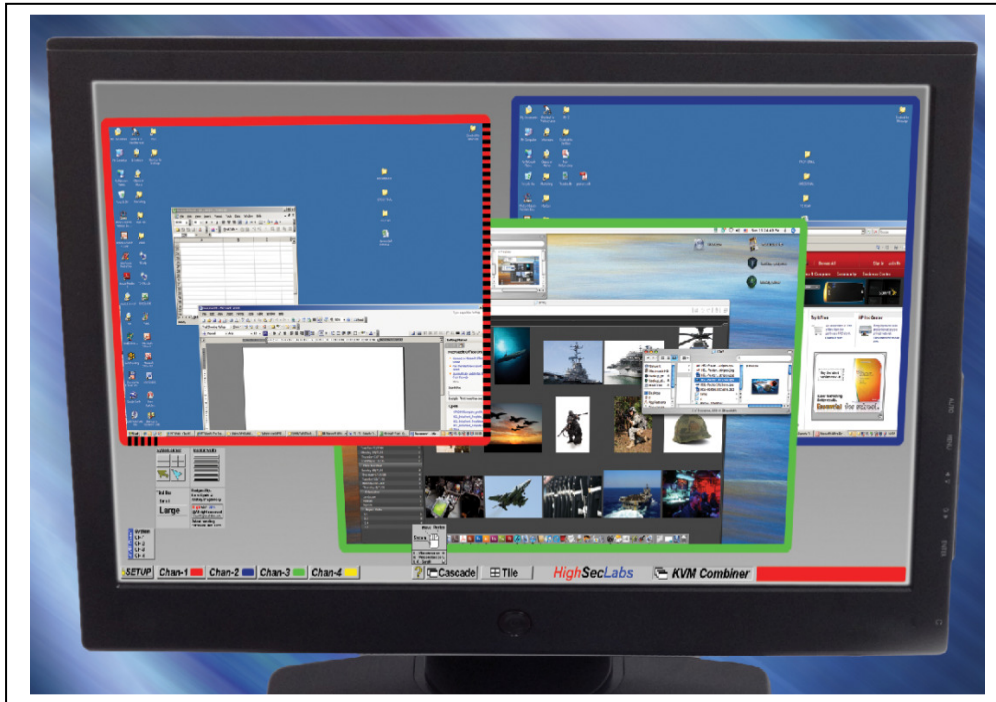
- ✎ **Works simultaneously with 2 / 4 isolated networks**
 - User can work in a single display while accessing 2 / 4 isolated networks having different security levels through windows.
- ✎ **Highest security by design** • Designed by an agency to support isolation between national security networks. Designed to comply with Common Criteria EAL 5. Derivative of a TEMPEST product used in NATO nuclear submarines.
- ✎ **No Software - Physics Based peripheral protection/isolation** • Absolutely no dependency on firmware or software. No software installation required on computers.
- ✎ **Unidirectional optical data diodes** • Assuring USB peripherals isolation. Data can flow from devices to computer only. No reverse data flow possible by optical diodes.
- ✎ **Peripherals security** • Full USB isolation through multiple isolated host emulators and data diodes. Data leakage protected by hardware.
- ✎ **User authentication device port** • Special USB port that supports CAC and other user authentication devices including biometric readers. User can decouple this port from KVM switching to remain authenticated on one channel in needed.
- ✎ **Real-time and real quality video** • No quality loss, latency, reduced colours. Fastest digital video processing technology available in any KVM today.
- ✎ **Easy customization** • Administrator mode enables easy customization of channels, colours, cursors, task-bar, background etc.
- ✎ **Anti tampering** • Always on active anti-tampering with 10 years battery. Special holographic tampering evident labels.

What is a Secure KVM Combiner?

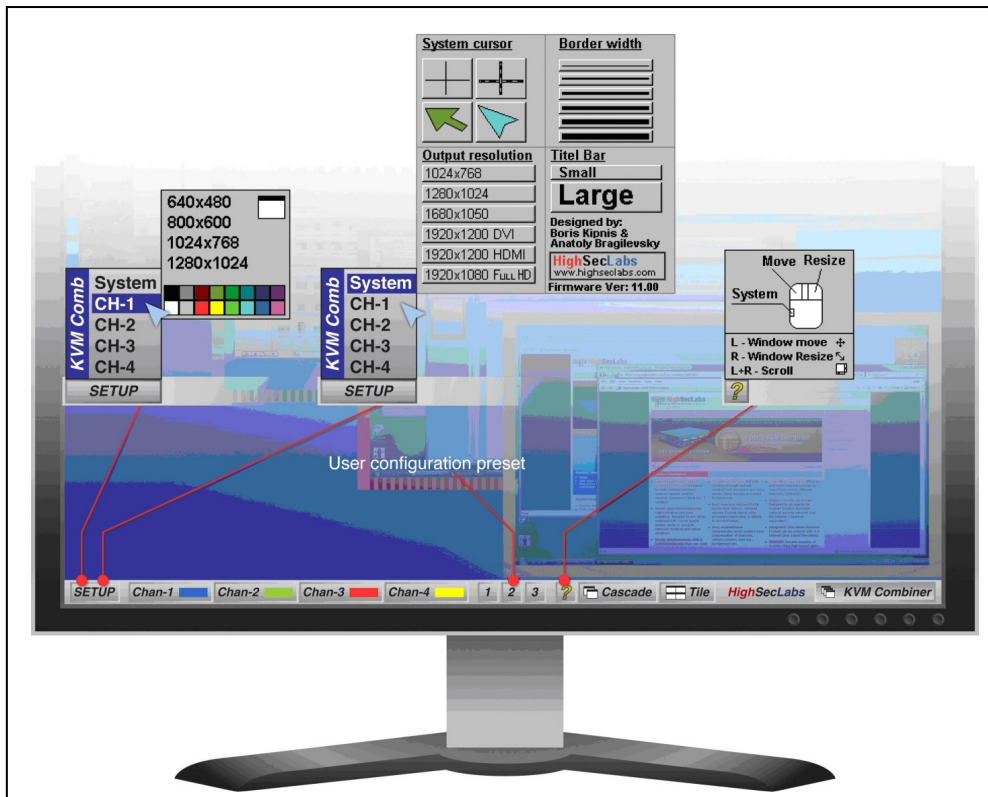
There are many cases where one computer user needs to work simultaneously with few computers. The Secure KVM Combiner designed to provide users with native windowing environment across isolated networks. Connected computers may operate at different isolated networks having different security levels without exposing the organization to the risks of information leakage through the KVM. HSL K40x device uses advanced video processing technology to draw a high resolution dynamic “mosaic” of images generated by different computer sources. Built-in video sources isolation forces unidirectional flow of data through the USB and DVI ports. The product was designed and certified National Security agencies. It is the **only** product available in the market today that truly resolves (in hardware) the challenge of users working simultaneously in multiple networks having different security levels.

Why K40x?

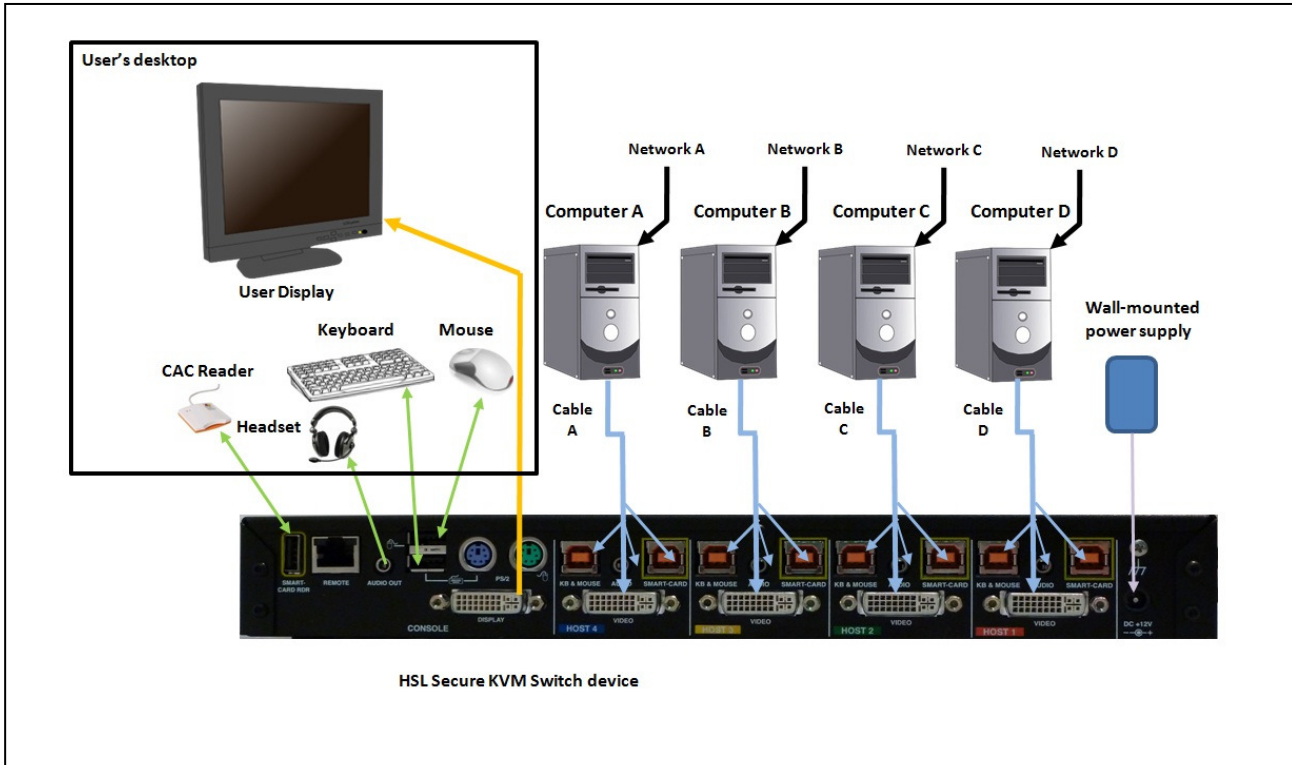
HSL K40x is an essential tool for heavy users challenged by frequent switching between isolated networks. The combination of up to four isolated sources into one combined display improves the usability and situational awareness. This product resolves in a highly secured way challenges that other resolved through virtualization at great security risks.



K404E typical user display



K404E Administrator mode options



K404E Typical system diagram

K402/K402E/K404/K404E Products Specification

Input Ports

- 2 / 4 x isolated input ports to connect computers, thin-clients, docking stations each having:
 - 1 x USB Type-B connector for keyboard and mouse
 - 1 x USB Type-B connector for user authentication device
 - 1 x DVI-D Female connector to connect digital video source
 - 1 x 3.5mm stereo jack to connect audio out source

Note: All cables are sold separately

- DVI-D supports DVI or HDMI sources only. VGA can be supported using VGA to DVI Smart-Cable accessory (sold separately)
- Ports isolation through optical data diodes and isolated power supplies
- Plug & Play EDID support - channels identified as standard displays

Console ports

- One set of user console ports having:
 - PS/2 jack for user keyboard (Mini DIN-5)
 - PS/2 jack for user mouse (Mini DIN-5)
 - USB Type-A jack for keyboard
 - USB Type-A jack for mouse
 - USB Type-A jack for User authentication device
 - DVI-D display jack for user display

	<ul style="list-style-type: none"> - 3.5 mm stereo jack for amplified speakers or headset ▪ Channels isolation – optical data-diode and four separate host emulators ▪ Remote Desktop Controller (RDC) port RJ-45 jack
User Functions	<ul style="list-style-type: none"> ▪ Windows can be moved and resized ▪ Toggling between normal mode and system modes by mouse side buttons click (5-buttons mouse) ▪ Cascading button arranges all 4 windows one on top of the other ▪ Tile button arranges all 4 windows in a mosaic ▪ Help button presents basic usage guidance ▪ Vertical and horizontal scroll bars ▪ Minimize window to task-bar ▪ Colored Task-bar and window border indicating channel ▪ Mouse wheel cyclic toggling between active windows in system mode ▪ Double click to maximize window to full screen ▪ Legacy mode – toggling between windows by Control + Func. keys [Optional] ▪ 3 User defined preset buttons to save or load user settings ▪ Disable channel function
Administrator settings	<ul style="list-style-type: none"> ▪ Administrator mode is accessed through a key-lock in front panel ▪ 4 Selectable system cursor pointers ▪ 6 Selectable window border widths ▪ 16 Selectable window border colors ▪ 2 Selectable task-bar sizes ▪ 6 Selectable video output resolutions ▪ Customer defined background bitmap [Optional] ▪ VGA computers may be supported using Smart cable active converter.
Output video modes supported	<ul style="list-style-type: none"> ▪ 1024 x 768 (4:3) ▪ 1280 x 1024 (4:3) ▪ 1680 x 1050 (16:10) ▪ 1920 x 1080 (16:9) ▪ 1920 x 1200 (16:10) ▪ Dual-link displays support [Future]
Power	<ul style="list-style-type: none"> ▪ DC input 12V / 2.5A maximum ▪ Brick power supply included. Power input 90-240V AC
Physical Characteristics	<ul style="list-style-type: none"> ▪ Dimensions: 320 x 130 x 50 mm (12.6 x 5.1 x 2.0 Inch) ▪ Device weight: 1.2 Kg (2.64 lbs) ▪ Shipping Weight: 1.8 Kg (4 lbs) without cables
Environmental	<ul style="list-style-type: none"> ▪ Temperature range: Operating - 0°C to 40°C (32°F to 104°F); Storage - -20°C to 60°C (-4°F to

	<p>140°F)</p> <ul style="list-style-type: none"> Humidity: Operating - 20 to 80% non condensing; Storage – 10 to 90% non condensing Altitude: 0 to 20,000 ft Acoustic emissions 0dB
Regulatory Compliance	<ul style="list-style-type: none"> Safety: UL/cUL60950,EN60 950 EMI/EMC: FCC Class B, CE Mark, EN55022B, VCCI ROHS
Security Functions	<ul style="list-style-type: none"> USB ports supporting only keyboard and mouse through host emulation and strong filtering. Optical Data Diode assures unidirectional flow from devices to computers. Firmware change can not cause leakage between channels or data export. Isolated power supplies for each device emulator. Dedicated port for smart-card reader or biometric device. Port is strongly filtered and monitored. Firmware resides on ROM. Battery powered anti-tampering system to disable product in case of mechanical intrusion. Special holographic Temper Evident Labels.
Security Accreditations	<ul style="list-style-type: none"> Common Criteria EAL 4+ ALC_FLR.3 (pending). Complies with NIAP Peripheral Sharing Switch (PSS) For Human Interface Devices Ver 2.1
Warranty, reliability	<ul style="list-style-type: none"> 2 years limited warranty. This limited warranty covers 100% of parts and workmanship on any required repairs. For details see HSL web-site: www.highseclabs.com/warranty/ Optional extended warranty for up to 5 additional years Product design life-cycle 10 years per MIL-HDBK-217E

- Specifications are subjected to change without prior notice
- Multiple patents pending



How to Order

Models

Description	Part Number
K402 - 2 Ports High Security KVM Combiner, USB PS/2 keyboard and mouse, DVI-D video, Active anti-tampering, Laser mouse included	CPN05462 [Europe, Israel] CPN05466 [UK] CPN05470 [US, Canada]
K402E - 2 Ports High Security KVM Combiner, USB PS/2 keyboard and mouse, DVI-D video, Audio out, USB user authentication port, Active anti-tampering, Remote Desktop Controller port, Laser mouse included	CPN05463 [Europe, Israel] CPN05467 [UK] CPN05471 [US, Canada]
K404 - 4 Ports High Security KVM Combiner, USB PS/2 keyboard and mouse, DVI-D video, Active anti-tampering, Laser mouse included	CPN05464 [Europe, Israel] CPN05468 [UK] CPN05472 [US, Canada]
K404E - 4 Ports High Security KVM Combiner, USB PS/2 keyboard and mouse, DVI-D video, Audio out, USB user authentication port, Active anti-tampering, Remote Desktop Controller port, Laser mouse included	CPN05465 [Europe, Israel] CPN05469 [UK] CPN05473 [US, Canada]

Cables

Description	Part Number
KVM Cable short (1.8 m), DVI-D to DVI-D Single-Link, USB, Black	CPN05485
KVM Cable short (1.8 m), DVI-D to DVI-D Dual-Link, USB, Black	CPN05486
KVM Cable short (1.8 m), Audio out, CAC, Black	CPN05490
KVM Smart-Cable VGA PC to DVI KVM converter cable with USB type A to USB type B, 6ft (1.8 m), black	CPN06011

Accessories and spare parts

Description	Part Number
RDC440 Remote Desktop Controller, 2-16-port	CPN06125
SCM Smart-card reader, USB, SCR-3311	CPN05498
Power supply, Brick, 12V, 5A, Universal	CPN05504

Services

Description	Part Number
K4xx One year Standard warranty and support extension (3rd to 7th year) per S/N	CSV05977
K4xx One year Premium warranty and 24/7 support per S/N	HSV06019