



## Product Highlights

- ❏ **Dual-head support** • Support four computers each one two displays. Support any resolution. Can drive VGA, HDMI single-link and dual-link DVI.
- ❏ **Unidirectional optical data diodes** • Assuring USB peripherals isolation. Data can flow from devices to host only. No reverse data flow possible by design.
- ❏ **Smart-Card reader support** • Special secured port for smart-card or biometric reader with patented Freeze function to support user authentication across multiple isolated networks.
- ❏ **Future-proof** • Supports widest variety of peripherals and computers. Supports the widest range of video formats from VGA, single-link to 2560x1600 dual-link DVI and HDMI. Supports the latest keyboards, mice and card readers and all Operating Systems.
- ❏ **Highest security by design** • Designed by an agency to support isolation between national security networks and internet. Designed to comply with Common Criteria EAL 5. Derivative of a TEMPEST product used in NATO nuclear submarines.
- ❏ **Hardware Based peripheral protection/isolation** • Absolutely no dependency on firmware or software. All firmware is in ROM (Read Only Memory). No keyboard buffering or memory. More than 60dB isolation between channels.
- ❏ **Display Plug & Play (DDC) protection** • Leakage prevention through patented emulated technology. Signaling attacks prevented by design.
- ❏ **Always-on Active Anti-tampering** • Enclosure tempering sensed by multiple sensors. Battery powered anti-tampering circuitry prevents normal KVM operation.

## The Ultimate Secure KVM Solution

KVM becoming a target for networks leakage attacks. 2<sup>nd</sup>-Generation Secure KVMs have documented vulnerabilities that may cause data leakages between hosts having different security levels.

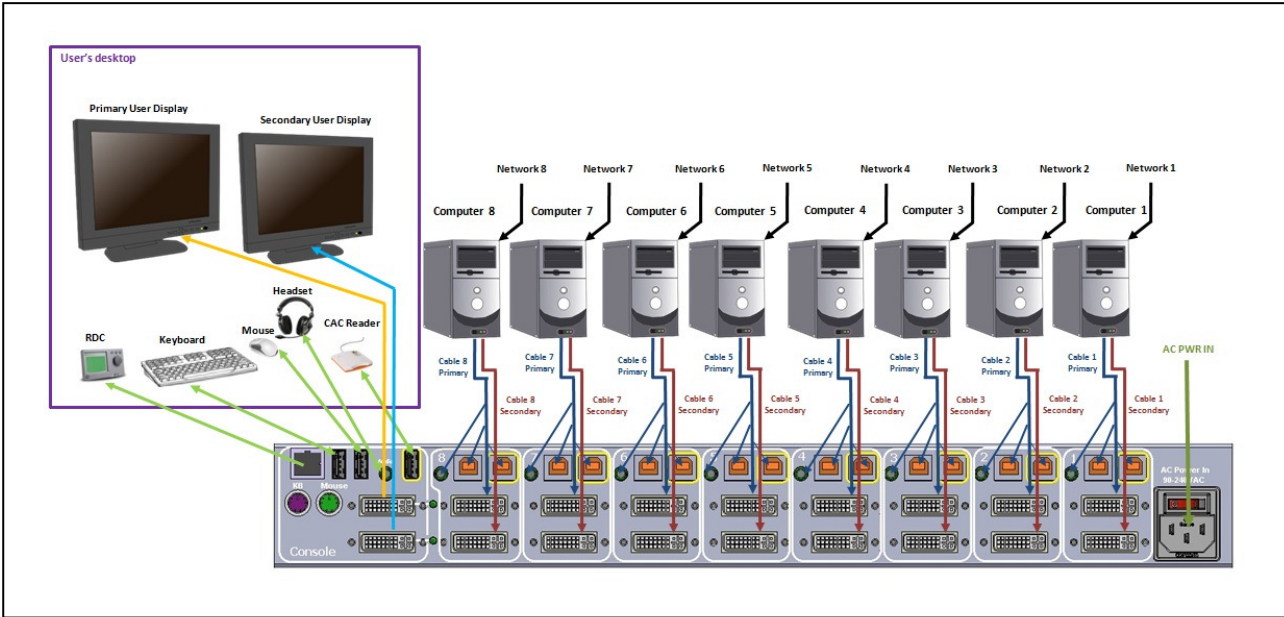
HSL's K248E Secure KVM Switch provides the highest possible isolation between eight connected dual-head computers. This 3<sup>rd</sup>-Generation KVM was designed to meet the requirements of organizations challenged by the need to provide secret or top-secret network access together with unclassified or internet access.

The K2xx series KVM uses unidirectional optical data-diodes to prevent any potential leakage between the highly isolated peripheral channels. K200 can also be used to securely filter and lock USB ports preventing data export / import through mass-storage devices by hardware.

The K248E drives two independent user displays and supports four isolated computers each having two video output with video interface from VGA to dual-link DVI and HDMI.

The K248E provides a dedicated peripheral port to securely support bi-directional devices such as smart-card reader, biometric device or touch screen.

Remote Desktop Controller (RDC) option enables comfortable remote control of all KVM functions through a rotary switch and a graphic LCD.



K248E typical system diagram



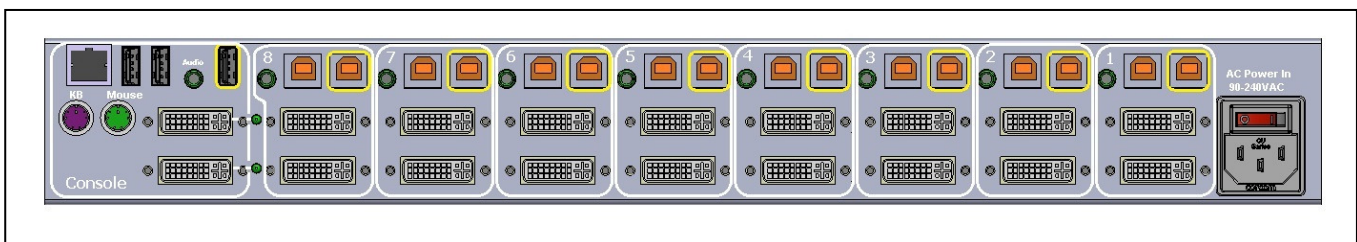
RDC440 Optional Remote Desktop Controller

## K248E Specification

<b>Host Input Ports</b>	<ul style="list-style-type: none"> <li>▪ Eight input ports from host computers having:               <ul style="list-style-type: none"> <li>- 8 x DVI-D Female connectors (VGA supported) for Primary Video</li> <li>- 8 x DVI-D Female connectors (VGA supported) for Secondary Video</li> <li>- 8 x USB Type-B connectors for keyboard and mouse</li> <li>- 8 x Audio out 3.5 mm stereo jacks for audio input</li> <li>- 8 x Optional Dedicated Peripheral Ports USB Type-B connectors [K244E only]</li> </ul> </li> <li>▪ Display Plug &amp; Play EDID is supported through emulation to prevent leakages</li> </ul>
<b>Console ports</b>	<ul style="list-style-type: none"> <li>• 2 x DVI-D Female connector for user displays</li> <li>• One set of ports for user keyboard and mouse, having:               <ul style="list-style-type: none"> <li>- 2 x USB Type-A jacks for USB Mouse &amp; Keyboard</li> <li>- USB port for DPP (user authentication device) [K224E only]</li> <li>- PS/2 keyboard connector (DIN-5) PS/2 mouse connector (DIN-5)</li> <li>- Audio out 3.5 mm stereo jack for audio output</li> </ul> </li> <li>▪ Channels isolation – optical data-diode and two separate host emulators</li> <li>▪ Remote Desktop Controller (RDC) port RJ-45 jack</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>▪ 8 x DPP Status LED's</li> <li>▪ 8 x Channel select push-buttons with internal channel selected LED</li> <li>▪ Keyboard hotkeys [can be disabled]</li> <li>▪ Optional Remote Desktop Controller (RDC) [sold separately]</li> </ul>
<b>Video modes supported</b>	<ul style="list-style-type: none"> <li>▪ DVI Dual-link supports resolution up to 2560 x 1600.</li> <li>▪ DVI Single-link supports resolution up to 1920x1200.</li> <li>▪ HDMI supported through adapters or cables.</li> <li>▪ VGA display supported. Resolution up to 2048x1536.</li> </ul>
<b>Audio switching</b>	<ul style="list-style-type: none"> <li>▪ Audio out switching</li> <li>▪ Audio in (microphone) switching not allowed due to security risks.</li> </ul>
<b>Power</b>	<ul style="list-style-type: none"> <li>▪ Internal power supply, IEC-3 jack with power switch.</li> <li>▪ Power consumption 22W maximum, 10W nominal.</li> <li>▪ Power input 90-240V AC</li> </ul>
<b>Security functions</b>	<ul style="list-style-type: none"> <li>▪ USB ports supporting only keyboard and mouse through host emulation and strong filtering.</li> <li>▪ Optical Data Diode assures unidirectional flow from devices to computers.</li> <li>▪ Firmware change can not cause leakage between channels or data export.</li> <li>▪ Isolated power supplies for each device emulator.</li> </ul>

	<ul style="list-style-type: none"> <li>Dedicated port for smart-card reader or biometric device. Port is strongly filtered and monitored.</li> <li>Firmware resides on ROM.</li> <li>EDID is highly isolated and fully emulated. EDID content qualification function (firewall).</li> <li>Battery powered anti-tampering system to disable product in case of mechanical intrusion.</li> <li>Special holographic Temper Evident Labels.</li> </ul>
<b>Environmental</b>	<ul style="list-style-type: none"> <li>Temperature range: Operating - 0°C to 40°C (32°F to 104°F); Storage - -20°C to 60°C (-4°F to 140°F)</li> <li>Humidity: Operating - 20 to 80% non condensing; Storage – 10 to 90% non condensing</li> </ul>
<b>Regulatory Compliance</b>	<ul style="list-style-type: none"> <li>Safety: UL/cUL60950,EN60 950</li> <li>EMI/EMC: FCC Class B, CE Mark, EN55022B, VCCI</li> </ul>
<b>Security Accreditations</b>	<ul style="list-style-type: none"> <li>Common Criteria EAL 4+ ALC_FLR.3 (currently in evaluation)</li> <li>Designed for Common Criteria EAL-5</li> <li>Complies with NIAP Peripheral Sharing Switch (PSS) For Human Interface Devices Ver 2.1</li> </ul>
<b>Physical Characteristics</b>	<ul style="list-style-type: none"> <li>Dimensions: 438 (W) x 165 (D) x 60 (H) mm / 5.3 (W) x 12.6 (D) x 3.0 (H) inch</li> <li>Device weight: 3.6 Kg. (7.9 lbs.)</li> <li>Shipping Weight: 4.8 Kg (10.6 lbs) without cables</li> </ul>
<b>Warranty, reliability</b>	<ul style="list-style-type: none"> <li>2 years limited warranty. This limited warranty covers 100% of parts and workmanship on any required repairs. For details see HSL web-site: <a href="http://www.highseclabs.com/warranty/">www.highseclabs.com/warranty/</a></li> <li>Optional extended warranty for up to 5 additional years</li> <li>Product design life-cycle 10 years based on MIL-HDBK-217E.</li> </ul>

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



K248E – Rear panel

## How to Order

### KVM Models

Description	Part Number
K248E – 8-Port Dual-head High Security KVM Switch, USB PS/2 keyboard and mouse, DVI-I dual-link video x 2, Audio out, USB user authentication port, Active anti-tampering, Front panel push-buttons, RDC Port	CPN06214

### 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
KVM Cable short (1.8 m), DVI-A to VGA, USB, Black	CPN05489
KVM Smart-Cable DVI-D USB PC to VGA USB KVM converter cable, 6ft (1.8 m), black	CPN06010
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

### Services

Description	Part Number
K248x One year Standard warranty and support extension (3rd to 7th year) per S/N	HSV06228
K248x One year Premium warranty and 24/7 support per S/N	HSV06229