K304x-K308 Secure KM Switch User Manual

User Manual

Models covered in this user manual:
K304 - Secure 4-port KM Switch w/audio

K304E - Secure 4-port KM Switch w/audio and DPP

K308 – Secure 8-port KM Switch w/audio

HighSecLabs
Highest Security Solutions Ltd.

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Table of Content

Record of Revisions

Rev	Date	Description of changes
2.4	June 19, 2012	Added K308 device
2.5	July 9, 2012	Web based configuration, function keys
2.6	Sept 19, 2012	Web based configuration process and default settings updated
2.7	Oct 14, 2012	Changed pre-config. shortcuts (added F11)
2.8	April 4, 2013	Removed PS/2 from K308
2.9	July 31, 2015	Images and text updated

Introduction

Thank you for purchasing this HSL Secure KM Switch. This KM Switch is designed for use in secure defense and intelligence environments across wide security gaps. This 3rd Generation Secure KM Switch offers optical data diode per channel. Optical data diodes are used to prevent data transfer between connected computers running at different security levels even if these computers attempts to attack the KM. This product provides the highest security safeguards and features that meet today's and will meet future cyber prevention requirements.

This User Manual provides all the details you'll need to install and operate your new product, in addition to troubleshooting guidance—in the unlikely event of a problem.

What is KM?

There are many cases where one computer user needs to work simultaneously with few computers. In some cases users are having multiple displays attached to these multiple computers. The challenge is how a single user can interact with multiple computers having multiple displays. KMs would not do a good job for these users as they were designed to switch displays as well.

KM switch is a device that switches a single set of keyboard and mouse between multiple computers. KM switch is essentially a KM switch without the video switching - all displays are continuously connected to their respective computers.

Package Contents

Inside product packaging you will find the following:

- HSL Secure KM Switch unit
- 12V 1.5 A wall-mounted power Supply (K304x models) or

  AC power cable (K308 model)

Important: This product is equipped with always-on active anti-tampering system. Any attempt to open the product enclosure will activate the anti-tamper triggers and render the unit inoperable.

If the unit's enclosure appears disrupted or if all the channel-select LEDs flash continuously, please remove product from service immediately and contact HSL Technical Support.

Security Features

HSL Secure KM Switch is the most advanced and secure commercially available KM Switch available today. Below is a summary of some of the security features incorporated into the product.

Unidirectional Data Paths

Optical diodes used to enforce unidirectional data flow from the peripheral devices to computers preventing potential leakage paths between computers even in the severe threat of two infected computers attacking the KM.

No Shared Resources

This KM Switch designed to securely operate even when peripheral devices are vulnerable to signaling attacks. This KM Switch does not allow computer access to any shared resource and does not share controllable power sources.

Dedicated Processors for Emulation

The Switch features a dedicated processor per computer port to emulate peripheral devices. This keeps each computer running on different security levels physically separated and secure at all times, and prevents any unintended data leakage between computers.

Non-Reprogrammable Firmware

The Switch features custom firmware that is not reprogrammable, preventing the ability to remotely attack the KM control logic.

USB Ports Protection

Console USB ports are protected from the use of storage and other unsafe USB devices through strong filtering (independent of computer protection means). Unqualified devices are rejected when connected to the Switch. Only mouse and keyboard data are passed through.

Heavy-duty Steel Enclosure

HSL Secure KM Switches uses thick steel components to protect the product from physical tampering and to minimize radiated electromagnetic emissions that can be snooped or intercepted.

Active Always-On Anti-Tamper

Active chassis anti-tamper system prevents the KM electronic circuitry from being accessed and tampered with by permanently disabling the product once tampering is detected.

Holographic Tamper-Evident Labels

Four serially numbered holographic security tamper-evident labels are placed on the enclosure surface to provide a visual indication if the Switch has been opened or compromised.

Dedicated Peripheral Port (K304E)

HSL patented Dedicated Peripheral Ports enables secure use of CAC or smart-card readers leveraging security.

Common Criteria Listing

The Switch is listed by the Common Criteria organization.

Operational Features

The HSL Secure KM Switch was designed with the user in mind for today's IT environment. Below is a summary of some of the features incorporated into the Product.

Virtual Display Technology (VDT)

VDT allows the KM to switch automatically between computers once mouse cursor crosses display borders. Seamless switching between multiple computers with cusrsor movement.

Support for multiple head

Product can be easily configured to support dual, triple and up to 16 head computers through signed software driver. Note that single head installation does not need any software installation.

Extensive administrator setup options

Administrator mode provides many customized settings from display arrangement, size to cursor speed and acceleration.

Dedicate Peripheral Port (K304E only)

HSL K304E Secure KM Switch products supports parallel switching of wide set of user authentication devices including CAC, smart-card and biometric readers.

Audio Support

The KM Switch support audio out switching. Microphone switching not supported to prevent analog leakages through audio ports.

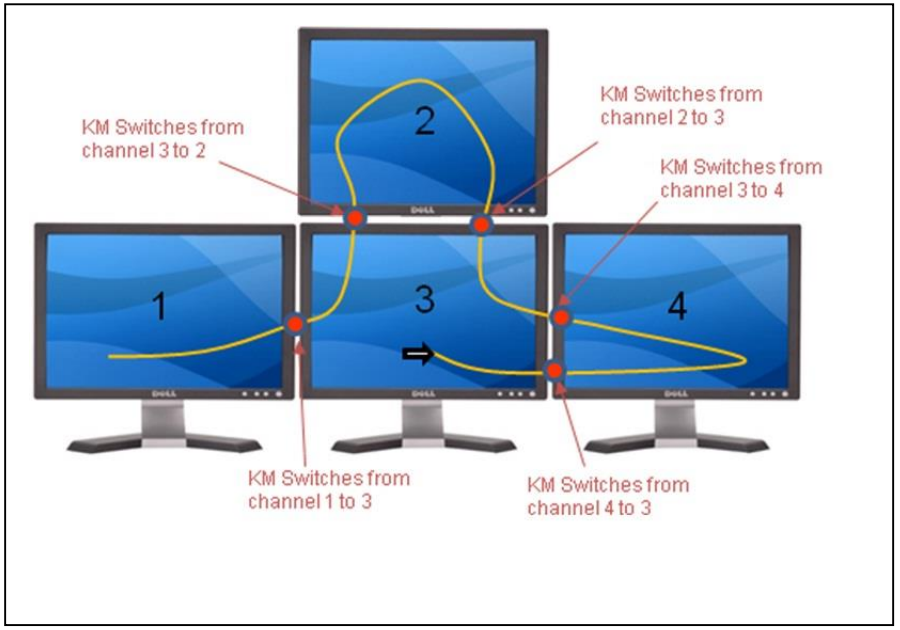
KM Extenders Support

HSL Secure KM Switch supports most copper and fiber KM extenders connected to the console port.

What is Virtual Display Technology (VDT)?

Virtual Display Technology (VDT) is implemented in HSL Secure KM switches series to enable seamless cursor and keyboard switching between multiple displays. VDT allows administrators to configure any desired displays configuration with same or different size and resolution. User simply moves mouse cursor across neighboring displays to switch between connected computers.

Refer to the example in the figure at the right side. Assume that computer #1 is connected to the left display, computer #2 is connected to the top display, computer #3 is connected to the center bottom display and computer #4 is connected to the display at the right side. In this example all four displays are identical. VDT allows the user to move the mouse cursor across the four displays while automatically switch the shared peripherals based on the current cusrsor location. For example when the user moves the cursor from the left display to the center bottom display, the KM identifies the display boarder crossing between these two displays and switches the KM to computer #3.



HSL VDT is now further enhanced with the inclusion of pointing device drivers to support dual, triple and up to 16 head computers. With this technology user workstation may be integrated with any combination of single, dual, triple and quad head computers.

VDT Configurator software enables the user administrator to easily configure any set of display sizes, resolutions, geometry and physical arrangements.

Equipment Requirements

Cables

It is highly recommended to use HSL Cable Kits for product to ensure optimal security and performance.

One Cable Kit is required per connected computer.

Operating Systems

Product is compatible with devices running on the following operating systems:

• Microsoft® Windows®

• Red Hat®, Ubuntu® and other Linux® platforms

• Mac OS® X v10.3 and higher.

USB Keyboard console port

The product console USB keyboard port is compatible with Standard USB keyboards.

Notes:

a. For security reasons products do not support wireless keyboards. In any case do not connect wireless keyboard to product.
b. Non-standard keyboards, such as keyboards with integrated USB hubs and other USB-integrated devices, may not be fully supported due to security policy. If they are supported, only classical keyboard (HID) operation will be functional. It is recommended to use standard USB keyboards.

USB Mouse console port

The product console USB mouse port is compatible with standard USB mice.

Notes:

a. Console USB keyboard and mouse ports are switchable, i.e. you can connect keyboard to mouse port and vice versa. However, for optimal operation it is recommended to connect USB keyboard to console USB keyboard port and USB mouse to console USB mouse port.
b. Console USB mouse port supports Standard KVM Extender composite device having a keyboard/mouse functions.
c. For security reasons products do not support wireless mice. In any case do not connect wireless mouse to product.

PS/2 Mouse and Keyboard console ports

The product console PS/2 keyboard and mouse ports are compatible with standard PS/2 keyboards and mice.

User Audio Devices

Product is compatible with the following types of user audio devices:

- Stereo headphones;
- Amplified stereo speakers.

Note: In any case do not connect a microphone to product audio output port including headsets.

DPP Port (K304E)

The product operates with authorized USB devices plugged into the console DPP Port, such as USB smart-card reader or Common Access Card (CAC) reader.

Programming Cable

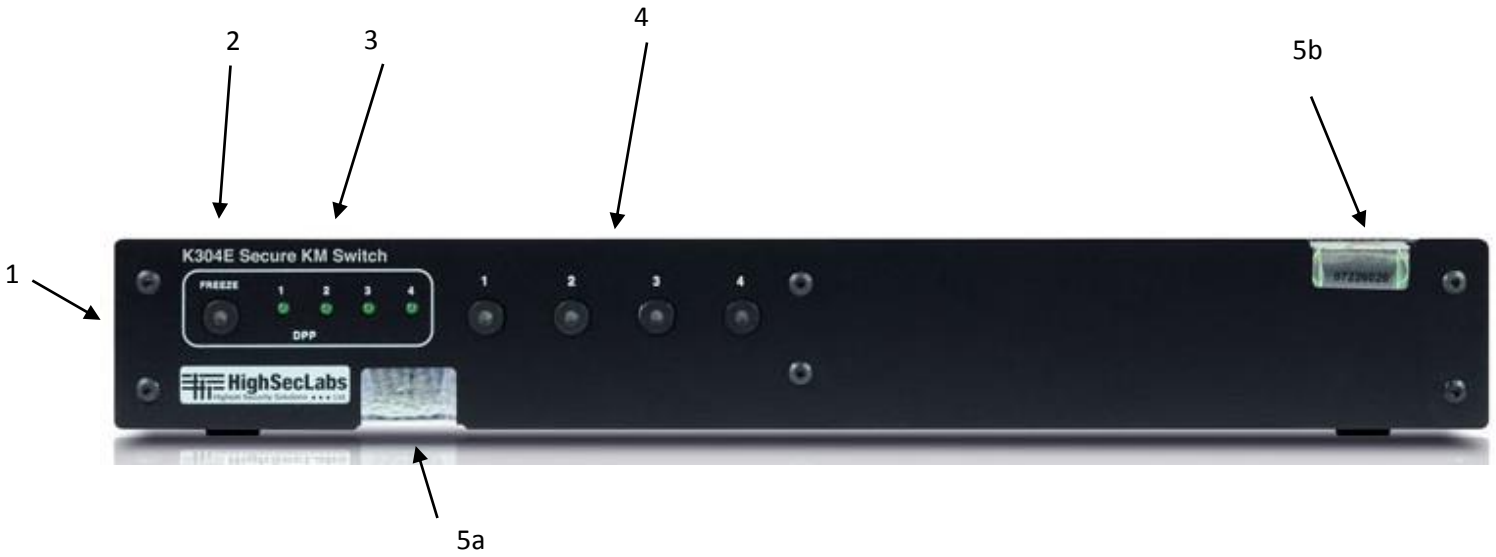
In order to use HSL's external configuration tool it is required to purchase and use HSL USB Type-A to USB Type-A Programming cable (1.8 m).

Safety Precautions

Please read the following safety precautions carefully before using the product:

- Before cleaning, disconnect the product from DC or AC power.
- Be sure not to expose the product to excessive humidity.
- Be sure to install the product on a clean secure surface.
- Do not place the DC/AC power cord in a path of foot traffic.
- If the product is not used for a long period of time, remove the product's wall-mount power supply from the mains jack.
- If one of the following situations occurs, get the product checked by a qualified service technician:
  - The product's power supply is overheated, damaged, broken, causes smoke or shortens the mains power socket.
  - Liquid penetrates the product's case.
  - The product is exposed to excessive moisture or water.
  - The product is not working well even after carefully following the instructions in this user's manual.
  - The product has been dropped or is physically damaged.
  - The product has obvious signs of breakage or loose internal parts.
- The product should be stored and used only in temperature and humidity controlled environments as defined in the product's environmental specifications.
- The wall-mount power supply used with this product should be the model supplied by the manufacturer or an approved equivalent provided by HSL or an authorized service provider. The use of improper power source will void product warranty.

Front Panel Features



1 – Steel enclosure

2 – DPP (Dedicated Peripheral Port) Freeze push-button and Status LED

3 – DPP channel select LEDs

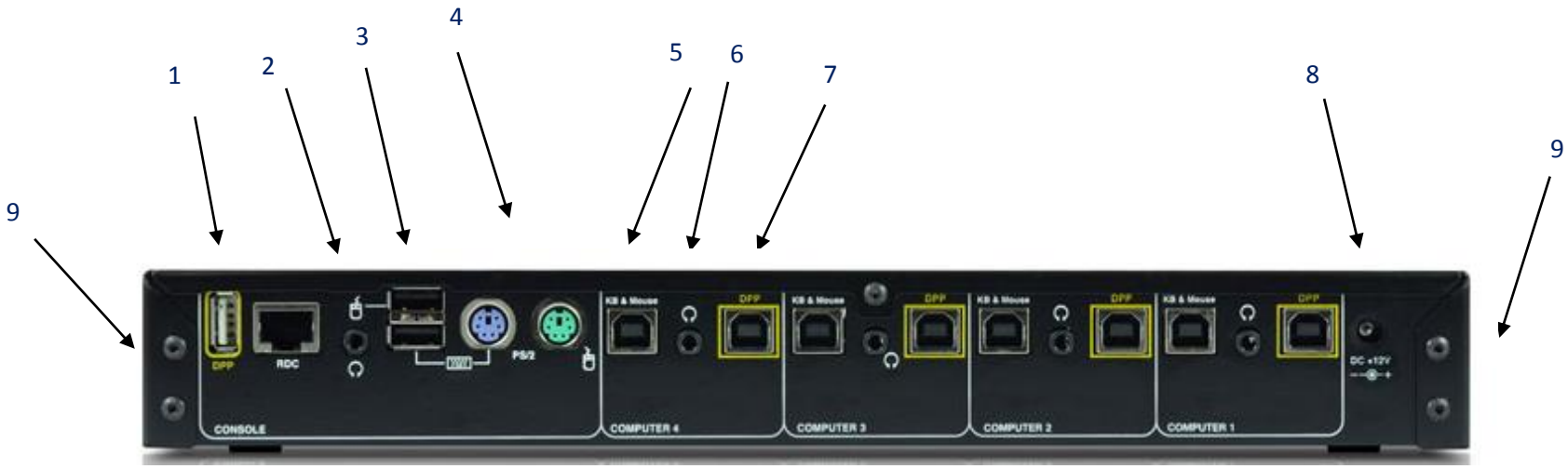
4 – Channel Select push-buttons and LEDs

5a-5b – Holographic Tamper Evident Labels

Note:

- K304 is identical except for not having DPP freeze LEDs & button
- K308 is identical except for having 8 channel select push buttons and not having DPP freeze LEDs & button

Rear Panel Features – K304E



Console ports:

1 DPP port

2 Audio console output 3.5 mm stereo jack

3 USB Mouse & Keyboard jack

4 PS/2 Mouse & Keyboard jack

Computer group ports:

5 Computer Keyboard/Mouse USB jack

6 Computer audio input jack 3.5 mm stereo

7 Computer DPP (USB) port

8 Power port

9 Holographic Tamper Evident Labels

Note:

- K304 is identical except for not having DPP ports in console and computer areas
- K308 is identical except for having 8 computer areas and not having DPP ports in console and computer areas nor PS/2 ports in console area

Tamper Evident Labels

HSL Secure KM Switch uses four holographic tamper evident labels to provide visual indications in case of enclosure intrusion attempt. These labels indicate white dots or the text “VOID” once removed. When opening product packaging inspect the four tampering evident labels.

If for any reason one or more tamper-evident label is missing, appears disrupted, or looks different than the example shown here, please call HSL Technical Support and avoid using that product.

HSL Holographic Tampering Evident Label

Active Anti-Tampering System

HSL Secure KM Switch is equipped with always-on active anti-tampering system. If mechanical intrusion is detected by this system, the Switch will be permanently disabled and LED will blink continuously.

If product indication tampered state (all LEDs blinking) - please call HSL Technical Support and avoid using that product.

Product Specifications

Enclosure	Steel metal enclosure
Power Requirements	**K304x:** 12V DC, 1.5A (maximum) power adapter with center-pin-positive polarity **K308:** Internal AC to DC power supply. Power consumption 0.2A @110V maximum.
AC Input	100 to 240VAC
No. of Secure Channels	**K304x** – 4 **K308** - 8
No. of Users Supported	1
Maximum number of Supported displays per Computer	Up to 4 displays per computer area: (Special driver must be installed) **K304x:** up to 16 supported displays **K308:** up to 32 supported displays
Maximum total number of transitions	100
Console Keyboard Input	- USB Type-A female connector - PS/2 Mini-DIN 6 pin female connector (K304x only)
Console Mouse Input	- USB Type-A female connector - PS/2 Mini-DIN 6 pin female connector (K304x only)
Console DPP Input	USB Type-A jack (K304E only)
Console Audio Out	3.5mm stereo jack
CPU Keyboard/Mouse Ports	USB Type-B jack
CPU DPP Ports	USB Type-B jack (K304E only)
CPU Audio Input	3.5mm stereo jack
Port Selectors push-buttons	4/8 (model pending)
LED Indicators	4/8 Channel selected and 4 for DPP (model pending)
User Channel Selection Methods	- Front panel push-buttons - VDT (cursor navigation) - Keyboard shortcut keys
Administrator Settings	- Display physical size - Display resolution X - Display resolution Y - Display orientation (Portrait / Landscape) - Display head# (1st, 2nd …16th)

	- Display location (coordinates) - Mouse speed (1-10) - Mouse acceleration (1-10) - VDT Enable / Disable - Prevent transition while dragging feature Enable / Disable
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
Dimensions	**K304x:** 320 (W) x 130 (D) x 52 (H) mm / 12.8 (W) x 5.2 (D) x 2 (H) inches **K308:** 441 (W) x 174 (D) x 46 (H) mm / 17.64 (W) x 6.96 (D) x 1.84 (H) inches
Weight	**K304x:** 2.08 Kg. (1.32 lbs.) **K308:** 2.55 Kg. (5.61 lbs.)
Security Accreditation	Common Criteria certified
Product design life-cycle	10 years
Warranty	2 years

Before Installation

Unpacking the Product

Before opening the product packaging, inspect the packaging condition to assure that product was not damaged during delivery.

When opening the package, inspect that the product Tamper Evident Labels are intact.

Where to locate the Product?

The enclosure of the product is designed for desktop or under the table configurations. An optional Mount Kit is available.

Product must be located in a secure and well protected environment to prevent potential attacker access.

Consider the following when deciding where to place product:

- Product front panel must be visible to the user at all times.
- The location of the computers in relation to the product and the length of available cables (typically 1.8 m)

Warning: Avoid placing cables near fluorescent lights, air-conditioning equipment, RF equipment or machines that create electrical noise (e.g., vacuum cleaners).).

Important:

1. If the unit's enclosure appears disrupted or if all channel-select LEDs flash continuously, please remove product from service immediately and contact HSL Technical Support at http://highseclabs.com/support/case/.
2. Do not connect product to computing devices:
    a. That are TEMPEST computers;
    b. That include telecommunication equipment;
    c. That include frame grabber video cards
    d. That include special audio processing cards.

Installation

Connecting devices to product console

Product requires connection of all devices and computers prior to powering it up.

Note: some devices such as user display would not be recognized if connected after product is already powered up.

See figures above for connector locations.

- Connect user display/s to computers. Mark which display is coupled with which computer. It is also recommended to mark which computer is coupled with which channel.
- Connect user keyboard and mouse to console keyboard and mouse ports.
- Connect headphones/speakers to console audio out port (optional).
- If the computer uses a smart card reader/USB device, connect the smart card reader/USB device to the console DPP port (optional, model pending).

Notes:

1. Console USB mouse and keyboard ports are switchable, i.e. you can connect keyboard to mouse port. However, for optimal operation it is recommended to connect USB keyboard to console USB keyboard port and USB mouse to console USB mouse port.
2. For security reasons products do not support wireless keyboards. In any case do not connect wireless keyboard to product.
3. Non-standard keyboards, such as keyboards with integrated USB hubs and other USB-integrated devices, may not be fully supported due to security policy. If they are supported, only classical keyboard (HID) operation will be functional. It is recommended to use standard USB keyboards.
4. Console USB mouse port supports Standard KVM Extender composite device having a keyboard/mouse functions.

2. Connecting the Computers

- Using USB cables, connect each computer to the USB type B port in "computer interface ports" area on product.
- If computer uses audio output, e.g. speakers/headphones, connect audio cable from its audio output port to the corresponding audio input port on product.
- If the computer uses a smart card reader/USB device, connect a USB cable between the DPP-enabled computer and the corresponding DPP port on product.

Note:

1. If the number of product channels is larger than the number of sources used, make sure the computers are connected in a row starting from computer #1. For example, if there are 3 channels used, connect computers to channels #1, #2 and then #3.
2. The USB cable must be connected directly to a free USB port on the computer, with no USB hubs or other devices in between.

3. Power up

- Connect DC power supply or AC power cord (model pending).
- Power up user display/s. Select through display setup menu the appropriate video input if applicable.
- Power up the connected computers.
- Power up the product.

When you power up your computers, the product emulates display, mouse and keyboard on each port and allows your computers to boot normally. You should be able to move the mouse cursor on the primary display connected to computer #1.

Check to see that the keyboard and mouse are working properly on each computer.

Repeat this check with all occupied ports to verify that all computers are connected and responding correctly.

If you encounter an error, check your cable connections for that computer and reboot. If the problem persists, please refer to the Troubleshooting section in this User Manual.

DPP Installation (Optional, K304E only)

The following process can be performed before or after power up.

- If computer and KM Switch supports user authentication device, connect another USB cable for the DPP function. DPP USB cable can be connected to any free USB port in the computer.

Note: Do not connect DPP USB cable if user authentication device is not needed. Secure KM Switch automatically detects this cable to program DPP port selection logic accordingly.

If not all of the channels are having DPP function (some computers not connected through DPP cable) – make sure that channel #1 is using DPP – switch channels if needed.

When KM is powered on - once the connected device is qualified and ready for use – the DPP status LED should illuminate green.

If connected device cannot be detected by the Secure KM Switch then DPP status LED will not illuminate at all. Device must be fully compliant with USB 1.1 or USB 2.0 standard.

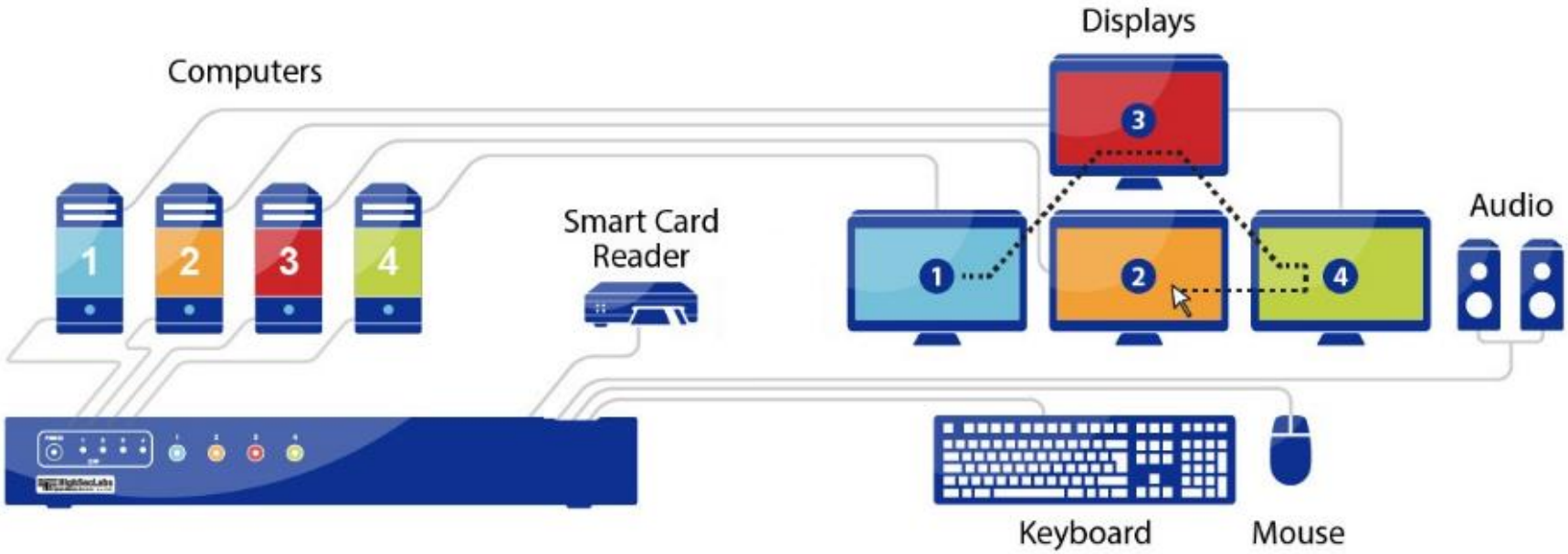
Possible reasons:

- Non standard USB device
- Device only operating in USB 3 mode
- Device not operating

Use other devices instead.

If the device is detected but does not match DPP qualification specification – device will be rejected as indicated by status LED illuminating steady red.

Typical System Sketch – K304E



Administrator Setup

Now that the Secure KM Switch is connected and powered on it is good opportunity to setup some essential operational settings.

The first and most important setting of the KM is the display positioning. It is essential that the KM switch configuration will match the actual positioning on the displays.

There are two ways to configure the KM switch with the actual display setup:

- Select one of the predefined setups
- Create a configuration file and load it to the KM

Selecting one of the predefined setups

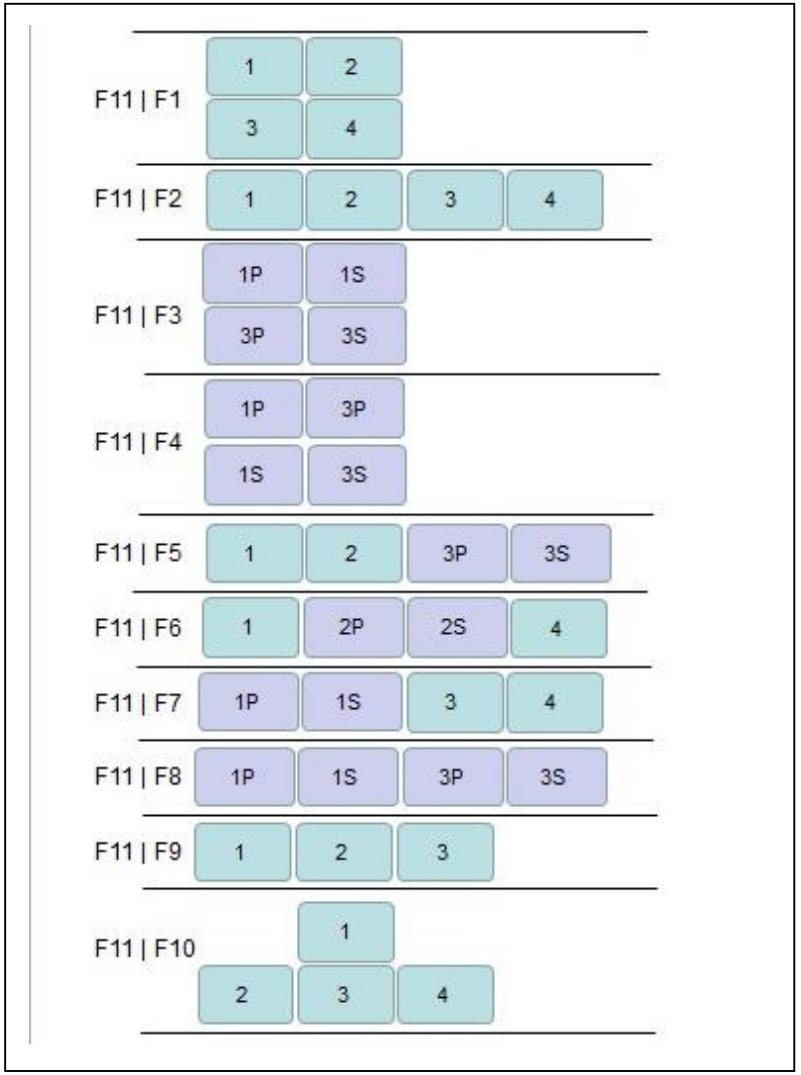
It is also possible to load one of the default settings available in the KM non-volatile memory. To select a default configuration type on the console keyboard: Control + Control + F11 + Fx (see numbers in the figure to the right). Additional settings can be accessed through Control + Control + F11 + x + y. The configuration loaded will include in additional to the displays arrangement:

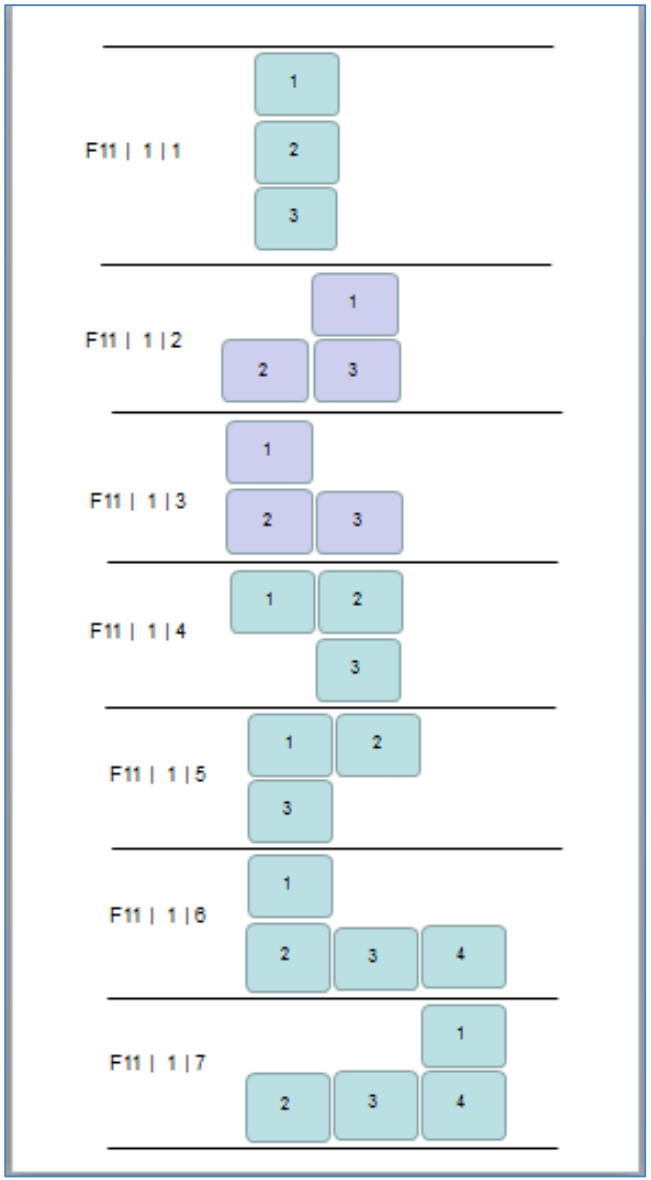
- All displays are 1920 x 1200 resolution, same size (26” diagonal)
- Mouse acceleration is set to 6
- Mouse speed is set to 5
- VDT is enabled
- Prevent transition while dragging feature is Enabled

Creating a configuration file

In case the required configuration does not appear on the predefined configurations list the administrator can create a configuration file using HSL’s KM Web Configuration Tool and load it to the KM. for more information about this option please refer to HSL’s Web Configuration Tool user manual.

For example: typing Control + Control + F11 + F5 will set the left display to computer #1 (single-head), second display to computer #2 (single-head), third display to computer connected to port #3 (dual-head primary output) and the forth display to same computer secondary display output.

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F11 | 1 | 2
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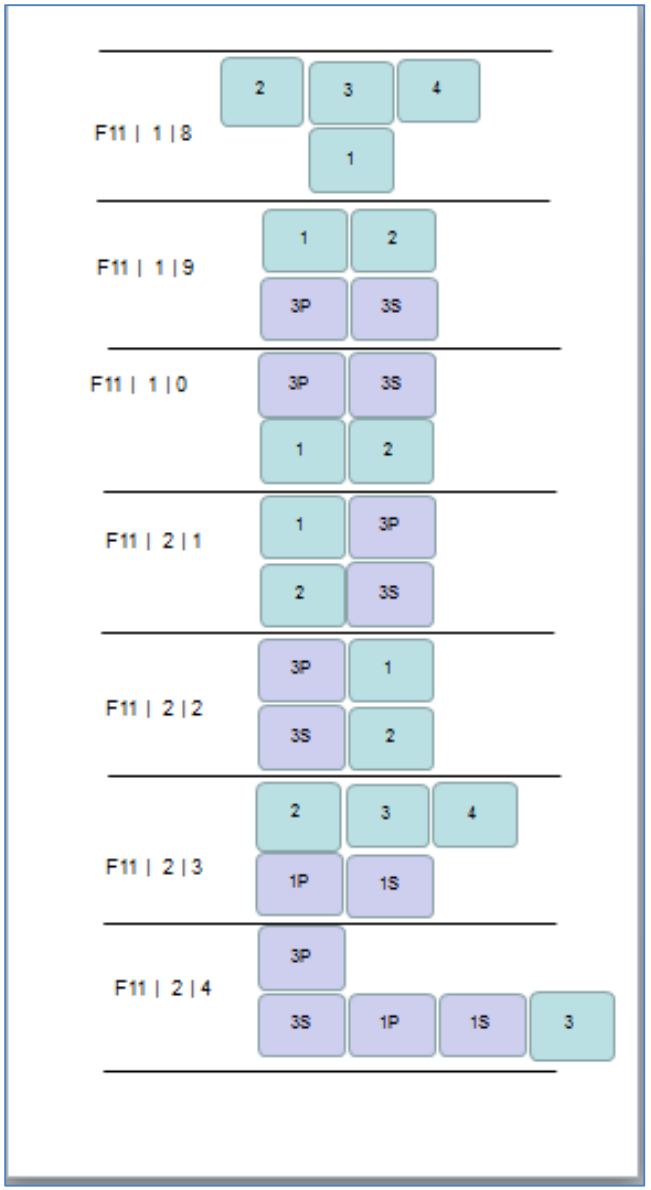
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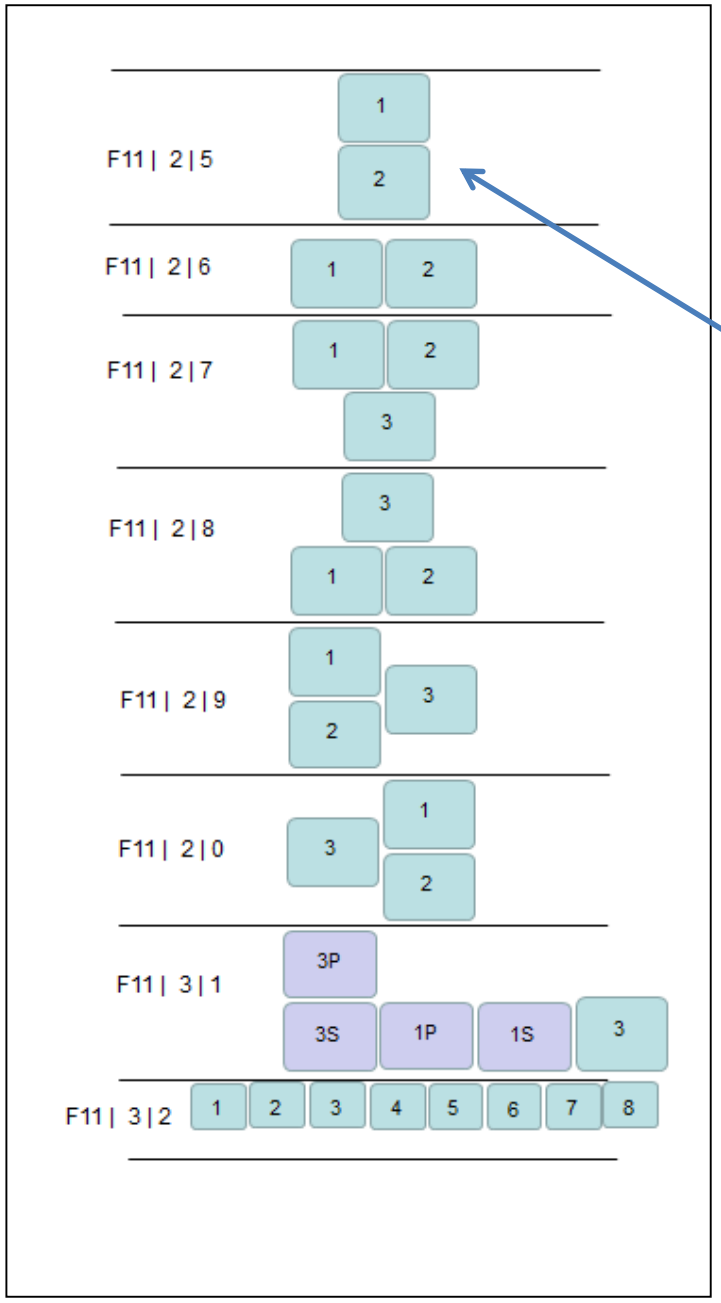


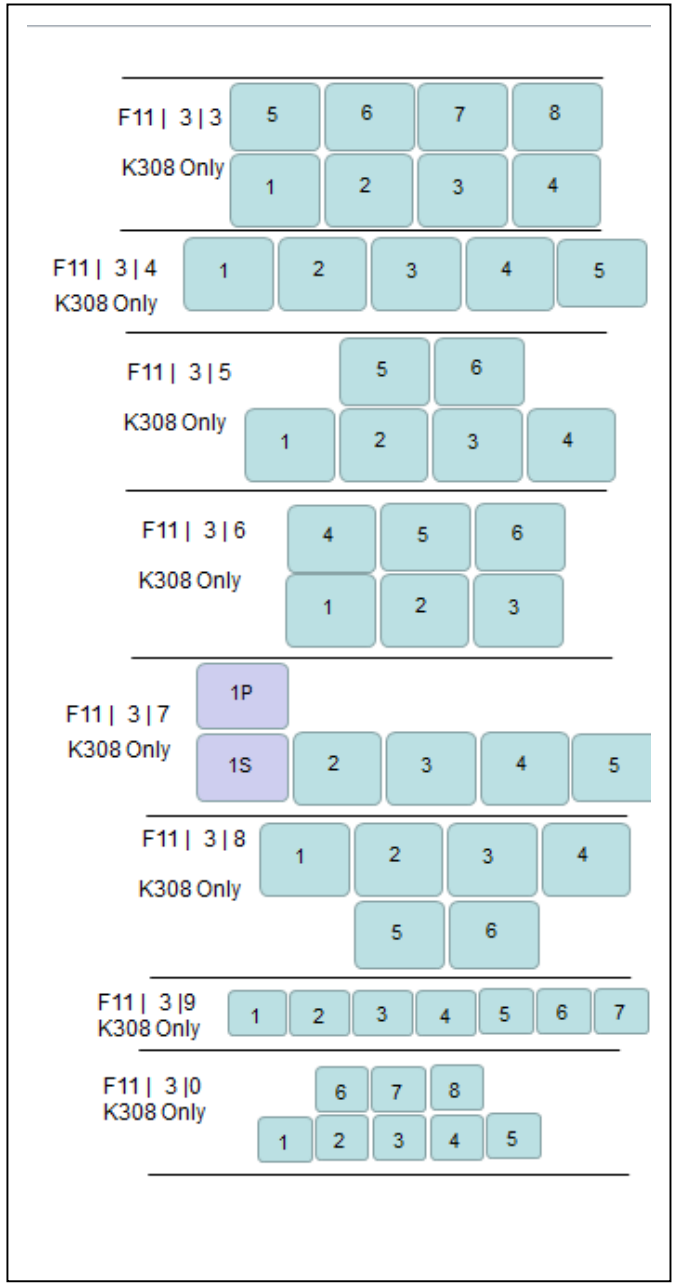
Example 1:

To select a configuration with two displays 1 above the other. Please type:

CTRL | CTRL | F11 | 2 | 5

The KM will start "blinking" between channels.

Reboot the device by disconnecting power and the device will boot with the new configuration.



Other Settings

Mouse Speed Setting

Constant mouse cursor speed is essential for system usability. Having several systems each with a different cursor "ground speed" is bad for the user. HSL calculates and adjusts the cursor speed across different displays and computers using the geometry and display settings entered by the administrator.

In addition, the KM settings include a global speed setting with input values between 1 and 10 that can be changed to adjust the cursor speed for all displays. Typical initial setting of cursor speed is 5. After initial use the exact value can be set based on user inputs.

VDT Enabled / Disabled Setting

It is possible through the VDT enabled / disabled setting to disable the mouse cursor tracking function. Once VDT is disabled – the KM will enable channel selection only through:

1. Front panel push-buttons;
2. Keyboard shortcuts; and:
3. RDC (if connected)

This setting is enabled by default.

Prevent transition while dragging feature

HSL Secure KM offers a unique feature that further improves usability – Prevent transition while dragging. When this feature is enabled, if the user drags an object on one display (while left mouse key pressed), the cursor would not leave that display.

The following table describes the keyboard shortcuts available on HSL KM switches:

Key Combination	Name	Description
CTRL | CTRL | F11 | r	Reset to Factory defaults	Device will reset to factory defaults with all settings and configuration deleted completely.
CTRL | CTRL | F11 | f	Freeze	Disable VDT. Switching between systems will not be possible via mouse movement.
CTRL | CTRL | F11 | U	Unfreeze	Enable VDT. Switching between systems will be again possible via mouse movement.
CTRL | CTRL | F11 | +	Increase mouse speed	Mouse speed will be increased.
CTRL | CTRL | F11 | -	Decrease mouse speed	Mouse speed will be decreased
CTRL | CTRL | F11 | d | c	Setup mode	In the next boot after pressing this key combination the device will boot into setup mode allowing him to communicate with configuration utility.
CTRL | CTRL | F12	Last loaded configuration	Revert to the last externally loaded configuration (configuration loaded via configuration utility).

Driver Installation

To enable proper KM interaction with computers having multiple head (more than one display), mouse driver software must be installed. Driver can be loaded from HSL web-site. The driver is available in EXE file that installs itself at the target computer.

Operation

Now that you have connected your console and computers to the Switch, it is ready for use. Default channel after power up is channel #1 as indicated by channel select LED #1 illumination. You can select which computer you wish to control by one of the following methods:

Default Channel

After product boots up, the default active channel will be channel #1. This will be indicated by white color illumination of push-button #1.

Product Mapping to Sources

Product mapping to sources is indicated by stickers/labels specifying which channel is mapped to which computer.

Front Panel Push-Buttons

Following power up, the default channel is #1.

The user can select any other channel by pressing the appropriate front panel push button.

The mouse cursor will be positioned at the center of the selected computer display.

The currently selected channel is indicated by white color illumination of the appropriate push-button.

Important Security Note:

If you are aware of potential security vulnerability while installing or operating this product, we encourage you to contact us immediately in one of the following ways:

- Web form: http://www.highseclabs.com/support/case/
- Email: security@highseclabs.com
- Tel: +972-4-9591191 or +972-4-9591192

Important: If the unit's enclosure appears disrupted or if all channel-select LEDs flash continuously, please remove product from service immediately and contact HSL Technical Support at http://www.highseclabs.com/support/case/

Important: This product is equipped with always-on active anti-tampering system. Any attempt to open the product enclosure will activate the anti-tamper triggers and render the unit inoperable and warranty void.

DPP Operation

The product is equipped with DPP port enabling connectivity to external USB-devices such as smartcard reader.

Summary of rules that apply to DPP switching:

It is assumed that a "connected channel" is when:

1. Product is powered ON
2. The USB device connected to product console is qualified and ready for use, as indicated by the DPP status LED illuminating steady green.
3. The channel DPP port on product is connected via USB cable to a USB port on computer.

- When the USB device connected to the DPP console port is qualified, the DPP status LED on the front panel would illuminate steady green.
    - When connecting a USB device that is rejected for security reasons to the product's DPP port, the DPP LED will illuminate steady red and USB device will be inoperable. In such case the USB device must be replaced with a qualified device, either USB smart card or CAC reader.
- Since channel #1 is the default active channel after power up and in case only some of the channels operate with a USB device, it is recommended to make sure computer #1 is connected to USB device.
- Once the user switches channels, for example to channel #3, DPP functionality will move to computer #3 and be indicated by channel #3 DPP LED turning steady green.
- In case user switches to a channel that is not connected to a USB device, the DPP function will remain with the last channel that had DPP connection.

Cursor Tracking (VDT Enabled)

Following KM power up the cursor will be positioned at the center of the primary display of computer #1. Keyboard and audio will be coupled to the same PC where the cursor is. Once the user moves the cursor to another display, the keyboard and audio will follow to that computer. For more information about VDT see page 6 of this manual.

Front Panel Push-Buttons

Following KM power up the default channel is 1. The user can select any other channel by pressing the appropriate front panel push button. The mouse cursor will be positioned at the center of the selected computer display. If computer has multiple head then the cursor will be positioned at the center of the primary display.

Channel selected is indicated by LED illuminated in the appropriate push-button. Keyboard and audio will follow selected channel.

RDC Operation

For Remote Desktop Controller operation – refer to the RDC User Manual supplied with the product.

Note that when RDC is connected – the Secure KM Switch front panel push-buttons are deactivated.

Prevent transition while dragging feature

HSL Secure KM offers a unique feature that further improves usability – Prevent transition while dragging. When this feature is enabled, if the user drags an object on one display (while left mouse key pressed), the cursor would not leave that display. This feature prevents the loss of that dragging action while accidentally crossing display border line.

Feature may be enabled or disabled through the administrator setup. By default this feature is enabled.

Cursor Acceleration and Speed

Cursor speed and acceleration is a combination of few factors such as display size, resolution and static settings. If current settings are not constant across the different displays or not comfortable – ask your system administrator for assistance. Both cursor acceleration and speed can be set by the administrator to reach comfortable settings.

Important Security Note:

If you are aware of potential security vulnerability while installing or operating this product, we encourage you to contact us immediately at the following email address: security@highseclabs.com

Troubleshooting Guide

Important Security Note:

If you are aware of potential security vulnerability while installing or operating this product, we encourage you to contact us immediately in one of the following ways:

- Web form: http://www.highseclabs.com/support/case/
- Email: security@highseclabs.com
- Tel: +972-4-9591191 or +972-4-9591192

Important: If the unit's enclosure appears disrupted or if all channel-select LEDs flash continuously, please remove product from service immediately and contact HSL Technical Support at http://www.highseclabs.com/support/case/

Important: This product is equipped with always-on active anti-tampering system. Any attempt to open the product enclosure will activate the anti-tamper triggers and render the unit inoperable and warranty void.

General

Problem: No power - No video output, none of the front panel LEDs are illuminating.

Solutions:

- Check AC cable connection to make sure product receives power properly. Replace cable if needed. If problem persists, contact your system administrator or our technical support.

Problem: Product enclosure appears disrupted or all channel-select LEDs flash continuously.

Solution: The product may have been tampered with. Please remove product from service immediately and contact Technical Support.

Keyboard

Problem: Mouse and keyboard are not working (two channels)

Solutions:

- Check that computer USB and video cables are not crossed i.e. computer #1 video is connected to channel #1 while USB keyboard and mouse cables are connected to channel #2.

Problem: Keyboard does not work (all channels)

Solutions:

- Check that the keyboard you are using is properly connected to product.
- Check that the USB cable between the product and computer is properly connected.
- Try connecting keyboard to a different USB port on computer.
- Make sure the keyboard works when directly connected to computer, i.e. the HID USB driver is installed on computer; this may require computer reboot.
- It is recommended to use standard USB keyboards and not a keyboard with an integrated USB hub or other USB-integrated devices.
- If the computer is coming out of standby mode, allow up to one minute to regain mouse function.
- Try a different keyboard.
- Do not use a wireless keyboard.

Mouse

Problem: Mouse cursor does not switch from primary to secondary display.

Solutions: Driver supporting multiple displays was not installed or not installed properly on computer. Reinstall driver.

Problem: Mouse and keyboard are not working (two channels)

Solutions:

- Check that computer USB and video cables are not crossed i.e. computer #1 video is connected to channel #1 while USB keyboard and mouse cables are connected to channel #2.

Problem: Mouse does not work (all channels)

Solutions:

- Check that the mouse you are using is properly connected to product.
- Check that USB cable between the product and computer is properly connected.
- Try connecting mouse to a different USB port on computer.
- Make sure the mouse works when directly connected to computer, i.e. the HID USB driver is installed on computer; this may require computer reboot.
- It is recommended to use standard USB mice.
- If the computer is coming out of standby mode, allow up to one minute to regain mouse function.
- Try a different mouse.
- Do not use a wireless mouse.

Problem: both keyboard and mouse are not working (one channel**)**
Solution: Use computer Device Manager Utility to see product and solve problem.

DPP

Problem: DPP is not working (two channels)

Solutions:

- Check that computer USB and video cables are not crossed i.e. computer #1 video is connected to channel #1 while USB device is connected to channel #2.

Problem: DPP is not working (all channels)

Solutions:

- Check that the USB device is properly connected to product console.
- Check that the DPP status LED is steady green. If DPP status LED is illuminated steady red the device is rejected or non-qualified for security reasons. To resolve please connect a USB smart card or CAC reader or contact your system administrator.

Problem: DPP is not working (one channel only)

Solutions:

- Check that device is working properly when connected directly to computer.
- Check that there is a USB cable connected between the computer and the relevant DPP input port on product.

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