



Models:

SX22D-3 – Secure 2P to 2P DVI-D Video KVM Mini-Matrix, PP 3.0

SX22H-3 – Secure 2P to 2P HDMI Video KVM Mini-Matrix, PP 3.0

SX22PH-3 – Secure 2-Port x 2 DP/HDMI to DP/HDMI Video KVM Mini-Matrix, PP 3.0

SX22PP-3 – Secure 2-Port x 2 DP to DP Video KVM Mini-Matrix, PP 3.0

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INTRODUCTION

HSL Secure Mini-Matrix

Optimizes user experience when working with two computers. Enables you to view and control two computers, at the same time, while securely sharing keyboard, video, mouse, audio, and USB devices.

The Mini-Matrix KVM switch provides increased productivity in challenging multi-computer environments, where users are required to view and interact with several computers, while maintaining the highest isolation between computers and peripherals.

Eliminates the need for purchasing and installing dedicated, per computer peripheral sets.

This guide refers to the following models:

SX22D-3 – Secure 2P to 2P DVI-D Video KVM Mini-Matrix, PP 3.0

SX22H-3 – Secure 2P to 2P HDMI Video KVM Mini-Matrix, PP 3.0

SX22PH-3 – Secure 2P to 2P DP/HDMI Video KVM Mini-Matrix, PP 3.0

SX22PP-3 – Secure 2P to 2P DP Video KVM Mini-Matrix, PP 3.0

INTRODUCTION

Package Contents

Inside the product packaging is the following:

Model	Description	Qty
SX22x-3	Secure 2P to 2P DVI-D / HDMI / DP/HDMI / DP Video KVM Mini-Matrix, PP 3.0	1
	Power adaptor	1

Before Installation

Unpacking the Product

- Before opening the product's sealed packaging, inspect the seal's condition to assure that the product was not accessed or tampered with during delivery. If the packaging seal looks suspicious contact the HSL support team and do not use the product.
- After seal removal, inspect the packaging content to verify that the required components are included. See the packaging content list on page 4 above.
- After the Mini-Matrix KVM Switch is removed from its packaging materials, carefully inspect the tampering-evident label to assure that product is properly sealed. If the label is damaged or missing, contact HSL support and do not use the product.

INTRODUCTION

Tamper-Evident Labels

- The Mini-Matrix KVM Switch uses a holographic tamper evident label to provide visual indications in case of enclosure intrusion attempts. These labels indicate white dots or the text "VOID", once removed. When opening the product's packaging, inspect the tampering evident label.
- If for any reason, one or more tamper-evident labels are missing, appear disrupted, or look different than the example shown here, please call HSL Technical Support and avoid using that product.



HSL Holographic Tamper-Evident Label

Active Anti-Tampering System

- The Mini-Matrix KVM Switch is equipped with an always-on active antitampering system. If mechanical intrusion is detected by this system, the switch is permanently disabled and the LED blinks continuously.
- If the product indicates a tampered state (all LEDs blinking) - call HSL Technical Support and avoid using the product.

INSTALLATION

Installing the Mini-Matrix

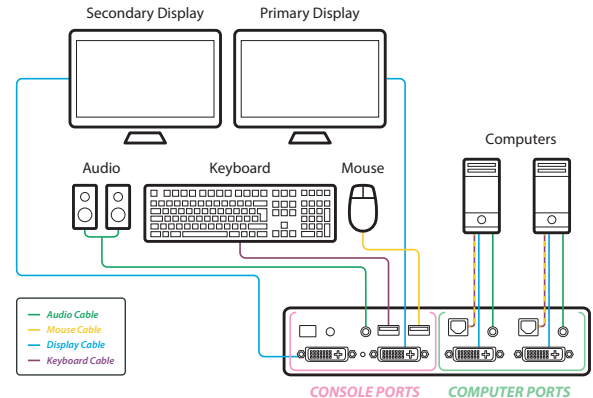
Step 1 – Install Cables

1. Connect the console port peripherals:
 - Connect the video displays to the Mini-Matrix primary and secondary display ports and make sure they are powered on.

Note: It is highly recommended to use identical primary and secondary display models. EDID information is taken from the primary console display port (#1) and sent to all connected computers. When using non-identical displays, connect the smaller display to the primary console display port.

- Connect keyboard, mouse, and audio peripherals to the Mini-Matrix console ports. These are shared securely between all sources.
 - Connect a smartcard/biometric reader to the Mini-Matrix's console fUSB secure port, to support user authentication across multiple isolated sources.
2. Connect the computer/source channel ports: For each source, connect the video, keyboard, mouse, fUSB, and audio cables to the Mini-Matrix source ports.

3. To receive dual-screen support: Download and install HSL's multi-display driver on source computers that have multiple screens (currently available only for Windows) (<http://highseclabs.com/dl.php?fid=446>).

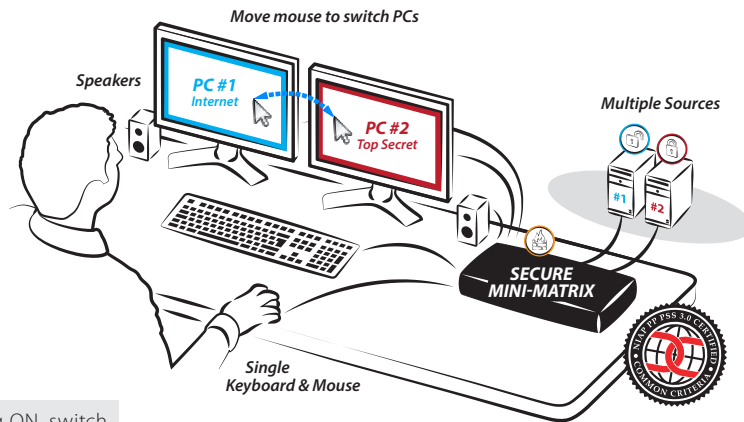


INSTALLATION

Step 2 – Power ON the Mini-Matrix

1. Turn ON all the PCs.
2. Connect the power supply and power ON the Mini-Matrix (approximate boot time is 10 seconds).

The Mini-Matrix boots into default mode, where the source number 1 is presented on both displays.



Note: In case no picture is presented after powering ON, switch between the primary and secondary displays, or connect an alternate display, or perform a reset to factory default.

INSTALLATION

Step 3 – Reset to Factory Defaults

Reset to factory defaults clears the device settings and restores the device to its original configuration. You have the following options:

- **System reset:** Clears behavioral characteristics such as mouse settings and display presets. Type the: { **L Ctrl | L Ctrl | F11 | r** } key combination.
- **Complete reset:** Clears all device settings and resets to factory defaults. From the Terminal menu, select the “Reset to Factory Defaults” option (refer to terminal mode guide).

Important Notes:

1. Always use the **left control key (Ctrl)** unless otherwise specified.
2. Keyboard shortcut keys are to be pressed sequentially
3. Do not use the numeric keypad for toggling shortcuts, unless otherwise specified.
4. ALL KEYBOARD SHORTCUTS REFER TO QWERTY KEYBOARDS. For non-qwerty keyboards, keep using the QWERTY layout.

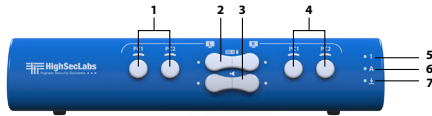


OPERATION

Operating the Mini-Matrix

Step 1 – Display and Control Options

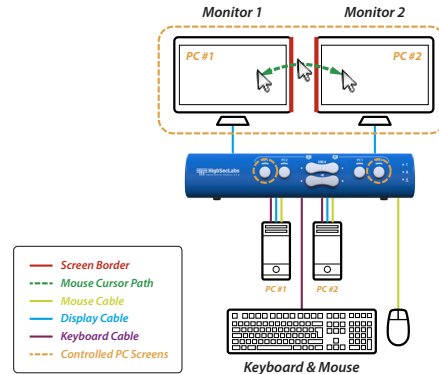
Display and control options define which source to display and control on each screen. Source selection is done using the source selection buttons on the front panel or via the DCU (dedicated control unit) port.



- | | |
|--|--|
| 1 No. 1-2 Computer No. 1 display Push-Button | 4 No. 1-2 Computer No. 2 display Push-Button |
| 2 fUSB Freeze toggle | 5 Num Lock LED |
| 3 Audio Freeze toggle | 6 Caps Lock LED |
| | 7 Scroll Lock LED |

- Use the source selection panels to choose which source to display on each screen.
- The left panel controls which source to display on the primary display, while the right panel controls the secondary display. For example, as seen in the illustration, when #1 is selected on the primary panel and #3 is selected on the secondary panel, the selected sources are presented accordingly.
- A source can be duplicated, by selecting its number on both panels.
- By default, mouse, keyboard, audio, and fUSB peripherals follow the display association.
- Independently switch the video/usb /audio /keyboard and mouse ports between computers.

- Use the front-panel push buttons to independently switch the video/USB/audio/keyboard and mouse ports between the primary and secondary computers. This is useful for various scenarios, for example:
 - It is possible to switch every peripheral device group independently between the two projected computers.
 - Video, HID (keyboard and Mouse), audio, and fUSB can be switched independently.
 - When a user wants to listen to audio originating from one computer while, working on another computer.



OPERATION

Step 2 – Relative vs. Absolute Mouse**The Mini-Matrix is set up with the following mouse settings:**

- Relative mouse (default) confines the mouse movement to the screen of each selected computer. To switch the mouse between sources, use the front panel push buttons.
- Absolute mouse (Virtual Display Technology - VDT) enables switching the mouse between sources, by moving the mouse cursor across display borders.

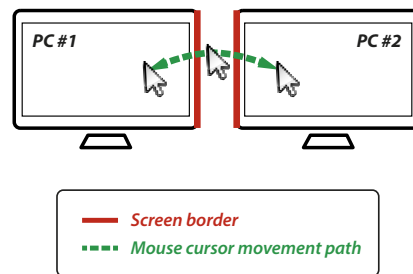
Cursor Navigation (Virtual Display Technology - VDT):

- With cursor navigation, the user can move from one highly isolated computer system to another, by simply moving the mouse cursor across display borders.
- Once the cursor crosses the display border, the keyboard, mouse, audio, and USB mapping switches to the computer that is connected to that display.
- No need to push any buttons.

Note: It is possible to enable a safety trigger for more controlled switching between channels. Using: **L-Ctrl | L-Ctrl | F11 | L** requires pressing the left Ctrl button while dragging the mouse to switch channels.

How to define the mouse state

- Use the key combination { L Ctrl | L Ctrl | F11 | c } to enable absolute mouse (VDT).
- Use the key combination { L Ctrl | L Ctrl | F11 | b } to enable relative mouse (this is the default mode).



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