HighSecLabs
Highest Security Solutions • • • Ltd.

# M-LINE SECURE KVM COMBINER SWITCHES

Ultra HD 4K

Interact with multiple computers presented simultaneously on a single or dual display using a single set of USB, audio, keyboard, and mouse peripherals.

The KVM Combiner switch offered by HSL provides increased productivity in challenging multi-computer environments where users are required to view and interact with several computers at the same time.

Optimize user experience while maintaining the highest isolation between computers and peripherals.
Obviate the need for purchasing and installing dedicated, per-computer peripheral sets.

KVM COMBINER HIGHLIGHTS

- **For Israeli market**

- **Secure by Design**
  HSL KVM Combiner switches are designed to meet with the security requirements demanded by government agencies, military, financial institutions and similar security sensitive customers.

- **Securely share peripherals across different security domains**
  Securely share peripherals between computers that belong to different security classification levels while keeping the highest possible data separation security.

- **Flexible screen layout**
  Resize sources using advance up-scaler and down-scaler to create Tile, Scale or any other Custom display layouts that fit user needs. Support screen duplication & extended screen view modes to allow complete flexibility for the user to present all or some of the sources on one of two displays.

- **View and control multiple computers simultaneously**
  Present and work with up to 4 computers at the same time. Cascade combiners to view and control up to 16 (4x4) computers on a single or dual displays.
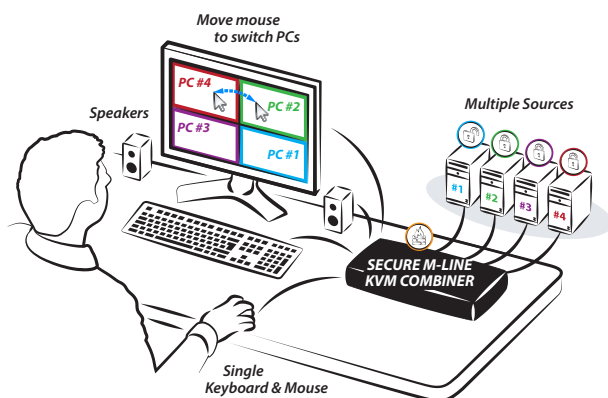
SECURITY FEATURES

- **Video Security**
  - Computer video input interfaces are isolated through the use of different electronic components, power and ground domains.
  - The display is isolated by a dedicated, read-only, EDID emulation for each computer.
  - Access to the monitor's Extended Display Identification Data (EDID) is blocked.
  - Access to the Monitor Control Command Set (MCCS commands) is blocked.
- **Keyboard & Mouse Security**
  - The keyboard and mouse are isolated by a dedicated, USB device emulation for each computer.
  - One-way, peripheral-to-computer data flow is enforced through unidirectional optical data diodes.
  - Communication from computer-to-keyboard/mouse is blocked.
  - Non HID (Human Interface Device) data transaction is blocked.
- **Audio Security**
  - Enforce computer-to-speaker, one-way flow of sound through unidirectional optical data diodes.
  - Prevent eavesdropping and line-in re-tasking by blocking speaker-to-computer communication.
- **Hardware Anti-Tampering**
  - Any attempt to open the product enclosure will activate an anti-tamper system making the product inoperable.
  - Blinking LEDs provide a clear indication of a tampering event.
  - Special holographic tampering evident labels on the product's enclosure 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) to prevent any 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 the user with a clear visual indication of failure.

HSL 4-Port Secure Combiner KVM Switch System Diagram

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SC21H-M

SC42DHU-M

SC42PH-M

OPERATIONAL HIGHLIGHTS

• **Smoothly switch between computers (Virtual Display Technology)**
Automatically switch control from one computer to another by dragging the mouse cursor over the computer's display border. Peripherals switch to the next computer without having to press any buttons once the mouse is passing the display border.

• **View applications in Ultra High Definition (UHD) 4K video quality**
Never compromise on video quality. Run graphic-intensive, ultrahigh definition applications on all single and dual monitor KVM models.

• **Native touch screen support**
Interact with all the computers that are connected to the KVM Combiner using touch screen gestures. No need to install any driver or software.

• **Flexible screen layout**
Resize sources using advance up-scaler and down-scaler to create Tile, Scale or any other Custom display layouts that fit user needs. Support screen duplication & extended screen view modes to allow complete flexibility for the user to present all or some of the sources on one of two displays.

• **A Dual DisplayPort and HDMI connector**
Connect either DisplayPort or HDMI sources into the same port, with the new dual-source video connector. Eliminates the need for adapters and converters.

• **Extremely low latency viewing**
View the input channel with extra low latency - below 10ms - using the direct mode feature.

SPECIFICATION

PART NUMBER	SC21H-M	SC42DHU-M	SC42PH-M
No. of Sources	2	4	4
CONSOLE PORTS			
Displays	1 x HDMI 1.4	2 x HDMI 1.4	2 x HDMI 1.4
Max Output Resolution	Supporting UHD 4K resolutions up to 3840x2160	Supporting UHD 4K resolutions up to 3840x2160	Supporting UHD 4K resolutions up to 3840x2160
Mouse and Keyboard	USB Type A	USB Type A	USB Type A
Audio Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack
COMPUTER PORTS			
Display Type	2 x HDMI 1.4	4 x DVI-D, single-link/ dual-link	4 x DP/HDMI 2.0
Max Input Resolution	1920 x 1200	1920 x 1200	Supporting UHD 4K resolutions up to 3840x2160
Mouse and Keyboard	USB Type B	USB Type B	USB Type B
Audio Jack	3.5 mm Jack	3.5 mm Jack	3.5 mm Jack
PHYSICAL			
Dimensions	177 x 82 x 35 mm 6.9 x 3.2 x 1.3 inches	342 x 148 x 42 mm / 13.4 x 5.8 x 1.6 inches	
Weight	0.52 kg (1.1 lbs)	1.61 kg (3.5 lbs)	
POWER			
Power Requirements	12V DC, 1.5A	35W Max	
AC Input	100 to 240V AC	100 to 240V AC	
Power Type	External	Internal	
ENVIRONMENTAL			
Operating Temperature	32° to 104° F (0° to 40° C)		
Storage Temperature	-4° to 140° F (-20° to 60° C)		
Humidity	0-80% RH, non-condensing		
SOFTWARE			
Supported OS	Windows, Linux, Mac		
CERTIFICATION			
Product Certification	CE, RCM, FCC class B, VCCI, TUV US, TUV Canada		
GENERAL INFO			
Made In	ISRAEL		
Product life-cycle	10 years		
Warranty	2 Years		

Ultra HD 4K