

# 4K HDMI Quad Screen Splitter/Multiviewer with Built-In USB KVM Switch

**SPLITMUX®**

**Display video from four HDMI computers simultaneously on a single 4Kx2K monitor. Switch to and control any of the four computers while monitoring the other three connections in real time.**

- Quad, Picture in Picture, Full Screen, and Custom display modes.
  - Custom Display Mode: the size, position and selection of any or all windows are customizable.
    - ◆ Rotate each image 90 degrees to the left or right for a vertical mounted display.
    - ◆ 2- and 3-source viewing is possible with this method.
    - ◆ Maintain input aspect ratio if desired - no stretching necessary.
    - ◆ Layer display windows and adjust transparency of each video source display.
- Switch one of the four attached computers to a shared USB keyboard and mouse for operation.
- Supported resolutions:
  - Inputs: 2K resolution 2048x1080, HDTV resolutions to 1080p, and up to 1920x1200 (WUXGA).
  - Output:
    - ◆ Quad and Full mode: Ultra-HD 4Kx2K resolutions to 3840x2160 (60Hz) and 4096x2160 (60Hz), 2K resolution 2048x1080, HDTV resolutions to 1080p, and up to 2560x1600 (WQXGA).
    - ◆ PiP and Custom mode: 2K resolution 2048x1080, HDTV resolutions to 1080p, and up to 1920x1200 (WUXGA).
  - Independent video in to video out resolution.
- HDMI features supported:
  - Inputs: 24-, 30-, and 36-bit xvYCC, sRGB, and YCbCr.
  - Outputs: 24- and 30-bit sRGB.
  - Four-channel mixing stereo with 16-, 20-, or 24-bit uncompressed PCM audio.
  - Bandwidth up to 594 MHz
    - ◆ Inputs: 2.25 Gbps
    - ◆ Output: 5.94 Gbps
- HDCP compliant.
- Fluid, real-time video performance with up to 60 frames per second (fps) in all four quadrants.
- Zoom, pan, and crop the image from any source to focus on key areas.
- Switch audio independently of video from connected HDMI sources.
  - Multiple audio sources can be simultaneously active in any display mode or preset layout.
  - Adjustable audio gain with VU level indicators for each input channel.
- A customized text label can be added for each video window to provide easy input identification (UMD).
- Control the multiviewer through Ethernet, RS232 serial port, keyboard commands, on screen display (OSD), front panel buttons, or optional IR remote.
- Built-in 2-port USB hub - switch devices between connected computers.
  - In Full Screen mode, USB touch screen monitors can be used to control the connected active computer.
- Compliant with USB 2.0 (high-speed and low/full speed) standards.
- Cascade multiviewers to display video from any number of video sources on one screen.
  - Each video source in the cascade can be controlled directly from the Web Server graphical user interface under Custom Mode Settings.
- Backup and restore multiviewer configurations.
- Supported output resolutions can be selected or set to auto detect optimal resolution from the monitor's EDID.

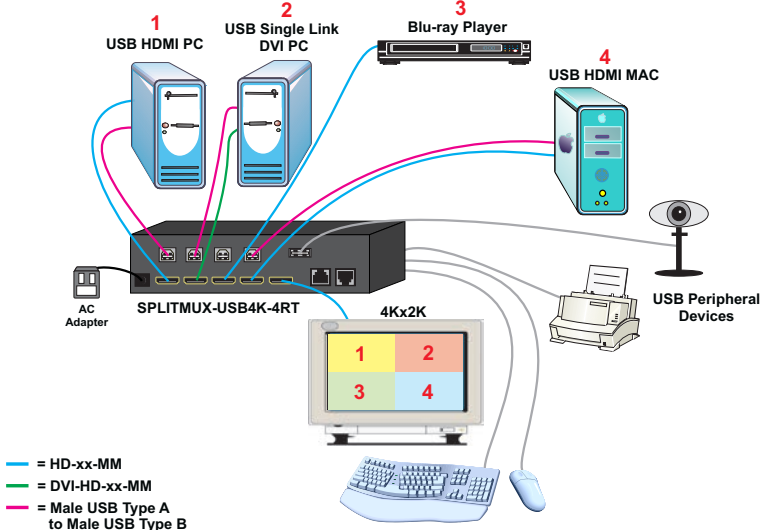


**SPLITMUX-USB4K-4RT (Front & Back)**

- **Built-In USB KVM Switch and 2-port USB Hub**
- **Quad & full screen display modes with 4K, 2K, 1080p, & 2560x1600 output resolutions.**
- **Picture-in-picture & custom display modes with 2K, 1080p, & 1920x1200 output resolutions.**
- **The size, position & selection of any or all windows are customizable.**
- **Zoom, Pan & Crop**

The SPLITMUX® 4K HDMI Quad Screen Multiviewer with Built-in USB KVM Switch allows video from four different computers to be simultaneously displayed on a single monitor. Additionally, it can switch one of the four attached computers to a shared keyboard and mouse for operation and to two additional USB devices. It is capable of displaying the video sources in quad, PiP, full, or custom mode. In custom display mode, each of the quadrants can be adjusted to any size and positioned to any location on the display.

## Configuration and Cable Illustration



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## Specifications

### Hosts

- Four female HDMI connectors.
- Four female USB Type B connectors.
- Supported video input resolutions:
  - 2K Cinema (2048x1080 @ 60Hz)
  - HDTV resolutions to 1080p
  - Up to 1920x1200 (WUXGA)
- Supports HDCP 1.4
- Supports USB computers.
  - Boots PCs, SUNs, and MACs simultaneously.
- Multiplatform support: Windows 2000/XP/Vista/7/8/10, Windows Server 2000/2003/2008/2012/2016, Solaris, Linux, FreeBSD, and MAC OS 9/10.
- Supports HDMI devices, such as DVD/Blu-ray players, satellite receivers and HDTV tuners.

### Monitor

- One female HDMI connector.
- Supported video output resolutions:
  - Quad and Full mode
    - ♦ Ultra-HD 4Kx2K resolutions (3840x2160 @ 60Hz, 4096x2160 @ 60Hz)
    - ♦ 2K Cinema (2048x1080 @ 60Hz)
    - ♦ HDTV resolutions to 1080p
    - ♦ Up to 2560x1600 (WQXGA)
  - PiP and Custom mode
    - ♦ 2K Cinema (2048x1080 @ 60Hz)
    - ♦ HDTV resolutions to 1080p
    - ♦ Up to 1920x1200 (WUXGA)
- Supports HDCP 2.2
- HDMI-embedded audio switching (four-channel stereo, non-mixing or one channel stereo, mixing).
  - Switch audio independently of video from connected HDMI sources.
  - Multiple audio sources can be simultaneously active in any display mode or preset layout.
- Latency:
  - 50mS at 60Hz
  - 60mS at 50Hz
  - 100mS at 30Hz
  - 120mS at 25Hz
  - 125mS at 24Hz

### Devices

- Two female USB Type A connectors for keyboard and mouse.
  - Keyboard and mouse are hot-pluggable.
- Two female USB Type A connectors for USB peripheral devices (touch screen monitor, printers, scanners, security cameras, flash drives, etc.)
  - Connect any type of USB device - fully transparent USB connectors.
  - Switch USB 2.0 devices between connected computers.
  - In Full Screen mode, USB touch screen monitors can be used to control the connected active computer.
- Provides support for high-speed (480 Mbps), full-speed (12 Mbps), or low-speed (1.5 Mbps) USB devices.

### Protocols

- HTTP, HTTPS
- TCP/IP, DHCP, UDP, ARP
- IPV4
- Supports HTTP REST API to configure SPLITMUX-USB4K-4RT with response in JSON format.
  - How to Configure SPLITMUX-HD-4RT Using HTTP-Based Text Commands (HTTP REST API)

### Power

- 110 to 220 VAC at 50 or 60Hz via country-specific AC adapter.
- Power consumption: 20W

### Dimensions

- SPLITMUX-USB4K-4RT (desktop)
  - WxDxH (in): 7.35x4.98x1.75 (187x126x45 mm)
- SPLITMUX-USB4K-4RT-R (1RU rackmount) and SPLITMUX-USB4K-4RT-2R (1RU dual side-by-side rackmount)
  - WxDxH (in):
    - ♦ Without rackmount kit: 7.35x4.98x1.75 (187x126x45 mm)
    - ♦ With rackmount kit: 19x4.98x1.75 (483x126x45 mm) (excludes cable tray)
  - Can be mounted so that the front panel buttons are facing the front or back of the rack.
  - Includes cable management tray.
    - ♦ Adds 3.37" to the depth.

### Environmental

- Operating temperature: 32°F to 122°F (0°C to 50°C).
- Storage temperature: -22°F to 140°F (-30°C to 60°C).
- Operating and storage relative humidity: 17 to 90% non-condensing RH.

### Regulatory Approval

- CE, RoHS
- TAA compliant

### Cables

- Interface cables between the video sources/display and the multiviewer are required for proper operation.
  - Supports video cable lengths to 20 feet for 4Kx2K resolutions and 50 feet for 1080p.
    - ♦ Longer cables can be used provided they have a built-in video equalizer (also known as "active HDMI cables").
- Use HD-xx-MM cable to connect an HDMI source or display (not included).
- Use HD-ACT-xx-MM 4K HDMI Active Cables to connect an HDMI source or display up to 100 feet.
  - HD-ACT-20/25/30/40/50/60-MM supports resolutions to 4K@60Hz.
  - HD-ACT-75/100-MM supports resolutions to 4K@30Hz.
- Use USB2-AB-x-5T male USB Type A to male USB Type B interface cable between the computer and multiviewer.
- Cables not included.

### Warranty

- Two years

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## Specifications (continued)

### Compatible NTI Products

- Combine NTI's extenders, switches, splitters and cables for complex applications.
  - 4K HDMI Active Optical Cable (HD4K18GB-FO-xxM-MM)
  - 4K HDMI Active Cables with Built-In Signal Booster (HD-ACT-xx-MM)

## Display Modes

### Quad Mode

- In quad mode, the screen is split into four fields of equal size each displaying the entire contents of four different video sources.
  - Fluid, real-time video performance with up to 60 frames per second (fps) in all four quadrants.
- Borders can be set for each image input.
- Aspect ratio can be maintained for all outputs.
- Supported video output resolutions:
  - Ultra-HD 4Kx2K resolutions (3840x2160 @ 60Hz, 4096x2160 @ 60Hz)
  - 2K Cinema (2048x1080 @ 60Hz)
  - HDTV resolutions to 1080p
  - Computer resolutions to 2560x1600

### Full Screen Mode

- In full screen mode, one of the four video sources is displayed in full screen size and maximum resolution.
- Scan feature: cycle through four different sources at set intervals.
- USB touch screen monitors can be used to control the connected active computer.
- Supported video output resolutions:
  - Ultra-HD 4Kx2K resolutions (3840x2160 @ 60Hz, 4096x2160 @ 60Hz)
  - 2K Cinema (2048x1080 @ 60Hz)
  - HDTV resolutions to 1080p
  - Computer resolutions to 2560x1600

### Picture in Picture (PIP) Mode

- In PIP mode, the full screen display of one of the four video sources is accompanied by one, two, or three small images (thumbnails) of the three other video sources on the right hand margin of the screen, allowing simultaneous monitoring.
- Size, position and selection of the thumbnails are customizable.
- Scan feature: cycle through two or four different sources at set intervals for the larger image.
- Borders can be set for each image input.
- Aspect ratio can be maintained for all outputs.
- Supported video output resolutions:
  - 2K Cinema (2048x1080 @ 60Hz)
  - HDTV resolutions to 1080p
  - Computer resolutions to 1920x1200

### Custom Mode

- In Custom mode, each video source is displayed in its own separate, detached window.
- Size, position and selection of the windows are customizable.
- Rotate each image 90 degrees to the left or right for a vertical mounted display.
- Use web server graphical user interface to configure settings for each window.
- Zoom, pan, and crop the image from any source to focus on key areas.
- Presets of the window positioning can be saved.
- Borders can be set for each image input.
- Display optional Left/Right VU level indicators for each corresponding display window.
- Configure up to 10 preset layouts that can be switched live at any time.
- Supported video output resolutions:
  - 2K Cinema (2048x1080 @ 60Hz)
  - HDTV resolutions to 1080p
  - Computer resolutions to 1920x1200

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## Control Methods

### Front Panel Interface

- Use front panel buttons to locally change ports or to select a display mode.

### Ethernet Control

- Configuration can be done over the Internet/LAN via Web page or Telnet.
- Supports Internet Explorer 6.0 or higher, Firefox 2.0 or higher, Opera 9.0, Google Chrome, Safari 4.0 or higher for MAC and PC.
- Configure and control the settings for the system, network, input, output, and modes.
- Female RJ45 connector.
- 10/100 BaseT Ethernet interface.
  - **Web Server**
    - Security is ensured by password and user configurable timeout.
    - Up to 16 users can access the web page at one time.
    - The user with administrative privileges can access the following pages:
      - ◆ System page: allows configuration of unit, serial port, and OSD settings.
      - ◆ Network pages: configure IP and server settings.
      - ◆ Inputs page: allows configuration of the four video inputs.
      - ◆ Output page: configure the video and audio output parameters.
      - ◆ Modes page: allows selection and configuration of the output display mode.
      - ◆ User Config page: add, configure, and view all users.
      - ◆ Firmware page: update firmware for the SPLITMUX.
  - **Telnet**
    - Security is ensured by password.
    - Menu commands are similar to RS232 commands.
    - The telnet server listens on port 2000.
    - Port 2000 is for an operator telnet session.

### On Screen Display (OSD)

- Select display modes and computers with On Screen Display (OSD).
- Use the front panel buttons or keyboard commands to operate the OSD.
- OSD controls for configuration and control of the system, network, input, output, and display modes.
- Access to OSD Mode can be limited by an administrator-assigned PIN number.

### RS232

- Configuration and control can be done through the serial port.
  - Female RJ45 connector.
- Control the multiviewer using the Text Menu via RS232.
- Selectable baud rate: 1200 to 115,200 bps.
  - Baud rate is set via the front panel interface, serial command, OSD, or web interface.

### Infrared Remote Control (Optional)

- Optional control method.
  - IRT-UNV is sold separately.
- Routes video and audio signals together or independently.
- Transmitter can be up to 30 feet (9.1 meters) away.
- Power: two AAA batteries (included).

### Keyboard/Mouse

- Use keyboard commands to select display mode and to select port.
  - Support for mouse commands coming soon.

4K HDMI KVM Quad Screen Splitter/Multiviewer	
NTI Part #	Supported Features
SPLITMUX-USB4K-4RT	4K HDMI Quad Screen Multiviewer with Built-In KVM Switch, Desktop
SPLITMUX-USB4K-4RT-R	4K HDMI Quad Screen Multiviewer with Built-In KVM Switch, 1RU Rackmount
SPLITMUX-USB4K-4RT-2R	4K HDMI Quad Screen Multiviewer with Built-In KVM Switch, 1RU Dual Side-by-Side Rackmount