Configure and control the switch through front panel buttons, Ethernet, RS232, or optional IR remote control.
- Control4® certified.
  - Module controls routing, reset, and status RS232 functions.
- Supports resolutions up to Ultra-HD 4Kx2K (3840x2160 and 4096x2160 @24/30/60Hz YUV 4:4:4).
- Each input can be independently connected to any or all outputs.
- HDCP 2.2 and 1.4 compliant.
- HDMI features supported:
  - HDMI 2.0
  - Dolby TrueHD, DTS-HD Master Audio, Dolby Digital, DTS 7.1 and LPCM audio passthrough
  - YUV 4:4:4, 4:2:2, and 4:2:0
  - 12-bit Deep Color
  - HDR
  - 3D
  - Bandwidth up to 600 Mhz (18 Gbps)
- EDID learning for the support of any HDMI display device.
- Selectable built-in EDID table.
- Compact case – 16x16 in 1RU & 32x32 in 2RU.
- Cable management tray included.

Configuration and Cable Illustration

The VEEMUX® 4K HDMI Video Matrix Switch routes digital 4Kx2K HDMI video and audio signals from up to 32 HDMI video sources (computers, Blu-Ray players, satellite receivers, etc) to up to 32 displays (monitors, 4K TV’s, projectors, etc).
- Resolutions to Ultra-HD 4Kx2K 60Hz 4:4:4
- 18Gbps bandwidth
- HDMI 2.0, HDCP 2.2
- Compact case – 16x16 in 1RU & 32x32 in 2RU
- IR, RS232, Ethernet control
- Control4® certified.
Route Ultra-HD 4Kx2K 60Hz 4:4:4 18Gbps HDMI video and audio signals from many video sources to multiple displays.

Specifications

**Video Input**
- Female HDMI input connectors.
- Compatible with computers and UHD video sources (satellite receivers, Blu-Ray players, etc) with HDMI video.
- Supports HDCP 2.2/1.4

**Video Output**
- Female HDMI output connectors.
- Supports resolutions up to Ultra-HD 4Kx2K (3840x2160 and 4096x2160 @24/30/60Hz YUV 4:4:4).
- Supports HDCP 2.2/1.4
- Max data rate: 18Gbps

**Protocols**
- HTTP, HTTPS
- TCP/IP, DHCP, UDP, ARP, TLS v1.2
- IPV4

**Power**
- Input: 100 to 240 VAC at 50 or 60 Hz via IEC connector. (Country-specific power supply cable included.)
- Power consumption for SM-16X16-HD4K: 150W max

**Environmental**
- Operating temperature: 32 to 104°F (0 to 40°C).
- Storage temperature: -20 to 140°F (-30 to 60°C).
- Operating and Storage Relative Humidity: 5 to 90% non-condensing RH.

**Dimensions**
- SM-16X16-HD4K WxDxH:
  - Without cable management tray: 19x14.56x1.75 in (483x370x44 mm).
  - With cable management tray: 19x18.36x1.75 in (483x466x44 mm).
- SM-32X32-HD4K WxDxH:
  - Without cable management tray: 19x18.57x3.5 in (483x472x88 mm).
  - With cable management tray: 19x22.48x3.5 in (483x571x88 mm).

**Warranty**
- Two years

**Regulatory Approvals**
- CE, RoHS
- TAA compliant

**Cables**
- Interface cables between the video sources/displays and the switch are required for proper operation.
  - Supports cable lengths to 20 feet for 4Kx2K resolutions at 60Hz and lengths to 50 feet for 1080p at 60Hz using passive HDMI cables.
  - Cables longer than 50 feet can be used provided they have a built-in video equalizer (also known as “active HDMI cables”).
- Use HD-xx-MM HDMI cables to connect an HDMI source or display.
  - HD-3/6/10/15-MM supports resolutions to 4K@60Hz.
  - HD-25/30/50-MM supports resolutions to 1080p@60Hz.
- 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-MM supports resolutions to 4K@60Hz (18 Gbps).
  - HD-ACT-75/100-MM supports resolutions to 4K@30Hz (10.2 Gbps).
- Use DP-HD-xx-MM cables to connect a DisplayPort source up to 15 feet away from the switch.
  - Supports resolutions up to 4K@30hz 4:4:4 and 4K@60Hz 4:2:0.
- Cables not included.

**Compatible NTI Products**
- Combine NTI’s extenders, switches, splitters and cables for complex applications
  - 4K HDMI Extender via One CATx (ST-C64K-300)
    - Supports resolutions up to 4K@30hz
  - 4K HDMI Active Optical Cable (HD4K18GB-FO-xxM-MM)
  - 4K@30Hz HDMI Active Cables with Built-In Signal Booster (HD-ACT-xx-MM)
  - DisplayPort to HDMI Interface Cables, Male to Male, 4K (DP-HD-xx-MM)
    - Supports resolutions up to 4K@30hz 4:4:4 and 4K@60Hz 4:2:0.
Route Ultra-HD 4Kx2K 60Hz 4:4:4 18Gbps HDMI video and audio signals from many video sources to multiple displays.

Control Methods

**Ethernet Control**
- Standard control method.
- Configuration can be done over the Internet via Web server or Telnet.
- Female RJ45 connector.
- 10/100 BaseT Ethernet interface.
- **Web Server**
  - Security is ensured by password and user configurable timeout.
  - Up to 25 users can access the web page at one time.
  - The user can access the following pages:
    - Switch page: allows the user to connect any input to any output, save and recall up to ten connections.
    - Administration pages: administrator can access pages for system configuration, network configuration, naming video inputs/outputs, scanning sequence, DDC options, changing password, and updating firmware.
    - Standby Mode page: allows the user to quickly place the switch in standby mode.
    - Support page: provides links to the product manual and firmware downloads webpage.
    - Reboot page: allows the user to quickly reboot the switch.
- **Telnet**
  - Security is ensured by password.
  - Up to 25 users can access the telnet connection at one time.
  - Commands are similar to RS232 commands.
  - Port 2000 is for an operator telnet session.
  - Port 2005 is intended for a software control type session using raw TCP communication.

**Front Panel Interface**
- Standard control method.
- Configuration and control can be done using the front panel buttons.
- Keypad allows selection of the input source to be routed to the desired outputs.

**RS232 Control**
- Standard control method.
- Configuration and control can be done through the serial port.
  - Female RJ45 connector.
- Control the switch using the NTI Switch Control Program with Graphical User Interface (GUI control) via RS232.
- Control4 certified module controls routing, reset, and status RS232 functions.

**Infrared Remote Control (Optional)**
- Optional control method.
  - IRT-UNV is sold separately.
  - Standard control method
  - Transmitter can be up to 30 feet (9.1 meters) away.
  - Control up to 15 switches with one remote.
  - Power: Two AAA batteries (included).

**Table: 4K 18Gbps HDMI Video Matrix Switch**

<table>
<thead>
<tr>
<th>NTI Part #</th>
<th>HDMI Inputs</th>
<th>HDMI Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-16X16-HD4K</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>SM-32X32-HD4K</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>