**HDMI 8x8 Matrix Switch, HDBT, 4K/60**

**Installation & Operation Manual**

**500413**

# SAFETY PRECAUTIONS

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.

- Do not dismantle the housing or modify the module. It may result in electrical shock or burns.

- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water. Keep the product away from liquids.

- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.

- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

- Using supplies or parts not meeting the product's specifications may cause damage, deterioration or malfunction.

- Refer all servicing to qualified service personnel.

- Install the device in a place with good ventilation to avoid damage due to overheating.

- Unplug the power cord when left unused for a long period of time.

- Do not put any heavy items on the unit, nor on the extension cable.

- Do not remove the housing of the device as you may be exposed to dangerous voltage or other hazards.

- Information on disposal of devices: do not burn or mix with general household waste, please treat this device as normal electrical waste.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.

- Please read this user manual carefully before using the product.

# Contents

## 1.1.  Introduction

## 1.2.  Introduction to the HDMI 8x8 Matrix Switch

This product is a professional 4K HDMI/HDBT Distribution Hub, which consists of a HDMI 8x8 Matrix Switch and accessories, and may be paired with up to 8 MuxLab HDBT Receivers (Extenders).

The HDMI 8x8 Matrix Switch is a professional switch that consist of the following inputs and outputs, eight (8) HDMI IN ports (4K @ 60Hz), eight (8) IR Sensor ports, eight (8) IR Emitter ports, eight (8) HDBT OUT ports, eight (8) Digital RCA OUT ports, one (1) Ethernet port, and one (1) RS232 control port, eight (8) HDBT RS232 ports, two (2) HDMI output ports

All HDMI inputs can be selected by either the front panel buttons, IR, RS 232 and TCP/IP. The selected input source may be connected to any or all of the HDBT zoned outputs and the Local HDMI outputs.

The HDMI 8x8 Matrix Switch is capable of delivering 4K signals up to 40m and 1080p signals up to 70m via HDBT, and powering the receivers via a single UTP cable.

The HDMI 8x8 Matrix Switch supports EDID management and is HDCP 2.2 and 1.4 compliant.

Audio sources can be selected via RS232 and/or TCP/IP commands supported by the Matrix Switch, or by 3rd Party control.

## 1.3.  Features

- Supports HDMI 2.0 (4K/60 4:2:0) & HDCP 1.4 and 2.2. Capable of transmitting signals up to 4K @ 60Hz (4:2:0) & 1080p 3D.
- Supports manual HDCP management and auto-detecting.
- Transmits a 4K signal up to 8m via the HDMI port, or up to 40m via the HDBT port.
- Audio source is selectable via RS232 and/or TCP/IP commands.
- 8 HDBT outputs, support distances up to 70m at 1080p and 40m at 4K on a single CAT5e/6 cable.
- MuxLab HDBT Receivers (sold separately) may be powered by the matrix switch via PoH technology.
- LED indicators show real-time switching status.
- Controllable via front panel, RS232, IR and TCP/IP.
- Built-in Graphical User Interface (GUI) for TCP/IP control.
- Powerful EDID management.

- Easy installation, and is rack-mountable.

## 1.4.  Package Content

- One (1) HDMI 8x8 Matrix Switch
- One (1) IR Remote
- Two (2) Mounting Brackets
- Nine (9) 3-pin Phoenix/Terminal Blocks
- Two (2) Power Cord - North America
- Two (2) Power Cord - European
- One (1) 48V/2.5A DC PoH Power Adapter
- One (1) 48VDC/2A DC Power Adapter

Please verify that the product and the accessories are all included; if not, please contact your dealer.

## 2. Specification

### 2.1. HDMI 8x8 Matrix Switch

| Specifications | |
|---|---|
| **Environment** | HDMI 2.0 |
| **Devices** | Ultra HD Blu-Ray, media players/streamers, projectors, monitors, TV, PC, laptops. |
| **Transmission** | Transparent to the user. |
| **Video Bandwidth** | 10Gbps (HDBT), 18Gbps (HDMI) |
| **Maximum Pixel Clock** | 297MHz (HDBT), 594MHz (HDMI) |
| **Signals and video resolution** | HDMI 2.0 (4K/60 4:4:4 for HDMI outputs & 4K/60 4:2:0 for HDBT outputs) and HDCP 1.4 & 2.2 |
| **Connectors** | Ten (10) HDMI connectors, including eight (8) inputs and two (2) outputs.<br><br>Nine (9) RJ45 shielded connectors, including eight (8) for HDBT Out, and one (1) for Ethernet unit management.<br><br>Sixteen (16) 3.5mm Jacks; for eight (8) IR Sensor & eight (8) IR emitters to manage end devices.<br><br>Nine (9) 3-pin phoenix connectors, including eight (8) for RS232 to control end devices, and one (1) RS232 for unit management.<br><br>Eight (8) RCA connectors for digital Audio Output (2CH LPCM, 5.1 Dolby and DTS).<br><br>One (1) 2-pin phoenix connector for PoH 48VDC power supply.<br><br>One (1) 2-pin power connector for unit 48VDC power supply. |
| **Audio** | Digital Audio: PCM, Dolby TrueHD, DTS-HD Master Audio |
| **Cable** | HDMI cable of appropriate length for video resolution selected cat 5e/6 or better twisted pair cable required |

| | |
|---|---|
| **Maximum Distance**<br><br>*Based on a maximum length of 6.6ft. (2m) of HDMI cable per end. Cables not included.* | Cat 5e/6: Up to 230ft (70 m) @ 1080p. Up to 131ft (40m) @ 4K/30 (4:4:4), or 4K/60 (4:2:0) (also supports 4K/60 4:4:4 on the two HDMI outputs for local connectivity)<br><br>*Note: When installed in an electrically noisy environment, an STP cable must be used. Also, cross-connections reduce the effective distance depending on the twisted pair cable used.* |
| **Compatible Receiver** | 500454-PoE-RX (sold separately) |
| **Power Supply** | Two (2) 110-240VAC to 48VDC power supplies |
| **Temperature** | Operating: 0° to 40°C        Storage: -20° to 80°C<br><br>Humidity: Up to 90% non-condensing |
| **Enclosure** | Metal enclosure |
| **Bracket** | Includes rack and wall mount bracket |
| **Dimensions** | 500413 Matrix Switch: 17.5" x 3.7" x 9" (444.5mm x 94mm x 229mm) |
| **Shipping Weight** | 13.8 lbs (6.25 kg) |
| **Compliance** | Regulatory: FCC, CE, RoHS |
| **Warranty** | 2 years |
| **Order Information** | 500413-US HDMI 8x8 Matrix Switch, HDBT, 4K/60, US<br>500413-UK HDMI 8x8 Matrix Switch, HDBT, 4K/60, UK<br>500413-EU HDMI 8x8 Matrix Switch, HDBT, 4K/60, EU |

# 3. Panel Description

## 3.1. HDMI 8x8 Matrix Switch Front Panel
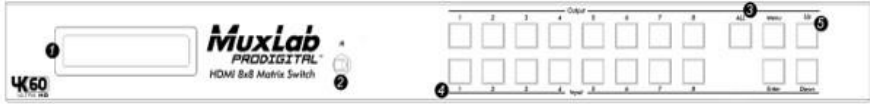


| No. | Name | Description |
|-----|------|-------------|
| 1 | LCD | Show the menu and status of input-output selection, EDID info, IP setup and more |
| 2 | IR | IR sensor for the remote control of the 8x8. |
| 3 | HDMI Output | HDMI output selection button 1 to 8: Press to select the output from 1 to 8. ALL button: Press to select all the HDMI outputs from 1 to 8 |
| 4 | HDMI Input | HDMI input selection button 1 to 8 : Press to select the input from 1 to 8 |
| 5 | Menu | Menu button: Press to enter Menu mode. Enter button: Press to confirm and save the setting. UP button: Press to change menu options. Down button: Press to change menu options. |

## 3.2. HDMI 8x8 Matrix Switch Rear Panel
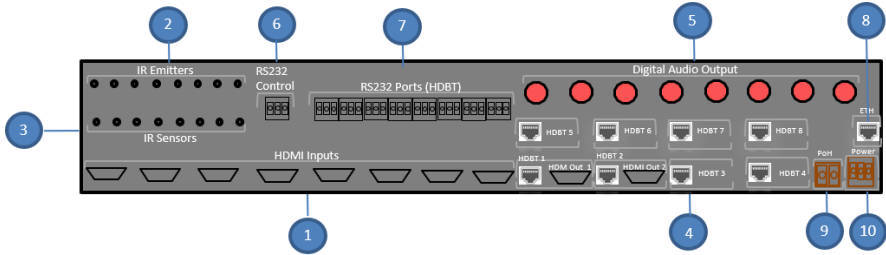


| No. | Name | Description |
|-----|------|-------------|
| 1 | HDMI IN | There are 8 HDMI inputs, which are to be physically connected to the HDMI source devices. |
| 2 | IR Emitters | There are 8 IR Emitter ports: These 8 ports should be connected to the IR Emitters and attach to the front of each source. They emit the IR signal received from each HDBT Receiver |
| 3 | IR Sensors | These 8 ports should be connected to the IR Sensors and attach to the front of each source. They emit the IR signal received from each HDBT Receiver. |
| 4 | HDBT OUT | There are 8 RJ45 outputs, used to deliver HD video, audio and PoH to the HDBT Receivers, at up to 70m. **Two (2) HDMI outputs are available from HDBT 1-2** |
| 5 | Digital Audio OUT | Digital audio output connects directly via a coaxial digital cable |
| 6 | RS232 | Serial port for local unit control via a PC with terminal software. Uses a 3-pin pluggable terminal block to connect with the control device (e.g. PC). |
| 7 | RS232 HDBT Ports | Serial ports for HDBT control |
| 8 | Ethernet | Connects with a PC over the network for TCP/IP |
| 9 | PoH Power | 48V/2.5A DC Power over HDBaseT connector |
| 10 | Power | 48VDC/2A DC Power connector |

# 4. System Connections

## 4.1. Safety Precautions

The system should be installed in a clean environment with temperature and humidity levels within the specified operating range.

Ensure that all plugs, power cords and sockets are in good condition without signs of damage.

All devices should be connected before turning on the power.

## 4.2. System Diagram
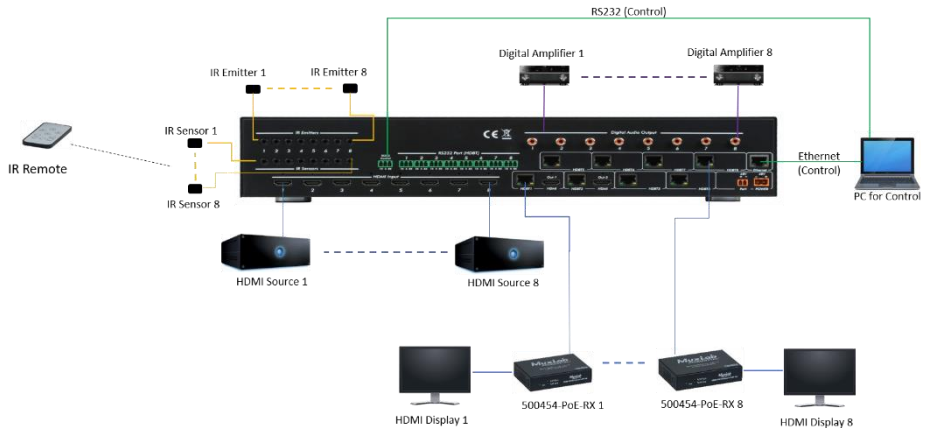


## 4.3. Connection Procedure

**a)**   Connect an HDMI source device (e.g. Blu-Ray player) to the **HDMI Input** connectors of the HDMI 8x8 Matrix Switch, with an HDMI cable.

**b)**   Connect up to eight (8) HDBT Receiver(s) to the HDBT Link output port(s) of the HDMI 8x8 Matrix Switch, with a UTP Cable.

**c)**   An AVR amplifier with a digital coaxial cable may be connected using the digital output ports.

**d)**   Connect the controlling device (e.g. PC) to the **RS232 Input** port of the HDMI 8x8 Matrix Switch.

**e)**   Connect a Patch cord from the router to the Ethernet port on Matrix Switch to control the Matrix Switch using TCP/IP protocol.

**f)**   Connect an IR Sensor to the **IR Sensor** port, and an IR Emitter to the **IR Emitter** port. The IR signal can be transmitted bi-directionally between the HDMI 8x8 Matrix Switch and the HDBT Receiver(s).

**g)**  Connect both the 48V/2.5A DC PoH connector and 48VDC/2A DC power adapter to their respective ports of the 500413.

**Note: Connect the HDBT ports of the Matrix Switch and far-end HDBT Receiver (sold separately) with straight-through cable.**

## 4.4.  Connection with the HDBT Receiver (sold separately)

The Matrix Switch has 8 HDBT outputs which support PoH technology. Connect a Cat 5e/6 patch cord to the HDBT Outputs and connect it to the pre-installed infrastructure. Connect HDBT Receivers (such as the 500545-PoE-RX) to the pre-installed cabling via additional patch leads. Plug the PoH power supply in to the power socket on the matrix, the HDBT Receivers will be powered by the 500413 Matrix Switch.

# 5. System Operations

## 5.1.    Front Panel Button Control

The HDMI 8x8 Matrix Switch can be controlled via the front panel. Please follow the basic programing instructions below:

**1.    To connect one input to an output:**

Example: Input 1 to Output 3

→ Press the Output 3 button until the Input 1 LED is ON

**2.    To connect one input to several outputs:**

Example: Connect Input 2 to Output 3 and 4

→ Press the Output 3 button until the Input 2 LED is ON

→ Press the Output 4 button until the Input 2 LED is ON

**3.    To connect an input to all the outputs:**

Example: Input 1 to all Outputs

→ Press the Output 1 button until the Input 1 LED is ON

→ Press the Output 2 button until the Input 1 LED is ON

→ Press the Output 3 button until the Input 1 LED is ON

→ Press the Output 4 button until the Input 1 LED is ON

→ Press the Output 5 button until the Input 1 LED is ON

→ Press the Output 6 button until the Input 1 LED is ON

→ Press the Output 7 button until the Input 1 LED is ON

→ Press the Output 8 button until the Input 1 LED is ON

**Note: LED** Indicators of the pressed buttons above will blink green for three times if the connections were completed successfully, then the LED will switch OFF. If the connection failed, they the LEDs will turn OFF immediately.

## 5.2.　IR Control

### 5.2.1.　IR Remote

Users can control the 500413 through the included IR remote. Here is a brief introduction to the IR remote.



① Output Channels Selection

② Input Channels Selection
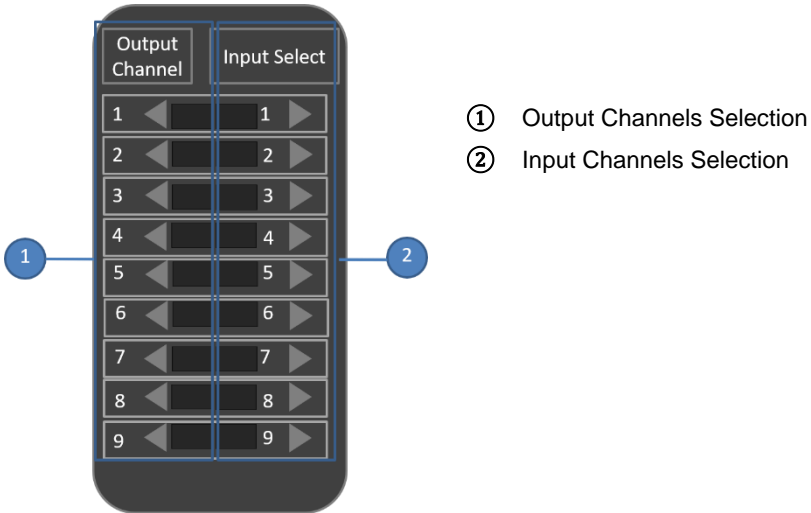
## 5.3.　RS232 Control

### 5.3.1.　RS232 connection

The Matrix Switch can be controlled remotely through the RS232 communication port. This RS232 communication port is a 3-pin phoenix connector.

### 5.3.2.　Basic Settings

Begin by first connecting the Matrix Switch with an input and an output device. Then, connect it to a computer, running the RS232 control software.

Please set the correct parameter for the COM port, and set the baud rate as 9600, data bits as 8 bits, stop bit as 1 bit, and the parity bit to none, in order to be able to send RS232 commands.

### 5.3.3. RS232 Communication Commands

**Note**:

1) In the below RS232 commands, the square brackets "[" and "]" are only symbols to help describe the RS232 command syntax, and they do not need to actually be typed in when entering a command.

2) Please remember to end each command with the ending symbols "." and ";".

3) Type each command in carefully, as they are case-sensitive.

RS232 Port Settings:

Baud rate: 9600　　　　Data bit: 8　　　　Stop bit: 1　　　　Parity bit: none

| Command | Function |
|---|---|
| H | List the commands available |
| STA | Shows global system status |
| SET RST | Resets to factory default |
| SET ADDR XX | Sets system address to xx [XX = 00 -99] |
| SET LCD ON Tx | Sets LCD remain On time [x = 0-3] [0 = Always, 1 = 15 secs, 2 = 30 secs, 3 = 60 secs] |
| SET KEY LOCK　ON/OFF | Sets key lock on/off |
| GET ADDR | Get system address |
| GET STA | Get system status |
| GET Inx SIG STA | Get input x status [x = 0-8; 0 = all] |
| GET LCD ON T | Get LCD remain On time status |
| GET KEY LOCK | Get key lock status |
| **Output Setup Commands** | |
| SET OUTx VS INy | Sets output x to input y [x = 0-8] [0 = All, y = 1-8] |
| SET OUTx HP VIDEOy | Sets HDMI output video mode [x = 0-8] [0 = All, y = 1, 3; 1 = bypass; 3 = 2K -> 4K |
| SET OUTx TP VIDEOy | Sets HDBT output video mode [x = 0-8] [0 = All, y = 2, 5; 2 = 2K -> 4K, 5 = HDBT mode] |
| SET OUTx EXA EN/DIS | Sets external audio output enable/disable x to input y [x = 0-8] [0 = All] |

| Command | Function |
|---|---|
| SET OUTx HP STREAM ONN/OFF | Sets HDMI output video mode [x = 0-2] [0 = All] |
| SET OUTx TP STREAM ONN/OFF | Sets HDMI output video mode [x = 0-8] [0 = All] |
| SET OUTx POE  y | Sets output x POE mode [x = 0-8; 0 = All; y = 0, 1; 0 = Auto 1 = Force |
| GET OUTx VS | Gets output x video route [x = 0-8; 0 = All] |
| GET OUTx HP VIDEO | Gets HDMI output x video mode [x = 0-2; 0 = All] |
| GET OUTx TP VIDEO | Gets HDBT output x video mode [x = 0-8; 0 = All] |
| GET HP EDID DATA | Gets HDMI output x EDID data[x = 1-2] |
| GET TP EDID DATA | Gets HDBT output x EDID data [x = 1-8] |
| GET OUTx EXA | Gets Ex-audio output enable/disable status {x = [0-8] (0 = All)} |
| GET OUTx HP STREAM | Gets HDMI output x stream On/Off status {x = [0-8] (0 = All)} |
| GET OUTx TP STREAM | Gets HDBT output x stream On/Off status {x = [0-8] (0 = All)} |
| GET OUTx TP POE | Gets output x POE mode {x = [0-8] (0 = All)} |
| **Input Setup Commands** | |
| SET INx EDID y | Setup input x EDID {x = [0-8] (0 = All), y = [0-32] } [0= 1080p_2CH] [1 = 1080p_6CH] [2= 1080p_8CH] [3 = 1080p_3D_2CH] [4 = 1080p_3D_6CH] [5 = 1080p_3D_8CH] [6 = 4K30Hz_3D_2CH] [7 = 4K30Hz_3D_6CH] [8 = 4K30Hz_3D_8CH] [9 = 4K60HzY420_3D_2CH] [10 = 4K60HzY420_3D_6CH] [11 = 4K60HzY420_3D_8CH] [12 = 4K60Hz_3D_2CH] [13 = 4K60Hz_3D_6CH] [14 = 4K60Hz_3D_8CH] |

| Command | Function |
|---|---|
| | [15 = 1080p_2CH_HDR] |
| | [16 = 1080p_6CH_HDR] |
| | [17 = 1080p_8CH_HDR] |
| | [18 = 1080p_3D_2CH_HDR] |
| | [19 = 1080p_3D_6CH_HDR] |
| | [20 = 1080p_3D_8CH_HDR] |
| | [21 = 4K30Hz_3D_2CH_HDR] |
| | [22 = 4K30Hz_3D_6CH_HDR] |
| | [23 = 4K30Hz_3D_8CH_HDR] |
| | [24 = 4K60Hz_Y420_3D_2CH_HDR] |
| | [25 = 4K60Hz_Y420_3D_6CH_HDR] |
| | [26 = 4K60Hz_Y420_3D_8CH_HDR] |
| | [27 = 4K60Hz_3D_2CH_HDR] |
| | [28 = 4K60Hz_3D_6CH_HDR] |
| | [29 = 4K60Hz_3D_8CH_HDR] |
| | [30 = USER1_EDID] |
| | [31 = USER2_EDID] |
| | [31 = USER3_EDID] |
| SET INx EDID CY OUTy HP | Copy HDMI output y EDID to input x (USER1 BUF) {x = [0-8] (0 = All),  y = [1-2] } |
| SET INx EDID CY OUTy TP | Copy HDBT output y EDID to input x (USER1 BUF) {x = [0-8] (0 = All),  y = [1-8] } |
| SET INx EDID Uy DATAz | Write EDID to USER y Buffer of Input {x = [0-8] (0 = All),  y = [1-3], z = [EDID Data] } |
| GET INx EDID | Get Input x EDID Index {x = [0-8] (0 = All)} |
| GET INx EDID y DATA | Get Input x EDID Index {x = [1-8], y = [0-32]} |
| **Network Setup Command xxx = [000 – 255], zzzz = [0001 – 9999]** | |
| SET RIP xxx.xxx.xxx.xxx | Set route IP address to xxx.xxx.xxx.xxx |
| SET HIP xxx.xxx.xxx.xxx | Set Host IP address to xxx.xxx.xxx.xxx |
| SET NMK xxx.xxx.xxx.xxx | Set Net mask to xxx.xxx.xxx.xxx |
| SET TIP zzzz | Set TCP/IP port to zzzz |
| SET DHCP y | Set DHCP {y = [0-1] (0 = Dis, 1 = Enable)} |
| GET RIP | Get Route IP address |

| Command | Function |
|---|---|
| GET HIP | Get Host IP address |
| GET NMK | Get Net mask |
| GET TIP | Get TCP/IP port |
| GET DHCP | Get DHCP status |
| GET MAC | Get MAC address |
| **IR Route Setup Command** | |
| SET IRT OUTx IS INx | Set output x IR Route {x = [0-8] (0 = All),  y = [1-8]} |
| SET LIR EXT SW x1.x2.x3.x4.x5.x6.x7.x8 | Set Local IR Extender Switch {x1-x8 = [0-1] (0 = Disable, 1 = Enable)} |
| SET CIR EXT SW x1.x2.x3.x4.x5.x6.x7.x8 | Set Callback IR Extender Switch {x1-x8 = [0-1] (0 = Disable, 1 = Enable)} |
| GET IRT OUTx IS | Get output x IR Route {x=[0-8] (0=All)} |
| GET LIR EXT SW | Get Local IR Extender Switch Status |
| GET CIR EXT SW | Get Callback IR Extender Switch Status |
| **RS232 Route Setup Command** | |
| SET RS CHy MUX x1.x2.x3.x4.x5.x6.x7.x8 | Set the RS232 Mux {y= [1-8], x1-x8 = [0-1] (0 = Disable, 1 = Enable)} |
| SET RS PTH OUTx LENy BRz | Set RS232 Control Pass-Through to Outputx {x = [0-8] (0 = All), y = [1 – 800], z = [0-5], (0=9600, 1=14400, 2=19200, 3=38400, 4=57600, 5=115200)} |
| GET RS CHx MUX | Get the RS232 MUX Status {x=[0-8] (0=All)} |
| **IR Code Setup Command** | |
| SET IR SYS xx.yy | Set IR Custom Code {xx=[00-FFH], yy=[00-FFH]} |
| SET IR OUTx INy CODE zz | Set IR Data Code {x=[1-8], y=[1-8], zz = [00-FFH]} |
| GET IR SYS | Get IR Custom Code |
| GET IR OUTx INy CODE | Get IR Data Code |

TCP/IP Control

In addition to supporting IR and RS232 control, the Matrix Switch also supports TCP/IP control.

***The default settings are: IP: 192.168.1.239; Subnet Mast: 255.255.255.0; Gateway: 192.168.1.1; TCP Port: 23.***

The IP and gateway settings can be changed as needed.

Connect the Ethernet port of the control device (such as a PC) and the Ethernet port of the Matrix Switch to the same network segment. This allows the user to control the Matrix Switch via the units web-interface GUI or designed TCP/IP communication software.

### 5.3.4.  Control Modes

The Matrix Switch can be controlled by a PC without a network connection (via a direct connection) or by one or more PCs within a LAN.

● **Controlled by PC (with a direct connection)**
Connect a computer's Ethernet port directly to the Ethernet port of the Matrix Switch, and set the PC's network segment to the same as the Matrix Switch's.

● **Controlled by PC(s) in LAN**
Connect the Matrix Switch to a Router or Ethernet Switch and one or more PCs to the same network to setup a LAN (as shown in the figure below). Set the network segment of the Matrix Switch and PC(s) to the same segment set in the Router or Ethernet Switch. This then allows the PC(s) within the LAN to control the Matrix Switch.
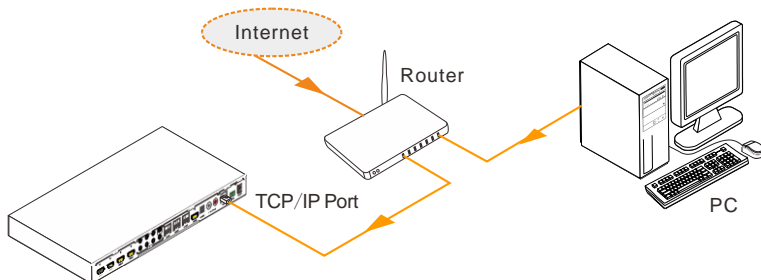


Follow these steps to connect the devices:

**Step1.**  Connect the Ethernet port of the Matrix Switch to the Ethernet port of the PC with a Cat 5e/6 twisted pair Ethernet cable.

**Step2.**  Set the PC's network segment to the same as the Matrix Switch's. However if the PC has the same network segment as the Router or Ethernet Switch then please take note of the PC's original network segment before changing it, since

you will need to change it back later on.

**Step3.** With the PC communicating to the web interface of the Matrix Switch, set the Matrix Switch's network segment to the same as that of the Router or Ethernet Switch.

**Step4.** Set the PC to the same network segment of the Router or Ethernet Switch. If the original one was already the same as the Router or Ethernet Switch, then simply return the PC's network segment to its original one you recorded above.

**Step5.** Connect the Matrix Switch and PC(s) to the Router or Ethernet Switch. PC(s) within the LAN are able to then control the Matrix Switch through its web-interface GUI.

### 5.3.5. Web-Interface GUI for TCP/IP control

The 500413 supports a web-interface GUI for convenient TCP/IP control. The GUI allows users to interact with this Kit through graphical icons.

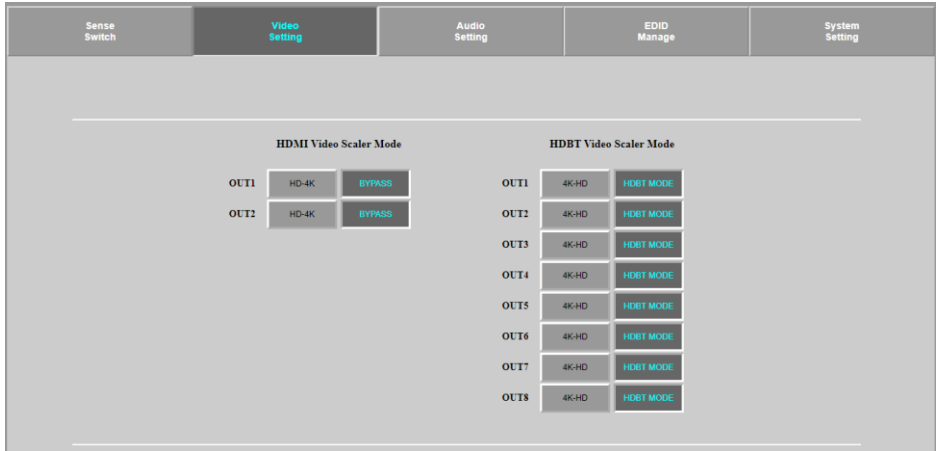Type http://192.168.1.239 in your browser, to bring up the web interface.

The following provides a brief introduction to the interfaces.

**Sense Switch Screen:** The matrix grid displays all possible connections between each input and output. Users can make connections by clicking on the corresponding grid button.

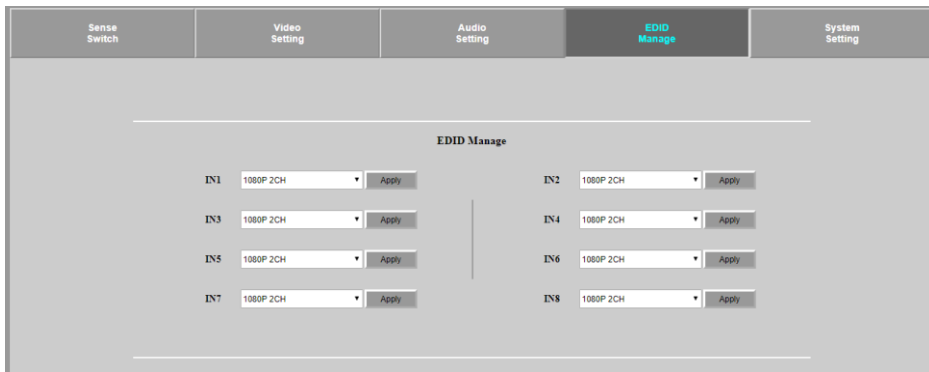See the screenshot below:
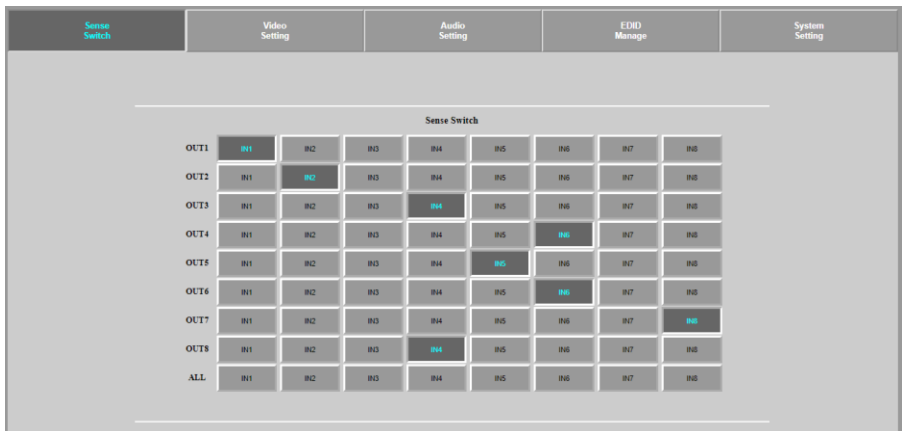
**Video Setting Screen:**



This page allows you to set the video settings not only for the HDMI outputs but also for the HDBT ones.

**Audio Setting Screen:** It allows you to change audio output status.



**EDID Manage Screen:** This page manages EDID configuration. See the screenshot below for further details:

**System Setting Screen:** View and configure the network settings, including MAC address, IP, TCP port and port alias configuration.
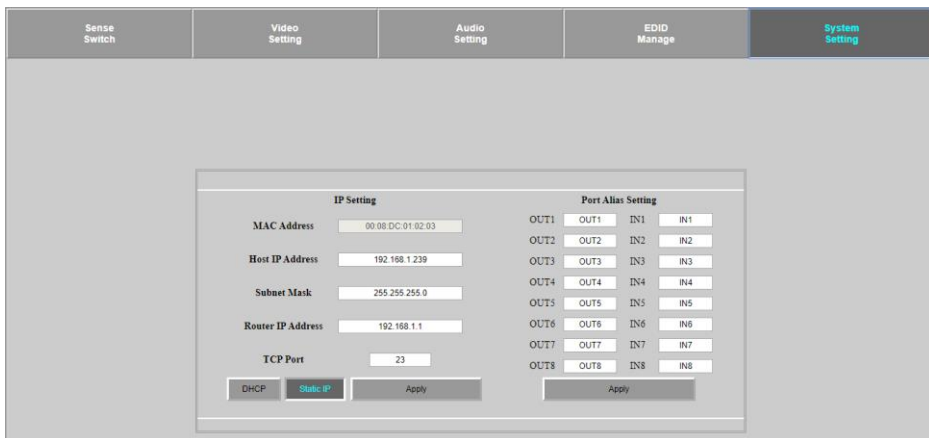
# 6. Troubleshooting & Maintenance

The following table describes some of the symptoms, probable causes and possible solutions with respect to the installation of the 500413 HDMI 8x8 Matrix Switch.

| Problems | Causes | Solutions |
|---|---|---|
| Losing color or no video signal output. | The connecting cables may not be connected correctly or may be damaged. | Check whether the cables are connected correctly and in good condition. |
| | Faulty or loose connection. | Make sure there is a good connection. |
| No output image when switching. | No signal at the input / output end. | Check with another sink device if there is any signal at the input / output end. |
| | Faulty or loose connection. | Make sure there is a good connection. |
| | The display does not support the input resolution. | Switch to another input source, or set the display to learn the EDID data setting of the input. |
| Cannot control the Matrix Switch via the front panel buttons. | Front panel buttons are locked. | Send the RS232 command to unlock |
| Cannot control the Matrix Switch via the IR remote. | The IR remote batteries are too weak. | Replace with new batteries. |
| | The IR remote is damaged. | Send it to an authorized dealer to be repaired. |
| | The IR remote is too far from the IR sensor, or it is not being pointed correctly at the IR sensor. | Move the IR remote closer to the IR sensor, while pointing the IR remote directly at the IR sensor. |
| | The IR sensor connected to the IR IN port does not support carrier wave. | Replace the IR sensor for one supporting carrier wave. |
| The power Indicator remains "off" when the unit is switched "on". | Faulty or loose power connection. | Make sure there is a good connection. |

| EDID management does not work normally. | The HDMI cable is damaged at the output end. | Replace the HDMI cable with a known good cable. |
|---|---|---|
| The display is showing a blank screen when switching. | The display does not support the resolution of the video source. | Try switching again. |
| | | Manage the EDID data manually to ensure that the resolution of the video source is compatible with the output resolution. |
| Cannot control the Matrix Switch via RS232 (e.g. a PC.s RS232 port). | Wrong cable connection. | Check the RS232 cable connectivity and pinout between the controlling device and the Matrix Switch. |
| | Wrong RS232 communication parameters. | Ensure that the RS232 communication parameters are set to: Baud rate:9600; Data bit: 8; Stop bit: 1; Parity bit: none |
| | Damaged RS232 port. | Send it to an authorized dealer for validation and repair. |
| Static becomes stronger when connecting the video connectors. | Bad grounding. | Check the grounding, and ensure that it is well connected. |
| Cannot control the device by RS232 / IR remote / front panel buttons | The device is damaged. | Send unit to an authorized dealer for repair. |

If you still cannot diagnose the problem, please call MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or at (+1) 514-905-0588 (International).

## CE/FCC & Recycling Information

### CE Certification

This equipment complies with the requirements relating to Electromagnetic Compatibility Standards EN55022/EN55024 and the further Standards cited therein. It must be used with shielded cables only. It has been manufactured under the scope of RoHS compliance.

### FCC Certification

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. You are cautioned that changes or modification not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation

### WEEE (Waste of Electrical and Electronic Equipment), Recycling of Electronic Products

In 2006 the European Union introduced regulations (WEEE) for the collection and recycling of all waste electrical and electronic equipment. It is no longer allowable to simply throw away electrical and electronic equipment. Instead, these products must enter the recycling process.

Each individual EU member state has implemented the WEEE regulations into national law in slightly different ways. Please follow your national law when you want to dispose of any electrical or electronic products. More details can be obtained from your national WEEE recycling agency.

# Regulatory Compliance

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