HDMI 4K/ST2110 Over IP Uncompressed Gateway Converter

Operation Manual
500774

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Table of Contents

1.   Product Overview

1.1   Introduction

The HDMI 4K/SDI/ST2110 over IP Uncompressed Gateway Converter allows HDMI equipment to be extended up to 1300ft (400m) via a duplex multimode OM4 fiber with LC connectors, at up to 4K resolution @ 30Hz (4:4:4) 8-bit uncompressed, in a point-to-point configuration. A single duplex multimode OM3 fiber with LC connectors may also be used at up to 985ft (300m). A second Media/Data port is provided and can be used to support ST-2022-7 Redundancy (Seamless Protection Switching), however a second MuxLab SFP MM fiber module (model: 500970-MM) must be purchased separately for the second Media/Data port per device.

Point-to-multipoint and multipoint-to-multipoint configurations are also possible by connecting the unit 10G LAN ports (labelled as: Fiber 1 and/or Fiber 2 if installed) for the 10G Media/Data of several units to a 10G Ethernet network.

The unit provides a 1G LAN port (labelled as: LAN) for Management/Control purposes via a Web Interface and a RestAPI (Note: NMOS support is coming soon).

The following diagram illustrates a typical point-to-multipoint LAN configuration (with and without redundancy).
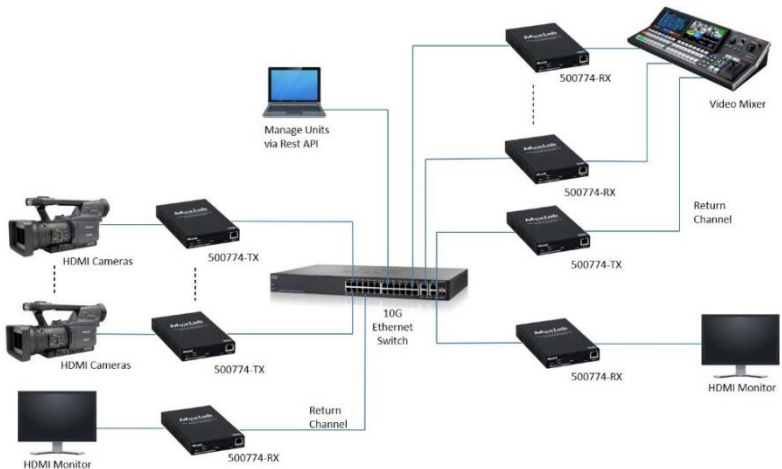

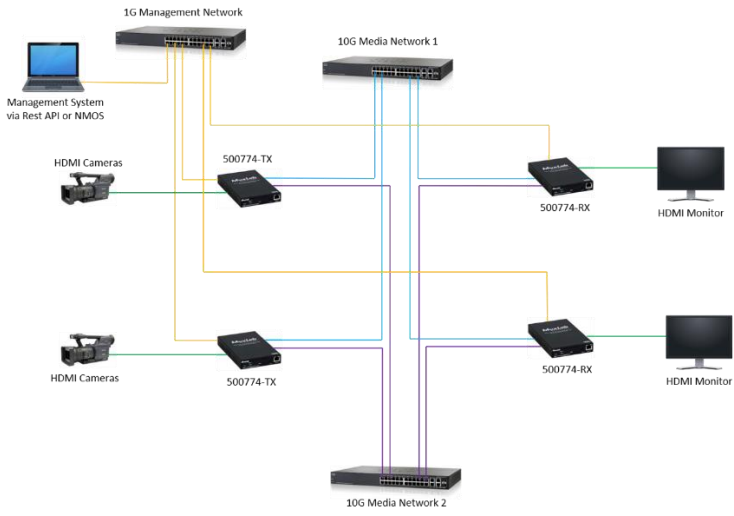**Figure 1a: Application Diagram without redundancy**

Figure 2b: Application Diagram with redundancy (without Fault)
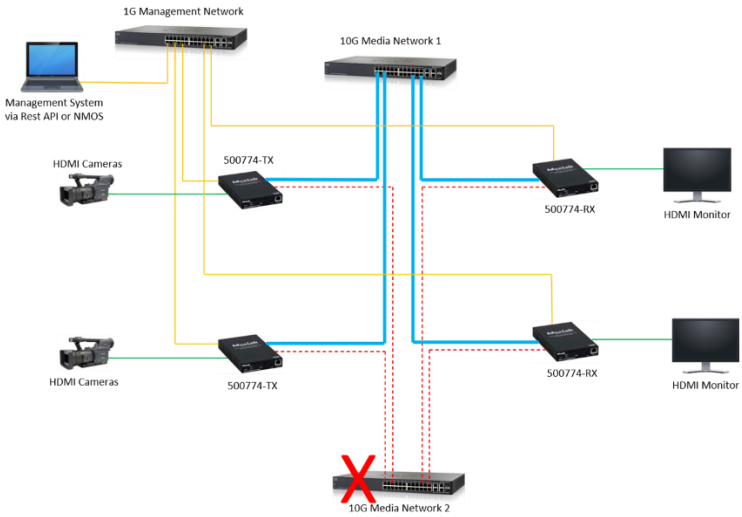

Figure 3c: Application Diagram with redundancy (with Fault)

1.2   Applications

The 500774 is an ideal solution for ST-2110 HDMI/IP environments. It allows broadcasters the ability to have a single IP infrastructure rather than two different ones. The 500774 applications include commercial broadcast AV systems, news/sports/TV stations and movie networks. The system supports the ST-2110 protocol, and ST-2022-7 Redundancy for critical applications. The unit may be managed via a Web interface and a RestAPI (Note: NMOS support is coming soon).

1.3   Key Features

The following are the 500774 key features.

- Supports SMPTE ST-2110 uncompressed HDMI video up to 4K @ 30Hz
- Supports SMPTE ST-2022-7 (Class D) AV signal Redundancy (Seamless Protection Switching)
- Extend HDMI over an IP network at up to 1300ft (400m) over duplex OM4 fiber. Note that OM3 fiber may also be used at up to 985ft (300m)
- Supports 100's of Transmitters & Receivers depending on network bandwidth
- Supports point-to-point, point-to-multipoint and multipoint-to-multipoint applications
- Supports two (2) 10G Ethernet ports (labelled as: Fiber 1 & Fiber 2) for AV Media/Data transmission, and a 1G Ethernet port (labelled as: LAN) for device Management/Control
- May be managed via a Web interface and third party control software platforms supporting a RestAPI (Note: NMOS support is coming soon)

1.4   Specifications

The following are the 500774 specifications.

Environment	HDMI 1.4
Devices	Cameras, mixers, media players, monitors, TV, PC, laptops, servers supporting HDMI.
Signals	Up to HDMI 1.4
Connectors/Switches	One (1) HDMI connector Two (2) SFP Cage Connectors for AV Media/Data connected to 10G Ethernet Switch ports (supports ST-2022-7 Redundancy) – One (1) SFP MM Fiber module is pre-installed (on port: Fiber 1), a second module may be purchased separately for redundancy (model 500970-MM) (for port: Fiber 2) One (1) RJ45S Connector for Management/Control (on 1G Ethernet port: LAN) One (1) 3-position Phoenix Connector (for future use) One (1) 3.5mm connector (for future use) One (1) 2.1mm locking power connector
Max Distance	OM4: 1300ft (400m), OM3: 985ft (300m)
Latency	Zero latency
Compression	None (uncompressed)
Network Bandwidth	Up to 10 Gbps
Network Requirement	10G Ethernet LAN for Media/Data ports, 1G Ethernet LAN for Management port
Cable	One (1) Dual multi-mode fiber cable per Media/Data port used One (1) UTP CAT 5e/6 cable for Management/Control port
Power Consumption	15 Watt
Temperature	Operating: 0° to 40°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing
Enclosure	Aluminum (color: black)
Dimensions	4.4" x 7" x 1.0" (11.1 x 17.5 x 2.5 cm)
Weight	1.5lbs (0.7 kg)
Compliance	Regulatory: FCC, CE, RoHS Flammability: 94V0
Warranty	3 years
Order Information	***500774-TX-MM:*** HDMI 4K/ST2110 over IP Uncompressed Transmitter, MM fiber ***500774-RX-MM:*** HDMI 4K/ST2110 over IP Uncompressed Receiver, MM fiber
Accessories (Sold separately)	500920 16-Port Rackmount Transceiver Chassis 500917 Wall Mount Transceiver Bracket Kit 500970-MM Multimode 10G SFP Module, 850m (for 2nd Media/ Data Port)

1.5   Currently Supported Resolutions

The following are the currently 500774 supported Video resolutions.

Color Depth	Color Space	4k			1080p					1080i		720p	
		30	25	24	60	50	30	25	24	60	50	60	50
8 bit	**RGB**	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*
	YCbCr 444	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*
	YCbCr 422	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*
10 bit	**RGB**	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*
	YCbCr 444	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*	V*
	YCbCr 422	V	V	V	V	V	V	V	V	I	I	I	I

Legends:
V – Validated with ST2110 compatible equipment
V* – Validated with ST2110 compatible equipment and 422 10 bit Converter
I – Need further investigation

2.   Managing the 500774

The HDMI 4K/ST2110 over IP Uncompressed Gateway can be managed through a Web interface and a RestAPI. This section describes how to set up the 500774 parameters using both the Web interface and RestAPI (Note NMOS support is coming soon).

2.1   Web interface

Configuring the 500774 from the Web interface requires a TCP/IP connection from the unit 1G Ethernet port (port: LAN) to your network. The 500774 default IP address is set to DHCP. If no DHCP is available on your network, both the TX and RX will default to a static IP Address of 192.168.168.64 for the TX, and 192.168.168.67 for the RX.

To be able to log in to the 500774 Web interface, your computer has to be in the same subnet.

2.1.1   Configuring the 500774-TX

This section will describe how to configure the unit using the Web interface. To connect to the TX, open a Web browser and type the TX unit IP address. Make sure the unit 1G Ethernet port (port: LAN) is connected to your Ethernet network.

2.1.2   Transmitter System Info Page

Once connected, the first tab is the System Info page, which displays general product information such as the model number, firmware, FPGA version, MAC and IP address, etc. See example below.

Figure 2: 500774-TX System Info Page

2.1.3   Transmitter Media Page

The Media Page contains both the video and audio settings. See example below.
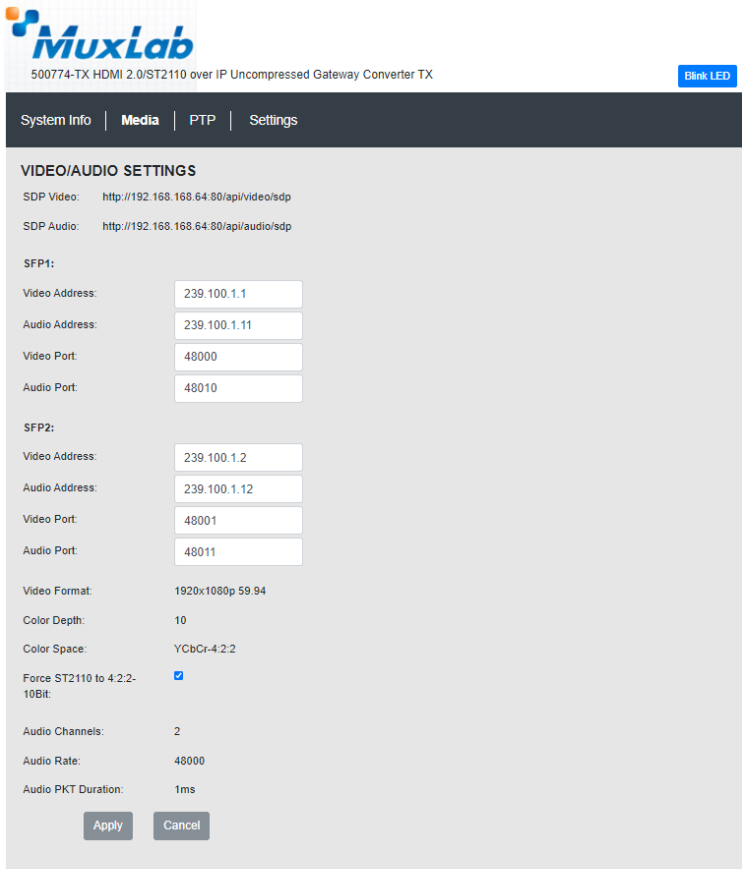
Figure 3: 500774-TX Media Settings Page

Force ST2110 to 4:2:2 Note:
The 500774 Tx unit contains a 422 Converter that converts RGB or YCbCr 4:4:4 to YCbCr 4:2:2 10 bit Video Format. In the Media Setting Page this option can be disabled. By default, 4:2:2 Converter is enabled.

The following table describes the Media settings

Settings	Description
SDP Video	SDP File for Video
SDP Audio	SDP File for Audio
Video Address (for SFP 1 & 2)	Multicast address for video
Audio Address (for SFP 1 & 2)	Multicast address for audio
Video port (for SFP 1 & 2)	Port number for video
Audio port (for SFP 1 & 2)	Port number for audio
Video Format (Resolution & FPS)	Detected Video resolution and Number of Frames per Second
Color depth	Detected color depth
Color space	Detected color space
Force ST-2110 to 4:2:2-10Bit	Enable/Disable Conversion
Audio channels	Number of audio channels detected
Audio rate	Detected audio rate
Audio PKT Duration	Audio packet duration

Clicking on the Submit button will allow you to apply any new changes, while clicking on Cancel will discard any changes.

2.1.4   Transmitter Settings Page

This page allows the user to set various parameters of the 500774-TX. See example below.
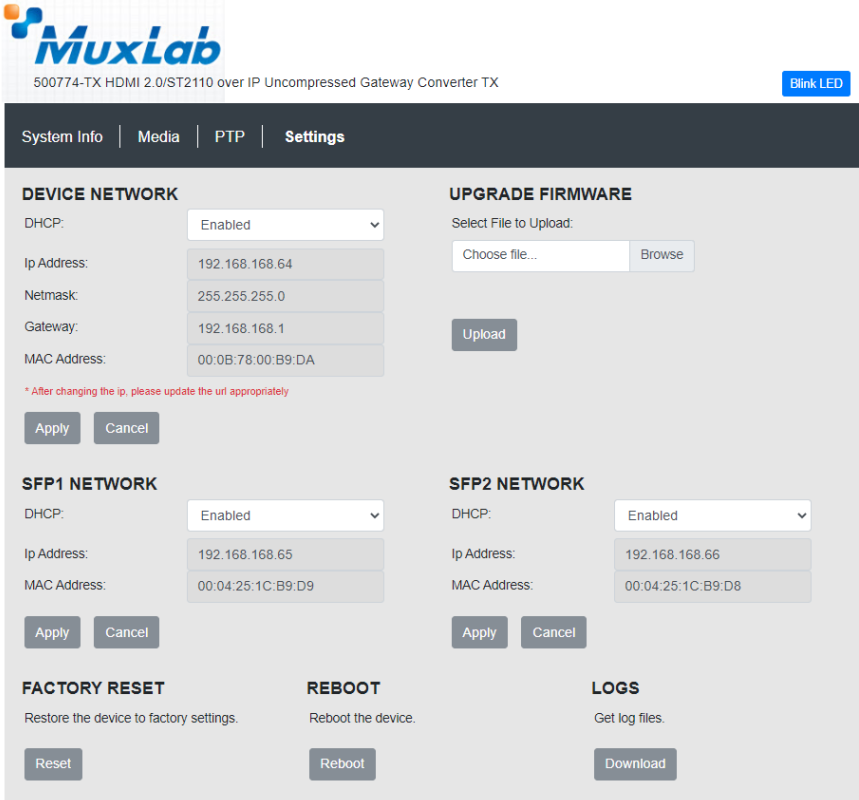
Figure 4: 500774-TX Settings Page

Firmware Upgrade
The 500774-TX comes with the firmware pre-installed, please check the MuxLab Web site to verify if a newer version is available. You may go to our support software/firmware page of our Web site to download the required files:

https://muxlab.com/support?section=software-and-firmware

Important Note: Use the 1G Port (port: LAN) to upgrade the unit Firmware.

The 500774-TX has both an FPGA and MCO (Micro-Controller Unit), and each has its own firmware. The user may upgrade the FPGA and MCU firmware from this page as follows:

1. Download the upgrade 500774 firmware file (which includes the FPGA and MCU code) from the MuxLab website (found under the Support Software/Firmware page).

2. Go to the Upgrade page on the unit Web interface.

3. In the Upgrade Firmware section press on the "Browse" button and locate and select the file you downloaded, and click on the "Upload" button. It may take 30 seconds or more to install the new version. Allow the process to complete without interruption.

Network Settings
The user may set the network parameters of the 500774-TX for the two (2) 10G Media/Data ports (ports: Fiber 1 & Fiber 2 is installed) and the one (1) 1G Management/Control port (port: LAN), including enabling or disabling DHCP, setting a static IP Address, Netmask Address, and Gateway Address, and then pressing on "Apply".

The 500774-TX default IP addresses are set to DHCP. If no DHCP server is available on your network the TX will default to the following static IP Addresses:

*   1G Management/Control port (LAN): 192.168.168.64
*   Media/Data 1 port (Fiber 1): 192.168.168.65
*   Media/Data 2 port (Fiber 2): 192.168.168.66

Note: If the user changes the static IP addresses from their default values, then the user defined static IP Addresses will be used when do DHCP server is present. However, if the unit is Factory Reset then the default static IP Addresses above will apply.

Factory Reset
The user may perform a factory reset, by pressing on the "Reset" button. This will return the unit to the original MuxLab factory settings, and all user settings and data will be lost. Allow the process to complete without interruption.

Reboot
The user may reboot the unit (equivalent to a power cycle), by pressing on the "Reboot" button. This will temporarily interrupt normal operation and the unit connection. Allow the process to complete without interruption.

Logs
The user may get logs for his unit by pressing on the "Download" button. This may help identify the source of a possible issue you may be having, or to simply get info on the unit operation.

2.1.5   Configuring the 500774-RX

This section will describe how to configure the unit using the Web interface. To connect to the RX, open a Web browser and type the RX unit IP address. Reference section 2.1 for the RX default static IP address and other details. Make sure the unit 1G Ethernet port (port: LAN) is connected to your Ethernet network.

2.1.6   Receiver System Info Page

Once connected, the first screen is the System Info page, which displays general product information such as the model number, firmware, FPGA version, MAC and IP address, etc. See example below.

Figure 5: 500774-RX System Info Page

2.1.7   Receiver Media Page

The Media Page contains both the video and audio settings. See example below:
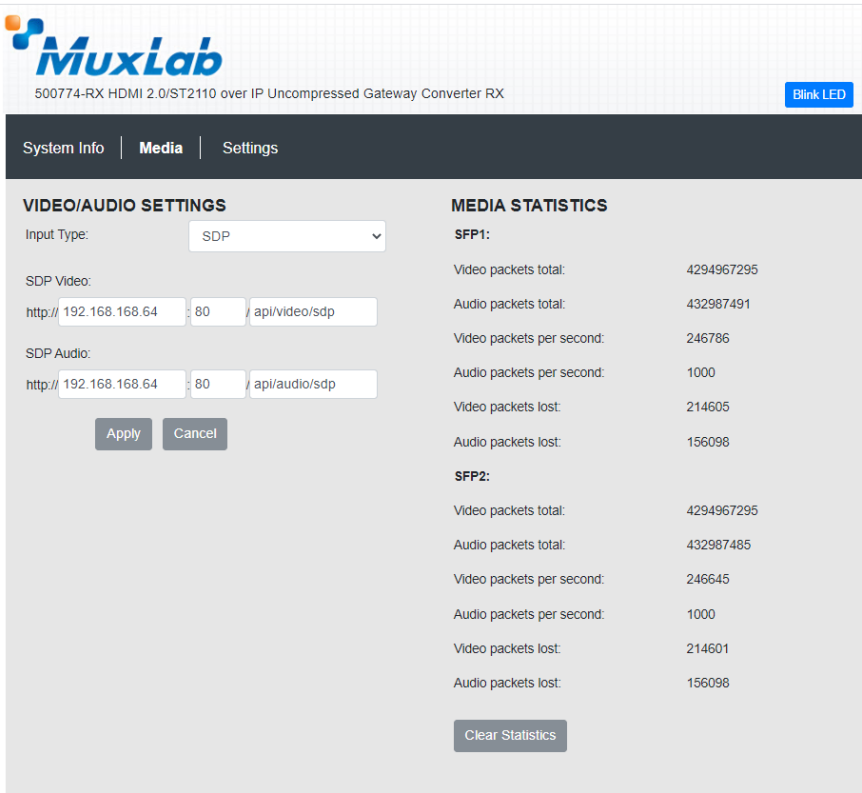
Figure 6: 500774-RX Media Settings Page

Clicking on the Submit button will allow you to apply the new changes, while clicking on Cancel will discard any changes.

2.1.8   Receiver Settings Page

This page allows the user to set various parameters of the 500774-RX. See example below.
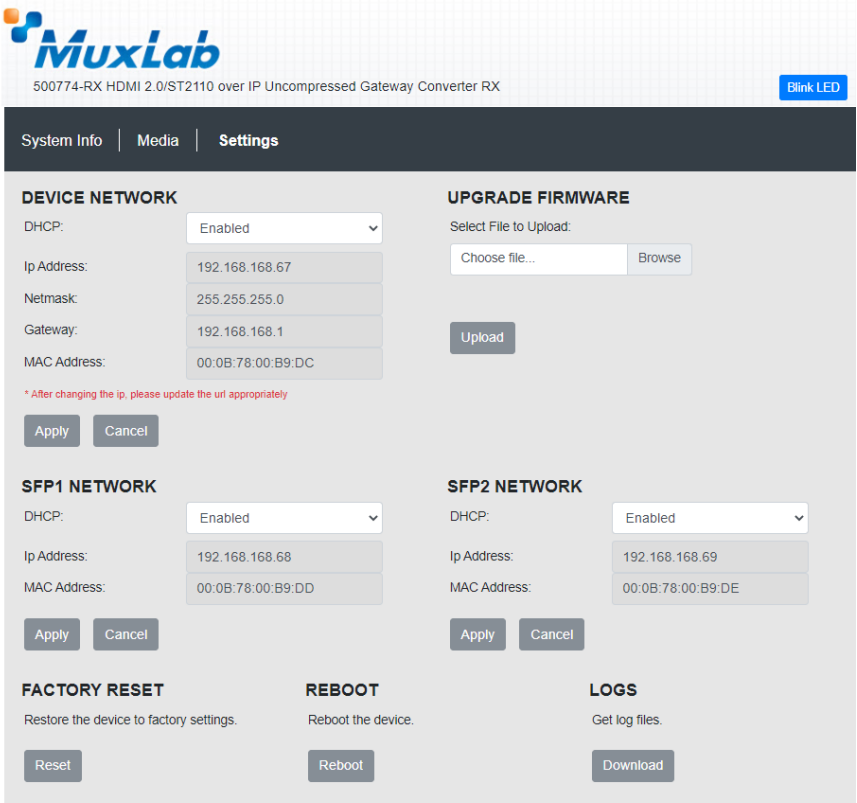
Figure 7: 500774-RX Settings Page

Firmware Upgrade
The 500774-RX comes with the firmware pre-installed, please check the MuxLab Web site to verify if a newer version is available. You may go to our support software/firmware page of our Web site to download the required files:

https://muxlab.com/support?section=software-and-firmware

The 500774-RX has both an FPGA and MCO (Micro-Controller Unit), and each has its own firmware. The user may upgrade the FPGA and MCU firmware from this page as follows:

1. Download the upgrade 500774 firmware file (which includes the FPGA and MCU code) from the MuxLab website (found under the Support Software/Firmware page).

2. Go to the Upgrade page on the unit Web interface.

3. In the Upgrade Firmware section press on the "Browse" button and locate and select the file you downloaded and click on the "Upload" button. It may take 30 seconds or more to install the new version. Allow the process to complete without interruption.

Network Settings
The user may set the network parameters of the 500774-RX, including enabling or disabling DHCP, setting a static IP Address, Netmask Address, and Gateway Address, and then pressing on "Apply".

The 500774-RX default IP addresses are set to DHCP. If no DHCP is available on your network the RX will default to the following static IP Addresses:

- 1G Management/Control port (LAN): 192.168.168.67
- Media/Data 1 port (Fiber 1): 192.168.168.68
- Media/Data 2 port (Fiber 2): 192.168.168.69

Note: If the user changes the static IP addresses from their default values, then the user defined static IP Addresses will be used when do DHCP server is present. However, if the unit is Factory Reset then the default static IP Addresses above will apply.

Factory Reset
The user may perform a factory reset, by pressing on the "Reset" button. This will return the unit to the original MuxLab factory settings, and all user settings and data will be lost. Allow the process to complete without interruption.

Reboot
The user may reboot the unit (equivalent to a power cycle), by pressing on the "Reboot" button. This will temporarily interrupt normal operation and the unit connection. Allow the process to complete without interruption.

Logs
The user may get logs for his unit by pressing on the "Download" button. This may help identify the source of a possible issue you may be having, or to simply get info on the unit operation.

2.2   500774 RestAPI

In addition to the Web interface, the 500774 can also be managed through a RestAPI via the 1G Ethernet port (port: LAN). This section describes the API commands supported on the 500774. It is intended for users with a programing background.

500774-TX RestAPI:

The following screen shots show the RestAPI for the 500774-TX (Transmitter):

The RestAPI commands can be accessed directly from a browser by entering the 500774-TX IP Address and RestAPI command as follows:

[500774-TX IP Address]/api/[RestAPI Command]

Enter *[500774-TX IP Address]/api/* to obtain a list of RestAPI Commands

```
[
   "system",
   "video",
   "audio",
   "sdp",
   "security",
   "ptp",
   "others"
]
```

Enter *[500774-TX IP Address]/api/system* for "System API"

```
{
   "fpgaBuilt": "Jun 04 2020 15:17",
   "fpgaVer": "01.01",
   "ctrl_gateway": "192.168.168.3",
   "ctrl_isDhcp": 0,
   "built": "Jun 12 2020 13:32",
   "sfpCfg": 2,
   "ver": "01.01",
   "product": "HdmiOverIP-774",
   "ctrl_mask": "255.255.255.0",
   "ctrl_mac": "2E:3B:EF:5A:1D:78",
   "name": "HdmiOverIP-774",
   "model": "500774",
   "blinkLed": 0,
```

```
    "ctrl_ip": "192.168.168.190",
    "sfp1_isDhcp":1,
    "sfp1_mac":"00:04:25:1C:11:02",
    "sfp1_ip":"192.168.168.65",
    "sfp2_isDhcp":1,
    "sfp2_mac":"00:04:25:1C:12:02",
    "sfp2_ip":"192.168.168.66",
    "ptpOnSfp":0,
    "audioStatus":1,
    "videoStatus":1,
    "reset": 0,
    "reboot": 0,
    "forceStream": 1,
    "isTx": 1,
    "mediaMode": "None"
}
```

Enter *[500774-TX IP Address]/api/video* for "Video API"

```
[
    {
        "fps": "60000/1001",
        "sessionID": "11-497371921",
        "depth": 10,
        "TTL": 32,
        "sdp": "api/video/sdp",
        "intlce": 3,
        "width": 1920,
        "height": 1080,
        "colorSpace": "YCbCr-4:2:2",
        "payloadType": 96,
        "dest_ip2":"239.100.1.2",
        "dest_ip1":"239.100.1.1",
        "local_port1":40000,
        "local_port2":40001,
        "dest_port1":48000,
        "dest_port2":48001,
    }
]
```

Enter *[500774-TX IP Address]/api/audio* for "Audio API"

```
[
    {
        "depth":24,
```

```
      "sample":"48000",
      "dest_ip2":"239.100.1.12",
      "chnTotal":8,
      "chn3Remap":3,
      "dest_ip1":"239.100.1.11",
      "chnFilter":255,
      "sessionID":"10-488984480",
      "local_port2":40011,
      "chn4Remap":4,
      "chn7Remap":7,
      "local_port1":40010,
      "chn0Remap":0,
      "payloadType":97,
      "chn5Remap":5,
      "chnReal":2,
      "pktSize":"1ms",
      "sdp":"api/audio/sdp",
      "chn6Remap":6,
      "chn2Remap":2,
      "chn1Remap":1,
      "chnAlloc":82,
      "dest_port2":48011,
      "TTL":32,
      "dest_port1":48010,
      "channels":1
   }
]
```

Enter *[500774-TX IP Address]/api/sdp* for "SDP API"

```
[
   {
      "port": 80,
      "uri": "api/video/sdp",
      "ip": "192.168.168.190",
      "media": "video"
   },
   {
      "port": 80,
      "uri": "api/audio/sdp",
      "ip": "192.168.168.190",
      "media": "audio"
   }
]
```

Enter *[500774-TX IP Address]/api/security* for "Security API"

```
{
   "get_status": 0,
   "get_id": "",
   "set_key": ""
}
```

Enter *[500774-TX IP Address]/api/ptp* for "PTP API"

```
{
   "mOffsetScaledLogVariance": "0xffff",
   "priority2": 254,
   "priority1": 254,
   "sourcePortId": "00-26-22-ff-fe-42-f4-08",
   "isEnable": 1,
   "clockId": "2e-3b-ef-ff-fe-5a-1d-78",
   "masterPresent": 1,
   "errCode": 200,
   "offset": 2732,
   "domainNumber": 0,
   "mPriority1": 128,
   "msg": "Begin to access data from server",
   "mPriority2": 128,
   "portState": "LISTENING",
   "mClockAccuracy": "0xfe",
   "mClockClass": 248,
   "portId": "2e-3b-ef-ff-fe-5a-1d-78",
   "masterID": "00-26-22-ff-fe-42-f4-08",
   "offsetScaledLogVariance": "0x  ff",
   "clockClass": 248,
   "clockAccuracy": "0xfe"
}
```

Enter *[500774-TX IP Address]/api/others* for "Other (remaining) API"

```
{
   "debugCmd": 1,
   "debugRest": 1,
   "debugSdp": 1,
   "authen": 1,
   "sdpc": [
      "SDP Client is not available on TX"
   ],
```

```
  "threads": [
    {
       "name": "muxMain",
       "PID": 338
    },
    {
       "name": "muxTimer",
       "PID": 366
    },
    {
       "name": "muxLed",
       "PID": 370
    },
    {
       "name": "muxManager",
       "PID": 369
    },
    {
       "name": "muxBroker",
       "PID": 368
    },
    {
       "name": "muxPoll",
       "PID": 367
    }
  ]
}
```

500774-RX RestAPI:

The following screen shots show the RestAPI for the 500774-RX (Receiver):

The RestAPI commands can be accessed directly from a browser by entering the 500774-RX IP Address and RestAPI command as follows:

*[500774-*RX *IP Address]/api/[RestAPI Command]*

Enter *[500774-*RX *IP Address]/api/* to obtain a list of RestAPI Commands
```
[
   "system",
   "video",
   "audio",
   "sdp",
   "security",
   "ptp",
```

```
    "statistics",
    "others"
]
```

Enter *[500774-*RX *IP Address]/api/system* for "System API"

```
{
    "reboot": 0,
    "fpgaVer": "01.01",
    "mediaMode": "SDP",
    "sfpCfg": 2,
    "reset": 0,
    "forceStream": 1,
    "blinkLed": 0,
    "fpgaBuilt": "Jun 22 2020 09:55",
    "model": "500774",
    "ctrl_mac": "86:68:56:D3:99:33",
    "product": "HdmiOverIP-774",
    "ver": "01.01",
    "isTx": 0,
    "ctrl_gateway": "192.168.168.3",
    "ctrl_isDhcp": 1,
    "built": "Jun 12 2020 13:32",
    "ctrl_ip": "192.168.168.144",
    "ctrl_mask": "255.255.255.0",
    "name": "HdmiOverIP-774",
    "sfp1_isDhcp":1,
    "sfp1_mac":"00:04:25:1C:11:02",
    "sfp1_ip":"192.168.168.65",
    "sfp2_isDhcp":1,
    "sfp2_mac":"00:04:25:1C:12:02",
    "sfp2_ip":"192.168.168.66",
    "ptpOnSfp":0,
    "audioStatus":1,
    "videoStatus":1,
}
```

Enter *[500774-*RX *IP Address]/api/video* for "Video API"

```
[
    {
        "sdp": "api/video/sdp",
        "payloadType": 96,
        "depth": 10,
        "TTL": 32,
        "fps": "60000/1001",
```

```
      "sessionID": "11-1186003140",
      "colorSpace": "YCbCr-4:2:2",
      "intlce": 3,
      "height": 1080,
      "width": 1920,
      "dest_ip1":"239.100.1.1",
      "dest_ip2":"239.100.1.1",
      "dest_port2":48001,
      "dest_port1":48000,
      "local_port2":48001,
      "local_port1":48000
   }
]
```

Enter *[500774-*RX *IP Address]/api/audio* for "Audio API"

```
[
   {
      "sessionID": "10-1186003140",
      "TTL": 32,
      "depth": 24,
      "sdp": "api/audio/sdp",
      "channels": 2,
      "payloadType": 97,
      "pktSize": "1ms",
      "sample": "48000",
      "dest_ip2":"239.100.1.2",
      "dest_ip1":"239.100.1.2",
      "dest_port2":48011,
      "dest_port1":48010,
      "local_port2":48011,
      "local_port1":48010
   }
]
```

Enter *[500774-*RX *IP Address]/api/sdp* for "SDP API"

```
[
   {
      "media": "video",
      "uri": "api/video/sdp",
      "ip": "192.168.168.190",
      "port": 80
   },
   {
      "media": "audio",
```

```
      "uri": "api/audio/sdp",
      "ip": "192.168.168.190",
      "port": 80
   }
]
```

Enter *[500774-*RX *IP Address]/api/security* for "Security API"

```
{
   "get_status": 0,
   "get_id": "",
   "set_key": ""
}
```

Enter *[500774-*RX *IP Address]/api/ptp* for "PTP API"

```
{
   "mPriority2": 255,
   "clockAccuracy": "0x 0",
   "mPriority1": 255,
   "mClockAccuracy": "0xff",
   "offsetScaledLogVariance": "0x   0",
   "msg": "Begin to access data from server",
   "isEnable": 0,
   "clockId": "00-00-00-00-00-00-00-00",
   "mClockClass": 255,
   "masterPresent": 0,
   "portState": "",
   "errCode": 300,
   "sourcePortId": "00-00-00-00-00-00-00-00",
   "masterID": "00-00-00-00-00-00-00-00",
   "portId": "00-00-00-00-00-00-00-00",
   "clockClass": 0,
   "domainNumber": 0,
   "priority2": 0,
   "priority1": 0,
   "mOffsetScaledLogVariance": "0xffff",
   "offset": 0
}
```

Enter *[500774-*RX *IP Address]/api/others* for "Statistics API"

```
{
   "sfp2AudioPktPerSec":0,
   "sfp1VideoPktAbs":0,
   "sfp2VideoPktMs":0,
   "sfp1VideoPktMs":0,
```

```
    "sfp1AudioPktAbs":0,
    "sfp2AudioPktAbs":0,
    "sfp1AudioPktPerSec":0,
    "sfp2VideoPktAbs":0,
    "sfp1VideoPktPerSec":0,
    "clearStat":0,
    "sfp2AudioPktMs":0,
    "sfp2VideoPktPerSec":0,
    "sfp1AudioPktMs":0
}
```

Enter *[500774-*RX *IP Address]/api/others* for "Other (remaining) API"

```
{
    "sdpc": [
        {
            "uri": "api/audio/sdp",
            "headerErrs": 0,
            "pkts": 261,
            "msg": "is in state of 'CONNECTED', new request is ignored",
            "reqs": 141,
            "dataErrs": 0,
            "fails": 0
        },
        {
            "uri": "api/video/sdp",
            "headerErrs": 0,
            "pkts": 18075,
            "msg": "OK",
            "reqs": 16546,
            "dataErrs": 0,
            "fails": 3
        }
    ],
    "debugSdp": 1,
    "debugCmd": 1,
    "authen": 1,
    "threads": [
        {
            "PID": 337,
            "name": "muxMain"
        },
        {
            "PID": 338,
            "name": "muxTimer"
        },
```

```
      {
        "PID": 344,
        "name": "muxLed"
      },
      {
        "PID": 343,
        "name": "muxManager"
      },
      {
        "PID": 342,
        "name": "muxBroker"
      },
      {
        "PID": 341,
        "name": "muxPoll"
      },
      {
        "PID": 340,
        "name": "muxSdpRecv"
      },
      {
        "PID": 339,
        "name": "muxSdpMngr"
      }
   ],
   "debugRest": 1
}
```

3.   Frequently Asked Questions

The following FAQ section provides answers to the most frequent questions you may have regarding the configuration of the 500774.

What is the default IP address of the 500774?

The 500774-TX default IP addresses are set to DHCP. If no DHCP is available on your network the TX will default to the following static IP Addresses:

- 1G Management/Control port (LAN): 192.168.168.64
  Subnet Mask: 255.255.255.0

- Media/Data 1 port (Fiber 1): 192.168.168.65
  Subnet Mask: 255.255.255.0

- Media/Data 2 port (Fiber 2): 192.168.168.66
  Subnet Mask: 255.255.255.0

The 500774-RX default IP addresses are set to DHCP. If no DHCP is available on your network the RX will default to a the following static IP Addresses:

- 1G Management/Control port (LAN): 192.168.168.67
  Subnet Mask: 255.255.255.0

- Media/Data 1 port (Fiber 1): 192.168.168.68
  Subnet Mask: 255.255.255.0

- Media/Data 2 port (Fiber 2): 192.168.168.69
  Subnet Mask: 255.255.255.0

Note: In the above cases if the user changes the static IP addresses from their default values, then the user defined static IP Addresses will be used when do DHCP server is present. However, if the unit is Factory Reset then the default static IP Addresses above will apply.

How to find the 500774 IP address?

You can check the unit's IP address by using either Wireshark, or going to your network switch Web interface on the 1G Ethernet port.

Why is it that I cannot connect to the 500774 GUI (Web Interface)?

Ensure that your computer is on same subnet. For instance, if the TX's IP Address is 192.168.168.64 and Subnet Mask is 255.255.255.0 , then your computer must be configured as follows: IP Address 192.168.168.x and Subnet Mask 255.255.255.0, where x may be 100 or something similar (but it must be unique).

How do I find the firmware version of the 500774?

From the Web interface you may go to the System Info page.

Why is the RX not displaying video?

First, ensure your video source is valid. If using manual configuration, make sure the Multicast addresses for both audio and video matches the one from the TX. Second, validate your network supports multicast. Double check your wiring, cable type, and cable length, and ensure that it meets the specifications for this product (see Specifications in section 1.4).

What is SDP?

SDP stands for Session Description Protocol which describes the parameters for both audio and video.

I am using SDP input type but the RX is not displaying video?

Ensure you are entering the right information for each field. Please refer to section number 2 for details on the TX SDP file.

The 500774-RX does not display video from another ST2110 manufacturer?

Check media parameters and ensure you are entering the right SDP information if using this input type. If it is still not working, email the SDP file to MuxLab support.

Need Further Help:

If the above does not help you to find a solution to the issue you are experiencing please contact MuxLab Technical Support at 877-689-5228 (toll free in North America) or (+1) 514-905-0588 (International) or email to info@muxlab.com. Please have the following information ready:

- Unit model number.

- Cabling layout. Please include the model of the SDI source and sink devices, cable length and type.

- Description of problem.

- List of tests performed.

4.   Product Warranty Policy

Items Under Warranty - Company Policy

MuxLab guarantees its products to be free of defects in manufacturing and workmanship for the warranty period from the date of purchase. If this product fails to give satisfactory performance during this warranty period, MuxLab will either repair or replace the product at no additional charge, except as set forth below. Repair and replacement parts will be furnished on an exchange basis and will be either reconditioned or new. All replaced parts and products become the property of MuxLab. This limited warranty does not include repair services for damage to the product resulting from accident, disaster, misuse, abuse, or unauthorized modifications or normal decay of battery driven devices. Batteries, if included with the product, are not covered under this warranty.

Limited warranty service can be obtained by delivering the product during the warranty period to an authorized MuxLab dealer from whom you purchased the product, or by sending it to MuxLab. MuxLab will not accept any such product for repair without a Return Material Authorization number (RMA#) issued by its Customer Service Department, along with a dated proof of purchase. If this product is delivered to MuxLab by mail, you agree to assume risk of loss or damage in transit, to prepay shipping charges to the warranty service location, and to use the original shipping container or equivalent.

THE ABOVE LIMITED WARRANTY IS THE ONLY WARRANTY COVERING YOUR MUXLAB PRODUCT. THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SOME STATES DO NOT ALLOW LIMITATIONS ON IMPLIED WARRANTIES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

IF THIS PRODUCT IS NOT IN GOOD WORKING ORDER, YOUR SOLE REMEDY SHALL BE REPAIR OR REPLACEMENT AS PROVIDED FOR ABOVE. IN NO EVENT SHALL MUXLAB BE LIABLE TO YOU FOR ANY DAMAGES, INCLUDING ANY LOSS OF PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF OR INABILITY TO USE THIS PRODUCT, EVEN IF MUXLAB OR AN AUTHORIZED MUXLAB DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES; NOR WILL MUXLAB BE LIABLE FOR ANY CLAIM BY ANY OTHER PARTY. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR CONSUMER PRODUCTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

Warranty Periods
This product is under warranty for a period of three (3) years.

Any product found to be defective within three (3) months of invoice, including one (1) month shelf life, may be returned for replacement by a new unit or a satisfactory repair within one (1) month of receiving any returned product. The customer must provide MuxLab with the serial number and proof of purchase of the defective unit being returned. All R.M.A.'s issued are subject to inspection by MuxLab, and will be returned to the customer if not properly packaged – units must be returned in the original container or equivalent. MuxLab will not accept any such product for repair without an authorization from its Technical Support department and without a return authorization number issued by the MuxLab Customer Service department. For a credit & replace R.M.A., the customer will be liable to pay replacement invoice if defective products are not returned.

For Products more than six months old, including shelf life.

The defective unit must be returned prepaid to MuxLab and then the unit will be repaired or if repair is not possible, replaced by an equivalent unit and returned to the customer within one (1) month of receiving any returned product. There is no charge for repair (parts and labor) during the full warranty period.

Items Defective and not under Warranty
For products which are no longer under warranty the policy is repair and return. An amount of 25% of the products published list price at the time of purchase will be charged. Customers must issue a purchase order to cover the cost of repair.

Each unit will be returned to the customer within one (1) month from receipt of the unit by MuxLab. The defective unit must be returned prepaid to MuxLab. The repaired unit will be returned to the customer FOB MuxLab. The repaired unit has a 90 day warranty.

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