



MIP 6210

High Rate IP Streamer

User Manual



MIP 6210

Logged in as: [admin](#) Disk Usage: 6.5 GB / 98.3 GB CPU: 27% [Logout](#)

[Play](#) [Files](#) [Admin](#) [Reporting](#) [About](#)

Play Control Panel

Physical Connector eth0

[Add Transport Stream](#) [Add PCAP](#) Tx Bitrate: 0.008 Mbps

Physical Connector eth1

[Add Transport Stream](#) [Add PCAP Tx Bitrate: 80.031 Mbps](#)

		IP (Stream 1)	Balloons_seamless_GOOD.trp		00:00:16	239.192.0.200:10000		19.393 Mbps	
		IP (Stream 2)	COLORADO.TRP		00:00:44	239.192.0.201:10000		19.393 Mbps	
		IP (Stream 3)	Balloons_seamless_GOOD.trp		00:00:10	239.192.0.202:10000		19.393 Mbps	
		PCAP (Stream 1)	Mankin_00047_20161003141...		00:00:00			0.000 Mbps	
		PCAP (PCAP2)	BBGAG_00001_20170808132...		00:03:32			20.017 Mbps	

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Revision History

Date	Version	Description	Author
2017/08/9	1.0	Manual for the Sencore MIP 6210	GAK
2017/08/10	1.1	Edits and cleanup	SV
2018/01/05	1.2	Add Record, Licensing Features	GAK
2020/01/30	1.3	Add MIP 6210-Mini and Play Impairment information to the manual	GAK

Safety Instructions

- Read these instructions
- Keep these instructions
- Heed all warnings
- Follow all instructions
- Do not use this apparatus near water
- Clean only with dry cloth
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Do not expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
- To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
- The mains plug of the power supply cord shall remain readily operable.
- **Damage Requiring Service:** Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power-supply cord or plug is damaged.
 - If liquid has been spilled, or objects have fallen into the product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of the controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
 - If the product has been dropped or damaged in any way.
 - The product exhibits a distinct change in performance.
- **Replacement Parts:** When replacement parts are required, be sure the service technician uses replacement parts specified by Sencore, or parts having the same operating characteristics as the original parts. Unauthorized part substitutions made may result in fire, electric shock or other hazards.

SAFETY PRECAUTIONS

There is always a danger present when using electronic equipment.

Unexpected high voltages can be present at unusual locations in defective equipment and signal distribution systems. Become familiar with the equipment that you are working with and observe the following safety precautions.

- Every precaution has been taken in the design of your MIP 6210 to ensure that it is as safe as possible. However, safe operation depends on you the operator.
- Always be sure your equipment is in good working order. Ensure that all points of connection are secure to the chassis and that protective covers are in place and secured with fasteners.
- Never work alone when working in hazardous conditions. Always have another person close by in case of an accident.
- Always refer to the manual for safe operation. If you have a question about the application or operation call Sencore for assistance.
- **WARNING** – To reduce the risk of fire or electrical shock never allow your equipment to be exposed to water, rain or high moisture environments. If exposed to a liquid, remove power safely (at the breaker) and send your equipment to be serviced by a qualified technician.
- To reduce the risk of shock the MIP 6210 must be connected to a mains socket outlet with a protective earth ground connection.
- For the MIP 6210 the mains plug is the main disconnect and should remain readily accessible and operable at all times.
- To reduce the risk of shock and damage to equipment, it is recommended that the chassis grounding screw located on the rear of the MIP 6210 – be connected to the installation's rack, the vehicle's chassis, the battery's negative terminal, and/or earth ground.

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1 Introduction

The MIP 6210 High-Rate IP Streamer aids in the design, verification, manufacturing, and deployment of digital TV equipment and systems. The ability to play out hundreds of media streams at Gigabit rates makes it the ideal solution for the development and deployment of IPTV systems. It further serves as a reliable signal source for qualifying IPTV networks and digital television equipment. With its full line-rate performance, the MIP 6210 is the ideal tool to test the limits of networks and IP devices.

The MIP 6210 offers several additional features offered through software licensing. A record option provides

The intuitive web UI and full SNMP or web API remote control allows the MIP 6210 to offer users reliable and powerful solutions for operational and lab environments. It offers multiple output ports and numerous expansion options.

With the onboard file storage and FTP/SMB file management, the unit can take stored media files and play them out as IP unicasts or multicasts. The MIP 6210 supports playout of multiple PCAP Ethernet capture files. The Impairment option provides additional analyzing and robustness testing of networks and network devices. The recording option makes it easy to capture TS or PCAP for later playout or analysis.

The MIP 6210-Mini is a small form-factor version of Sencore's full-featured MIP 6210 high-rate IP streamer product. It brings Sencore's years of experience offering innovative professional streams and media players into a simple and cost-effective solution.

This manual provides startup and operational information. It is written for professional operators of video distribution systems and assumes a prerequisite level of technical knowledge.

2 Specifications

2.1 MIP 6210 Specifications

Physical Interfaces

2 x RJ45 1Gbps Ports Included: (Use for streaming and/or management)
Additional Options: 2 x RJ45 1Gbps, Fiber 2 x SFP 1Gbps Optional Ports

Management Interfaces

Webpage User Interface, Web Service API

MPEG over IP Streamer

Full line rate streaming
PCAP, MPEG transport stream files supported

Seamless looping

Full transport parameters control (IP addresses, UDP ports, RTP)

MPEG over IP Recording

Capture to PCAP, MPEG transport stream files supported

Immediate record start or scheduled start

Full transport parameters control (IP addresses, UDP ports, RTP)

PCAP filtering

Performance

Cumulative Throughput: 1Gbps (Disk to all outputs)

1Gb Ports Streaming: Up to 1Gbps

Stream Storage Capacity: 1TB

Dimensions/Power

Size: Rack-mount 1 RU chassis

Depth: 20 inches (507 mm)

Power: 100-240V, 50-60Hz

2.2 MIP 6210-Mini Specifications

Physical Interfaces

2 x RJ45 1Gbps Ports Included: (Use for streaming and/or management)

Input and Output Formats

IP Input Formats:	UDP or RTP (RTP Header Extensions supported)
IP Output Formats:	UDP or RTP
IP Encapsulation:	1 to 7 TS Packets per IP Packet
IP Addressing:	Unicast or Multicast
IGMP Compatibility:	Version 1, 2, & 3
File Types:	MPEG Transport streams (.ts, .trp) PCAP Ethernet capture (.pcap)

Management

Protocols:	HTTP and SNMP
User Interfaces:	Full control via web GUI
Automation Interfaces:	Full status and control via SNMP Configurable SNMP traps Web services API available Syslog message logging
Firmware Updates:	Via web GUI

Chassis

Type:	All-in-one mini PC
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Dimensions:	2.2 x 5 x 5 (HxWxD in inches) (55mm x 128mm x 128mm)
Cooling:	Passive, Fanless
Stream Storage:	900 GB

POWER:

Voltage:	100-240V
Frequency:	50-60 Hz
Maximum Power:	120W

Performance

Cumulative Throughput:	500 Mbps (Disk to all outputs)
------------------------	--------------------------------

Optional Licenses:

Record License:	Add ability to record up to 10 simultaneous TS or PCAP streams
Impairment License:	Add ability to add jitter and/or dropped packets to IP output Streams or PCAPs

Specifications are subject to change without notice.

3 Getting Started

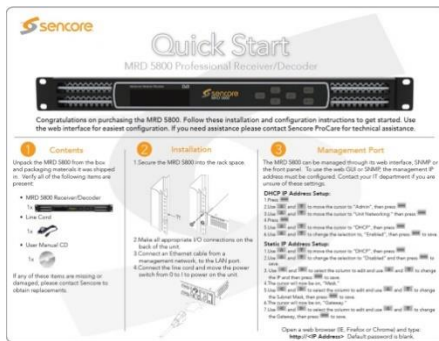
3.1 Introduction

This section provides an overview of what is included with your MIP 6210. It provides critical information on obtaining the unit's IP address in which to gain access to the unit's web interface GUI. It provides front/rear panel descriptions and information on getting the unit mounted in a standard rack.

3.2 Package Contents

The following is a list of the items that are included with the MIP 6210 unit:

1. Startup Guide
2. AC Power Cord
3. Rackmount Rails



If any of these items were omitted from the packaging of your unit, please call 1-605-978-4600 to obtain a replacement.

3.3 Installation

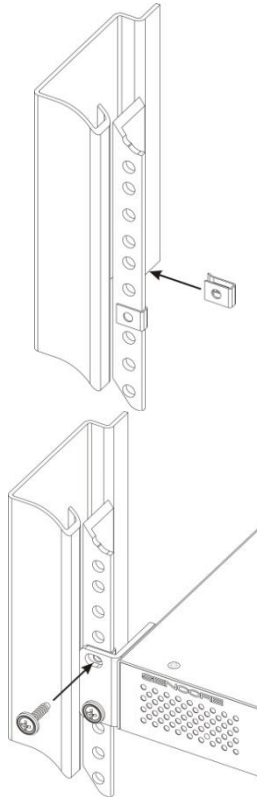
The MIP 6210 rackmount chassis is a 1RU enclosure that is designed to be mounted in a standard 19" equipment rack. The unit is shipped with the mounting hardware necessary to safely secure the chassis in the rack. This includes rackmount ears and screws for the front along with rails to support the sides. The user is advised to always use the included rails for mounting. The MIP 6210 is designed for front-to-back ventilation. Care must be taken to ensure that this ventilation is not impeded in any way.

To install the MIP 6210 into a rack, use the following steps:

1. Determine the desired position in the rack for the MIP 6210 making sure that the air intake on the front of the unit and the exhausts on the rear of the unit will not be obstructed.
2. Insert the rack mount clips into place over the mounting holes in the rack.
3. Slide the MIP 6210 into position in the rack.

4. Secure the MIP 6210 to the rack by installing the four screws through the front mounting holes and tightening.

WARNING: To prevent injury, the apparatus must be securely attached to the floor/wall in accordance with the installation instructions.



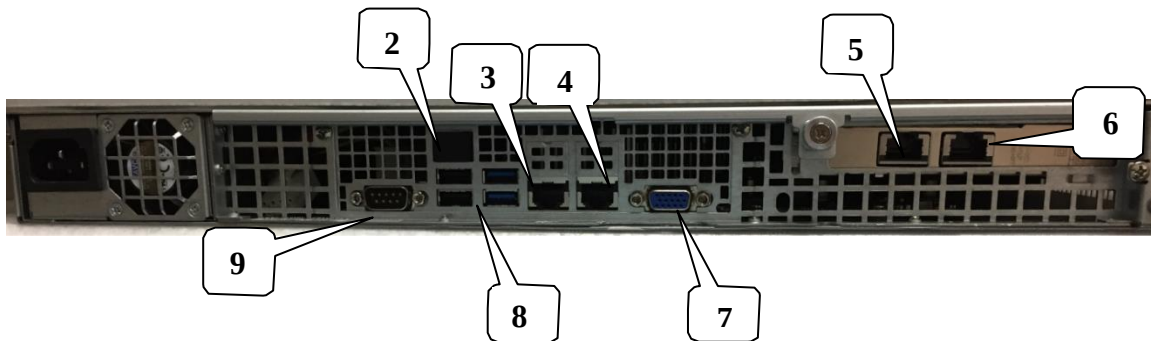
The MIP 6210 is designed for front-to-back ventilation. Care must be taken to ensure that this ventilation is not impeded in any way.

3.4 Rear Panel Connections

Two hardware variations are available for use. The MIP 6210 is a 1 RU chassis as shown in the previous section on rack mount installation. A small hardware PC platform is available as the MIP 6210-Mini. This section provides description of the rear panel connections and features.

3.4.1 MIP 6210 Chassis

All of the external connections for the MIP 6210 are located on the rear of the unit. These connections include standard computer I/O (Monitor, USB, parallel, serial, audio, and LAN ports) and the MIP 6210 IP output connections. The power connection is also located on the rear of the unit. The following provides an overview description of the rear panel connections and features.

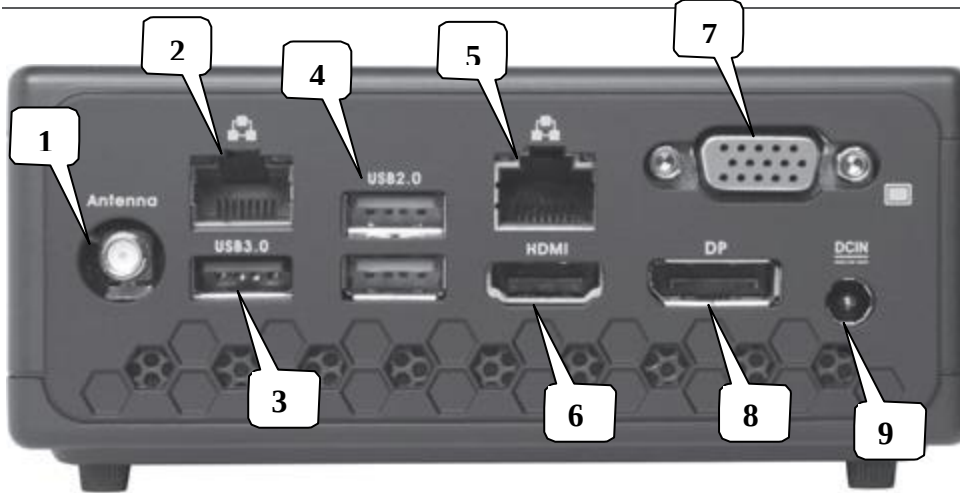


Descriptions:

1. Power Connector: Provides AC power connection for powering the system
2. IPMI Port: Can be used for remote server management, but not normally used in the MIP 6210 operation
3. eth0 Port: Network port for management and streaming/recording
4. eth1 Port: Network port for management and streaming/recording
5. eth2 Port: Port available only with the addition of optional card adding either 2x RJ45 or 2x SFP ports
6. eth3 Port: Port available only with the addition of optional card adding either 2x RJ45 or 2x SFP ports
7. VGA Monitor Output
8. USB Interface Ports
9. RS-232 Port

3.4.1 Real Panel Connections – MIP 6210-Mini

The MIP 6210-Mini offers a miniature version of hardware and reduced feature set and is available for use with the MIP 6210 software offering reduced features and capabilities. The rear panel provides input and output signal connection and system management. This section overviews the rear panel connections of the MIP 6210-Mini.



Descriptions:

1. Antenna Jack: For use with Wi-Fi. Not used by MIP 6210 application
2. LAN (RJ 45) Ethernet Port (eth0 Interface Port: Network port for management and streaming/recording
3. USB3.0 Port: Provides PC USB 3.0 port not used by MIP 6210 application
4. USB2.0 Ports: Provides PC USB jacks not used by the MIP 6210 application
5. LAN (RJ 45) Ethernet Port (eth0 Interface Port) Network port for streaming/recording
6. HDMI port: Provides video to computer monitor via an HDMI connector cable
7. VGA Video Jack: Provides video to computer monitor via VGA connector cable
8. Display Port Jack: Provides video display to a Display Port video display or device
9. DC IN Jack: Power Input Jack for 19-volt power input from power adapter.

3.5 Power Connections - Installation

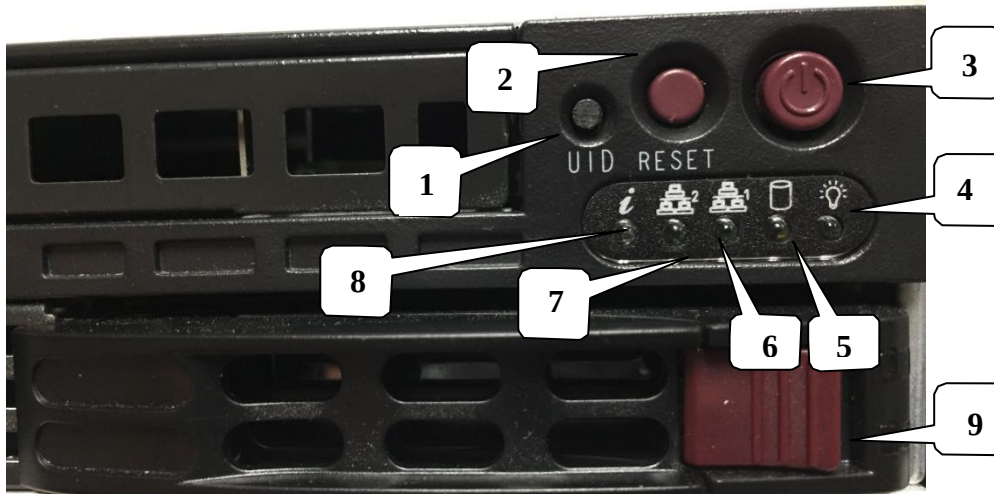
Using the proper power connections is vital to the safe operation of the MIP 6210. Only use the supplied 3-prong power connectors or those with equal specifications. NEVER tamper with or remove the 3rd – prong grounding pin on any cord. This could cause damage to the unit, personnel, or property.

The MIP 6210 is intended for use on either 120V or 240V systems. The power supply will automatically detect the voltage to which it is connected. There is one power supply and one AC power cord. To connect AC power, perform the following:

1. Locate the proper AC power cord.
2. Plug the female end of the power cord (end with no prongs) into the back of the unit.
3. Plug the male end of the power cord into a proper protected AC outlet.

3.6 Front Panel Features

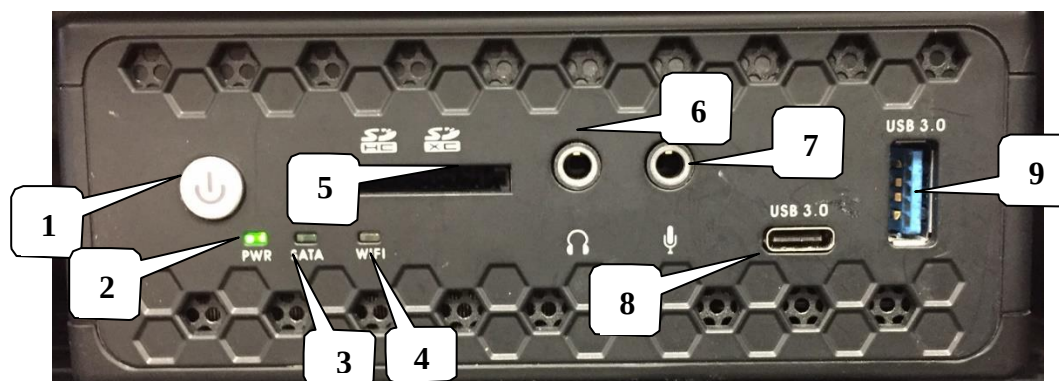
The front panel contains some pushbuttons and indicator lights. This section provides an overview of these features in both the MIP 6210 1RU chassis and the MIP 6210-Mini chassis.



***NOTE: Some design modifications may occur in which features shown in this image and described below may not be found on your MIP 6210.**

Front Panel Descriptions:

1. UID: Pushbutton: This pushbutton provides a unit identification light at the rear of the unit. Press the UID pushbutton to turn on a blue light at the rear of the unit. This makes it easy to identify the unit when viewing from the back of the equipment rack. The "i" light on the front panel (#8) indicates when the UID is switched on.
2. Reset Pushbutton: This pushbutton provides a reset of the system. Press and release to initiate a reset operation of the operating system.
3. Power Pushbutton: Turns the unit AC power on and off. Hold down for 3 seconds and release to power the unit on or off.
4. Power Light: Indicates when the unit is powered on for normal operation
5. Hard Disc Drive Light: Indicates normal OS unit disc drive activity
6. Media Drive Indicator Light: Indicates normal unit drive activity
7. Media Drive Indicator Light: Indicates normal unit drive activity
8. i Indicator Light: This light provides an indication when the UID feature is turned on illuminating a blue light at the rear of the unit.

Front Panel Features – MIP 6210-Mini

The MIP 6210-Mini is a hardware variation that is available providing reduced or limited features, licensing and/or performance. The front panel contains some pushbuttons, connection jacks, and indicator lights. This section provides an overview description of these features.

Front Panel Descriptions – MIP 6210-Mini:

1. Power Switch: Pushbutton switch – push to apply power or remove power. Push down for 2 to 3 seconds and release.
2. Power LED (PWR): Indicates green when the system is powered on
3. SATA Drive LED: Indicates normal drive activity
4. Wi-Fi LED: Indicates Wi-Fi data activity. Not used with MIP 6210-Mini application.
5. Memory Card Reader slot: Used for PC memory card read/write applications. Not used for MIP 6210 applications.
6. Headphone/Audio Output Jack: Not used for MIP 6210-Mini applications
7. Microphone Jack
8. USB 3.0 Type C Jack:
9. USB 3.0 Jack:

3.7 Obtaining the MIP 6210 IP Address

Operating the MIP 6210 depends on gaining access to the unit's network GUI as there is no front panel interface. Connecting to the unit's web GUI using a web browser requires knowledge of the IP address of the port in which to enter into the address field of a web browser. To acquire and or to change the port's IP address from the factory default requires viewing a computer monitor connected to the unit along with the use of a keypad to navigate the provided menus.

To obtain or make changes to the port's IP address:

1. Connect a computer monitor to the VGA connector and power it on. Reference Section 3.4 in this manual – (#7) rear panel port.
2. Connect a PC keyboard (USB type) to the rear panel USB connectors. Reference Section 3.4 in this manual – (#8) rear panel USB connection ports.
3. With power properly connected to the MIP 6210, push and release the front panel power button. Allow some time for boot up. The system starts up with no user or password entry required. A Main Menu screen appears on the monitor
4. The Ethernet port 0 (eth0) and Ethernet port 1 (eth1) IP addresses are shown on the initial Main Menu. Enter the IP address of the port you are using into your web browser. See the next sections (3.7, 3.8) of this manual for more details on changing the IP address and using the web GUI.
5. If the IP addresses are not shown, press the ENTER key on the keyboard to advance to the next menu. Press the Up or Down arrow keys on the keyboard to select the eth1 or eth0 Adapter Status listing by Moving the cursor in front of the selection. *Note: If no cursor is seen, press ENTER a second time.*
6. Press Enter on the keyboard to advance to the configuration menu if you wish to change the IP mode (static or DHCP) or to change IP Address, Subnet, or Gateway addresses. See the next section in this manual for additional information.

```

MIP 6210 @ Test6210
eth1: 192.168.10.50
eth0: 0.0.0.0
Press enter to Configure

```

Press [Left] and [Right] arrow keys to Navigate.
Press [Up] and [Down] arrow keys to Navigate.
Press [Enter] to Confirm your selection.
Press [Esc] to go back a screen.
Press [Number] Keys to input Numbers.
Press [A-Z], [Del] and [Backspace] for Text input.

```

Unit Networking
Configure Networks
>eth1 Adapter Status
eth0 Adapter Status

```

Press [Left] and [Right] arrow keys to Navigate.
Press [Up] and [Down] arrow keys to Navigate.
Press [Enter] to Confirm your selection.
Press [Esc] to go back a screen.
Press [Number] Keys to input Numbers.
Press [A-Z], [Del] and [Backspace] for Text input.

```

Adapter eth1 Status
IP Address: 192.168.10.50
Subnet Mask: 255.255.0.0
Gateway: 0.0.0.0
IP Mode: Static

```

Press [Left] and [Right] arrow keys to Navigate.
Press [Up] and [Down] arrow keys to Navigate.
Press [Enter] to Confirm your selection.
Press [Esc] to go back a screen.
Press [Number] Keys to input Numbers.
Press [A-Z], [Del] and [Backspace] for Text input.

In some instances, you may be able to use the factory default IP addresses to gain web access. The following default IP addresses are used.

Factory Default Settings:

eth0: DHCP
eth1: 10.0.0.61
eth2: 10.0.0.62 (with added optional ports)

3.8 Unit Networking and DNS Configuration

The MIP 6210 network configuration is managed with setup menus visible by connecting a computer monitor and USB keypad to the system. The configuration menus provide entry of host names, gateway and DNS server addresses. Setup of the unit's Ethernet ports including if they are static or DHCP configured. If static, entry of the ports IP address, gateway and subnet may be entered. This section shows the typical setup menu features and describes how to setup the network settings.

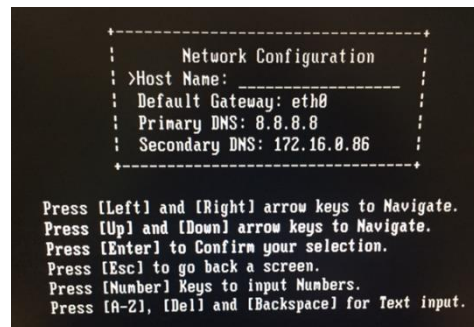
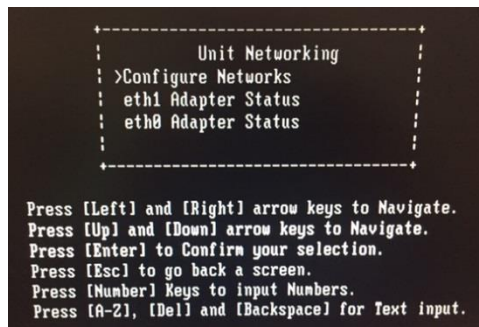
Viewing the setup utility screens provided by the MIP 6210 requires connecting a computer monitor to the VGA video output connector on the rear of the unit. It requires the use of an USB keypad. View the monitor screen and use the keypad for navigation and entry. The following navigation and entry rules are used and included as a reminder on each setup screen.

Press [Enter] to confirm a selection – advance to next menu/selection
 Press [Esc] to go back to previous menu and accept entries
 Press [Left] and [Right] arrow keys to navigate
 Press [Up] and [Down] arrow keys to navigate
 Press number and letter keys for field input values
 Press [Del] and [Backspace] as needed for text entry

Configure Networks Settings

Network configuration settings are available to enter a unit host name, define a gateway and enter primary & secondary DNS addresses. These selections are available in the “Configuration Networks” menu.

1. From the opening menu – press the ENTER key.
2. Position the cursor in front of Configure Networks selection as in illustration below. Press the ENTER key to advance to the Network Configuration Menu.

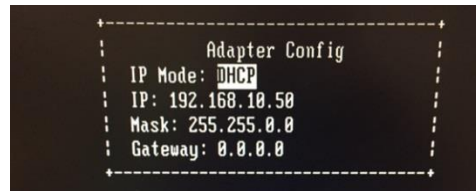
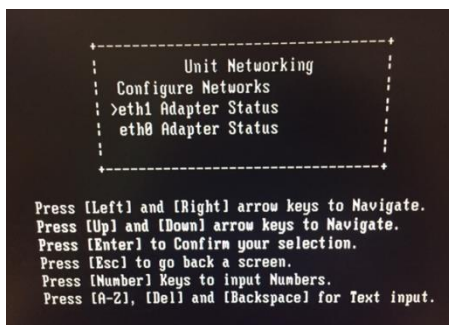


3. To enter a Host Name: Position the cursor in front of the Host Name row using the up and down arrow keys. Press ENTER. The first field is selected for letter or number entry. Enter the number or letter. Press left or right arrow key to move to the next digit. Press ENTER key.
4. To enter a Default Gateway: Position the cursor in front of the Default Gateway row. Press Enter. Enter the desired gateway. Press ENTER.
5. To enter a Primary and/or Secondary DNS: Position the cursor in front of the Primary DNS and/or Secondary DNS row to be changed or entered. Press the ENTER key. Enter the address using number keys while navigating with the arrow keys. Press ENTER.

Ethernet 0 and Ethernet 1 Port Configuration Changes

Network configuration settings are available to enter a static IP address, gateway address and subnet mask for Ethernet port 0 (eth0) and Ethernet port 1 (eth1). These selections are available in the respective “eth1 Adapter Status” menu and “eth0 Adapter Status” menus. The following describes the steps to enter or change a port’s static IP address.

1. From the start menu, press the ENTER key to advance to the Unit Networking screen.
2. Press the Up or Down arrow key as needed to move the cursor position in front of the eth0 or eth1 row. Press the Enter key to advance to the Adapter eth Status menu.
3. Use the up and down arrow keys to position the cursor in front of the IP Mode row. If it shows DHCP - Press the ENTER key to select the setting field. Click the up or down arrow key to increment setting to “Static.” Press ENTER.

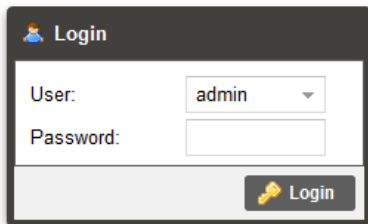


4. Use the up and down key to position the cursor in front of the IP Mode row. Press ENTER to enter the field. Enter number values to define the desired static IP address. Use the left and right arrow keys to move to different digits. Press ENTER when complete.
5. Change Mask and Gateway settings using the same technique as in step 4. Press the ENTER key when finished to accept entries and return to the menu.

3.9 Controlling the MIP 6210 Using the Web GUI

Controlling the MIP 6210 is done by a network connection to either the eth0 or eth1 ports and the use of the web interface or GUI. From any PC that is connected to the same network as the MIP 6210, open a web browser application and type the IP address of the unit in the address field. You must obtain the unit IP address with the procedure in the Startup section.

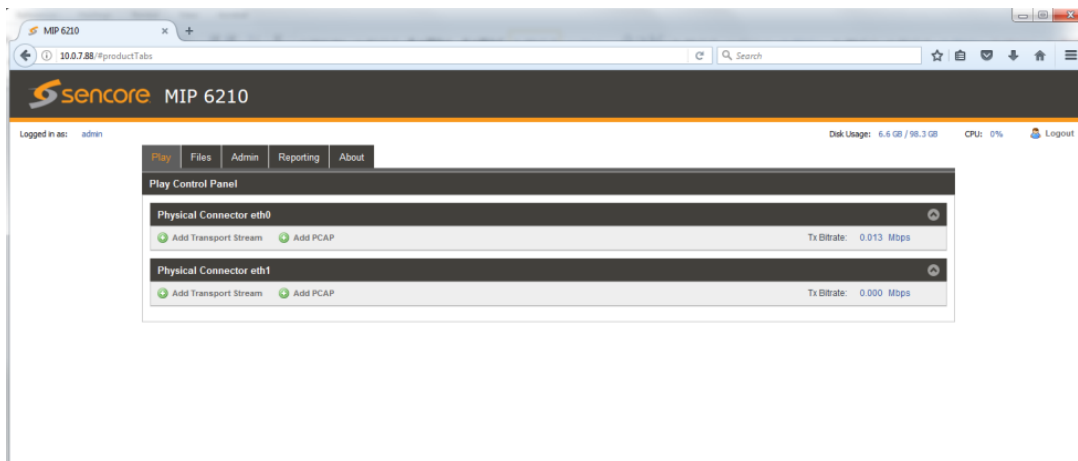
When connecting to the web GUI, you are greeted with a Login screen as shown below. The default user field entry is admin and the default password field is left blank or no entry. Press the login button in order to login to the web interface. The User and Password can be changed for improved security in the Admin section of the GUI. Please see section 5.2.



When connected you are greeted with the home or start page of the web GUI as shown below. Depending on the options and licensing some variations in the screen may be seen.

To open the MIP 6210 web interface, use one of the following supported browsers.

- Internet Explorer version 9 or newer
- Firefox
- Google Chrome
- Microsoft Edge



The user is capable of configuring parameters from this page by clicking on the selection tabs at the top of the page below the Sencore MIP 6210 header. User configuration changes are offered in each section by clicking on the  (cog) which represents a settings configuration is available for the listed item. Each section contains a dropdown icon  which is used to collapse or expand a section to see additional details. Further details of the common fields in the web GUI of the MIP 6210 are described

The top section or fields of the MIP 6210 web GUI includes login and operational information of the system. Below is a reference to the fields and information provided.



1. **Logged in as:** This field indicates the logged in user. This field may not be selected or changed. The User and Password may be set in the Admin tab. See section 6.1.
2. **Selection Tabs:** Provides operational control of the MIP 6210. Click on a tab to select.
3. **Storage Disk Usage:** Indicates actual disk size that is currently in use
4. **Storage Disk Usage:** Indicates total disk size available for use
5. **CPU:** Indicates the percentage of CPU usage
6. **Logout:** Provides quick logout, click to log out from the MIP GUI.

Field	Button/Selections	Description
1. Logged in as:	Admin (Default)	Shows the logged in user name. A view only field.
2. Selection Tabs	Play	Provides control for playing stream and PCAP files
	Record	Provides control for recording streams and PCAP files (Optional)
	Files	Provides viewing of media disc play files
	Admin	Provides administrative tasks
	Reporting	Provides reporting and logging
	About	Provides unit information
3. Disk Usage	Example shown: 6.6 GB	Indicates the disc drive memory space that is currently being used by the system
4. Disk Usage	Example shown: 98.3GB	Indicates the total disc drive memory space available for TS and PCAP stream storage
5. CPU	Example shown: 0%	Indicates percentage of CPU processing capacity that is in use.
6. Logout	 Logout Click on icon	Click to log out of the web GUI connection to the MIP 6210

3.10 Simplified Startup - Getting a Stream Playing

This section provides a quick start process to assist you in getting an output stream playing to the Ethernet 1 port. This section provides only enough information to get you outputting a TS stream. It is not intended to completely summarize all the information contained in this manual. Please reference other portions of the manual to answer questions and become familiar with the MIP 6210 and its features.

Get Unit Powered & Network Connected:

1. Locate the MIP 6210 in a convenient location or mount in an equipment rack in which AC power and a connection to the network is closely available. Connect an AC cord from the rear of the unit to the AC outlet.
2. Connect a network cable between the Ethernet port 1 (Port nearest the VGA video connector on rear panel) and to your network.
3. Momentarily press the Power button on the unit front panel. You will observe and hear normal PC startup activities. The front panel power light should illuminate and drive light activity indicated. Wait while the unit boots up.

Establishing a Web Connection with the Pre-Set Management IP Address

To access the MIP 6210 web user interface, it is necessary to establish an Ethernet connection to the device. There are two alternative ways to connect to the MIP 6210's management IP address: 1.) Use the pre-set management IP address or 2.) Connect a monitor and keyboard to the server to retrieve the IP address. The following steps describe how to use a pre-set management IP address on a PC via a connection to the Eth1 port.

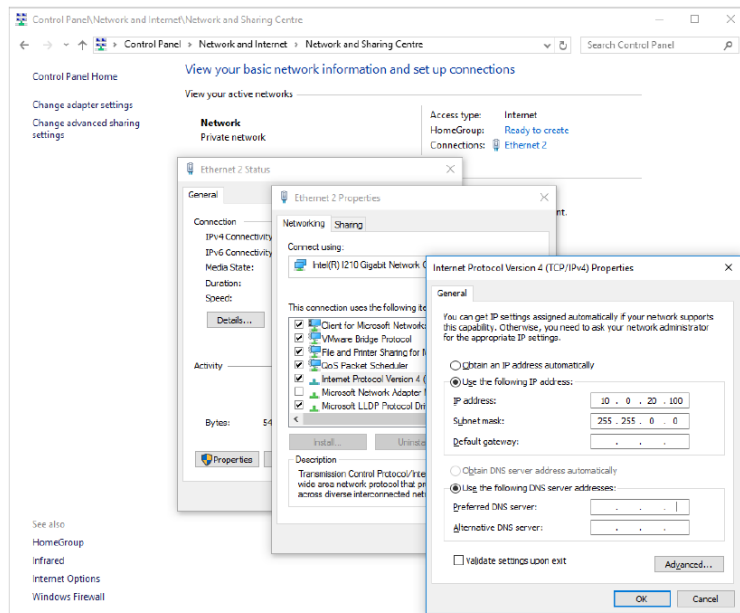
The MIP 6210 is shipped with the following factory settings for the Eth1 network ports.

Eth1 Default IP address:
10.0.0.61

You can connect to the web UI of the MIP 6210 using a PC and connecting directly from the PC's network port to the Eth1 port with an Ethernet cable. Configure the PC's network port settings to permit a direct connection.

For Windows, the network parameters are set in the **Control Panel — Network and Internet — Network and Sharing Center — Network Connection — Properties — Internet Protocol Version 4 Properties** viewing menu.

Select the user defined address, and set the PC's IP address to 10.0.0.60 and the subnet mask to 255.255.0.0.



When the IP address of the PC has been set in the same subnet as the MIP 6210's factory setting, a web browser can be used to access the web user interface at 10.0.0.61.

Retrieve and/or Configure the Unit IP address

You can determine the MIP 6210's IP address of both Eth0 and Eth1 ports by connecting a monitor and keyboard to the server. All configuration of the MIP 6210 is done via a PC and web. The Ethernet port 1 can serve both as a management port for web browser access and as the streamer IP/PCAP network port. The following section describes how to connect a monitor and keyboard to the server to retrieve and/or change the unit's IP address on both ports. To connect to the unit's web browser:

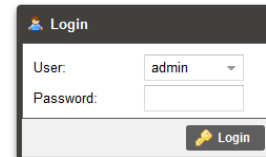
1. Connect a computer monitor to the MIP 6210. Connect a VGA video cable from the VGA connector at the rear of the MIP 6210 to the computer monitor. Power up the computer monitor. Connect a PC USB keyboard to one of the USB ports at the rear of the MIP 6210. The display screen on the monitor will indicate the current IP address for the Ethernet 1 port (eth1). It also shows the IP address for the other Ethernet 0 port (eth0)



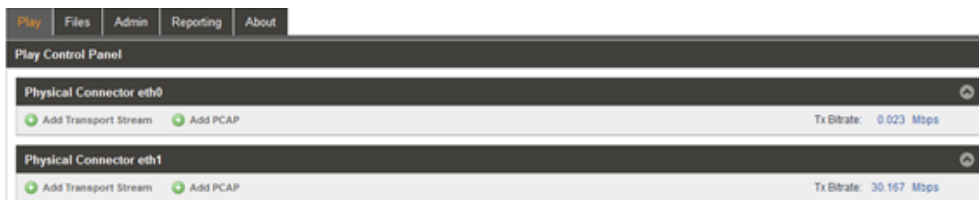
2. If you do not have a computer monitor you may try to access the web GUI as described in the previous page using the factory default IP settings shown below:
Ethernet port 0 (eth0): 10.0.0.61
Ethernet port 1 (eth1): 10.0.0.62

Use PC Web Browser to Connect to the MIP 6210's Web GUI

1. Connect a PC to the same network as the MIP 6210. Open a web browser application on the PC and in the top address field enter the IP address of the eth1 port as found in the previous step.
2. The Login screen appears with a successful connection. The default User name is admin and the default password is blank or no entry. Click on the Login field.



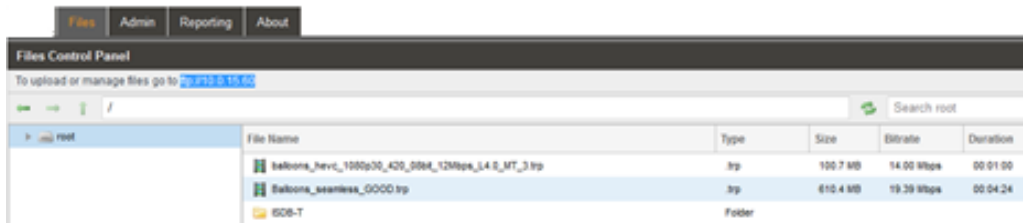
When successfully logged in the web connection to the GUI produces a Play Control Panel. Click on the Play tap to access.



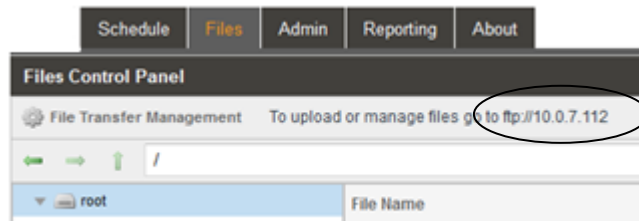
Use FTP or SMB to Load Stream/PCAP Files to Media Storage Drives

The MIP 6210's media drives are available to store files used for playout in a schedule. Click on the "Files" tab at the top of the GUI to view available files. If a file is available for selection, click on the Schedule tab and skip to the instructions "Creating a Play/Event Schedule" instruction section.

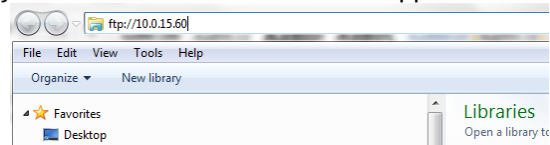
If no files are available you will need to access and use FTP or SMB to load files to the media drive. Read on in this section for details on accessing FTP and loading files/folders. Using FTP requires starting an instance of Windows Explorer on your PC and entering the address of the FTP server. Follow the instructions below.



The FTP server address is located in the File Viewing Panel (Files tab) in the MIP 6210's web GUI. Look near the top of the page under the Files Control Panel header. (See circle in illustration) Click at the end of the field and drag the mouse to highlight the ftp address. Copy the address – (Keyboard Ctrl C key sequence).



Open a Windows Explorer application window on your PC. In the header of this application – paste in the ftp address listed in the TSS 6220's File menu on the second line below the Files Control Panel heading. Paste the ftp address – (Ctrl-V) as shown in the example figure. Example shown: ftp://10.0.15.60. Press the Enter key on your keyboard.

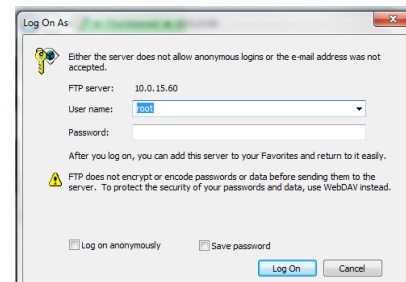


Upon connection to the ftp server you will be prompted for a username and password: Below is the default User and Password. *The Username/Password can be set - see section 5.2 for instructions.*

User: root

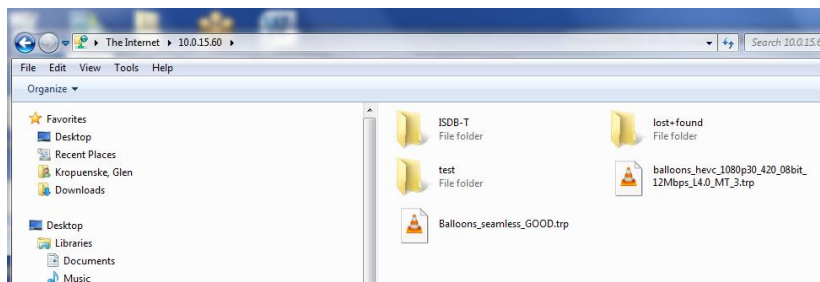
Password:

Note: The Password field is left blank or no entry as shown.



Click on the Log On field to access the FTP server.

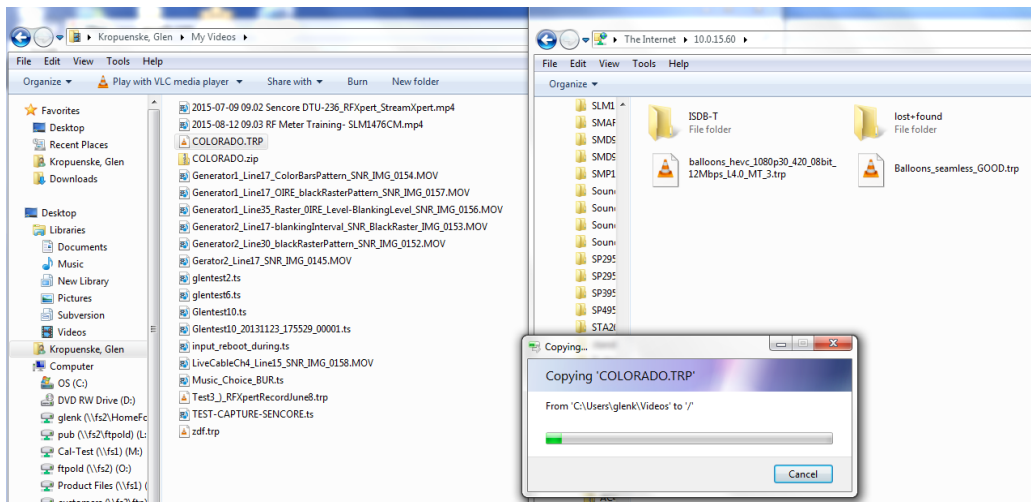
Upon connection to the ftp server you can view the current folders and play files in the TSS 6220.



To transfer files to the ftp server, you may use common Windows-based file copy and paste techniques or drag and drop techniques.

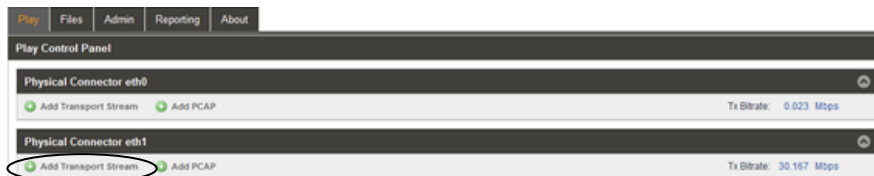
For example, open a 2nd version of Windows Explorer application. (Right mouse click on the Windows Explorer icon at the bottom system tray – click on Windows Explorer) You now have both the FTP server window and the Windows Explorer application running. Position

both the FTP window and the Windows Explorer windows beside each other on your PC screen. See example below. Click on a file or folder in the Windows Explorer window and drag it into the right side of the FTP server window. The folder or file is transferred as illustrated below.



In Play Control Panel Add a Transport Stream

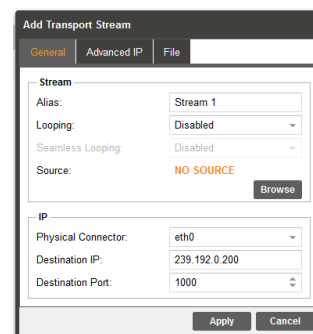
The MIP 6210 web GUI opens to the Play Control Panel (Play Tab). To create or add a playing stream to the IP output on the Ethernet 1 port, click on the **Add Transport Stream** icon below the Physical Connector eth1 heading. An Add Transport Stream menu opens and defaults to the General tab.



Configure the Output Stream

The General configuration menu provides selections defining the output IP stream and IP destination address and ports. Select a source file for playout. Click on the Browse field and navigate to the file you wish to select for playout. Open the file. It will populate the Source listing with your file name.

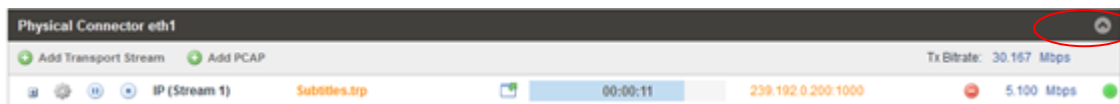
Define the IP parameters. The Physical Connector field should indicate eth1. If not, select the dropdown and select eth1. Click on the Destination IP field and enter the destination address. Enter a Destination Port in the Destination Port field. Click on the Apply box at the bottom of the menu to add the stream to the Ethernet port 1 (eth1) output.



Start the Output Stream Playing

After the stream is added you will see the stream listed in the Physical Connector eth1 section of the Play Control Panel. If you don't see the listing click on the Show/Hide icon . Click on the

Play icon  to begin producing the stream output. The light at the far right turns green and the bit rate field beside it begins to show the output transport stream bitrate. The stream time begins to increment and the blue highlight advances from the left (start) to the right (end) in the center progress window.



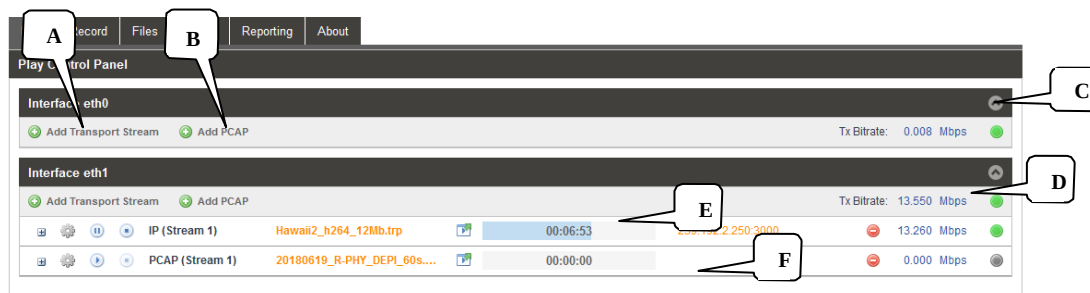
Your selected stream is now outputting to the network. Click on the cog wheel icon  to make changes to the stream output configuration. You may also click on the  icon to bring up a configuration and monitoring panel. It provides a shortcut to improve viewing and playout statistics while offering some convenient control options.

4 Play Control Panel

The Play Control panel is selected by default upon entering the web GUI with the correct user and password criteria. This panel may also be selected at any time by clicking on the Play tab in the GUI header. The Play Control panel provides management of all the TS files and PCAP files that are configured for playout from the MIP 6210. This panel manages each of the available Ethernet streaming ports defining which TS streams and PCAP files are sourced to each port. This panel further defines the criteria of each of the streams and PCAPs added to the output. This section provides an overview of this panel and its features. Subsequent sections provide further details of some of the menus within these sections.

4.1 Play Control Panel Overview

The Play Control Panel includes a section for each available ethernet output port. The sections are identified by headers indicating the physical connector port. For example, the ethernet port 0 is shown as “Interface eth0.” If you have added the optional Ethernet ports to the MIP 6210, then two additional sections are included for Interface eth2 and eth3.

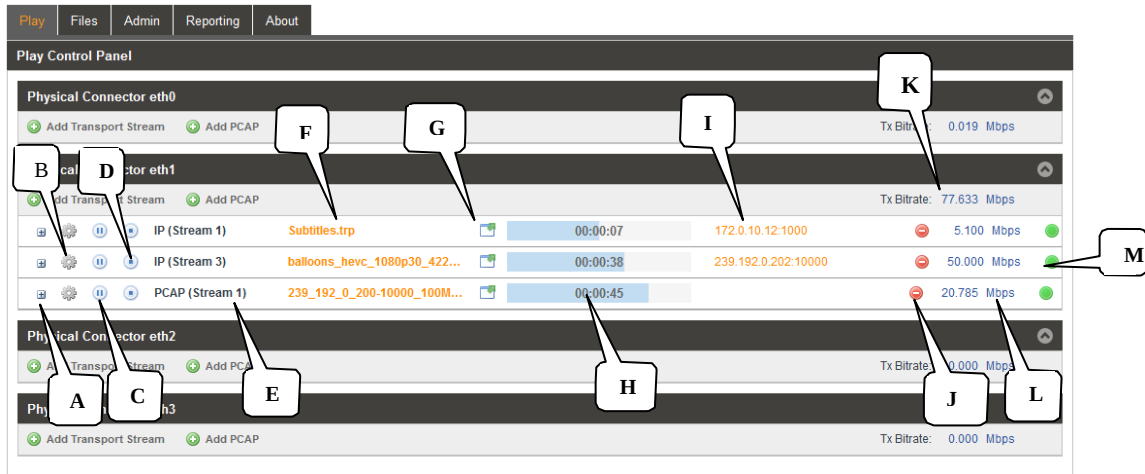


Each Ethernet port section includes some common control fields. The following is a general overview of items in the Play Control Panel and description of some common fields.

Item or Field	Button/Action	Description
A. Add an IP Transport Stream Output	 Click on this icon to add a TS file to stream to the output	Provides menu to select a file and define stream output characteristics adding the output to the Ethernet port. See section 4.3. for details
B. Add PCAP stream output	 Click on this icon to add a PCAP to the output	Provides a menu to select a PCAP file and criteria to define it adding it to the Ethernet output port 0. See section 4.4 for details
C. Show/Hide port info	Selectable, click on the icon 	Hides all the stream and PCAP listings, click to hide or click to show all streams/PCAPs
D. TX Bitrate	Not a selectable field	Shows the total output bitrate of all the streams and PCAP to the Ethernet port
E. TS Stream	See next section	Row defining a stream output to Ethernet 1 port (eth1)
F. PCAP stream	See next section	Row defining a PCAP output to the Ethernet 1 port

4.2 Stream/PCAP Information Overview

The Play Control Panel shows all the playout IP streams and PCAPs. Each playback transport stream and PCAP file output has a row of information and control functions. There are common data fields for each stream/PCAP forming columns of information in the panel. This section provides a brief definition of the information provided in each column.

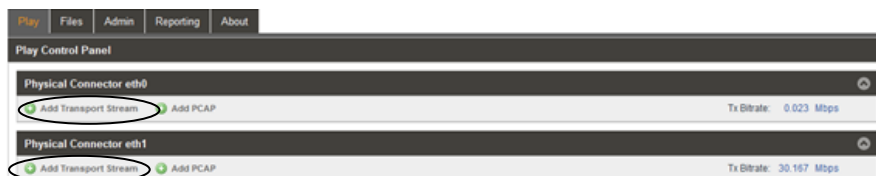


Item or Field Name	Button/Action	Description
A. Status & Configuration	Click on this icon	Provides a window showing IP stream/PCAP status and configuration information
B. Configuration Menu Select	Click on this icon to access configuration menu	Provides a menu with configuration settings to define the output IP/PCAP stream and IP address
C. Output Control	Pause -click on icon to Pause Play – click on icon to start output	Indicates IP/PCAP stream as playing or paused. Click on icon to pause or play. When paused, the current location of the stream or PCAP is maintained.
D. Stop Control	Click on icon to stop IP/PCAP output	Stops a playing or looping IP/PCAP output. Click on play icon to restart – restarts at file starting point.
E. Stream name or alias	Not selectable, No action	Shows a default output IP/PCAP stream name. See section 4.3.1 for entering an optional alias name.
F. TS/PCAP File name	Double click to browse/select different file	Indicates the current selected play file.
G. Stream configuration	Click on icon to open configuration menu	Provides convenient overview of stream playout status, some critical settings, and provides some control features. See section 4.6 for details.
H. Play Status	Not selectable	Indicates a stream is playing or active. Indicates play position/time within the start-to-end duration time span. Visual blue highlight indicates stream progress.
I. IP Address/Port	Not selectable	Indicates the destination IP address and port
J. Delete icon	Click to delete	Removes a IP/PCAP stream from the play listings

	stream or PCAP	and Ethernet output
K. Total Port Bitrate Indication	Not selectable, view only	Indicates accumulative Ethernet port bitrate of the addition of all playing TS streams and PCAP files
L. Bitrate Indication	Not selectable, view only	Indicates bitrate of the individual stream to the Ethernet port
M. Status Indicator	Not selectable, view only	Indicates status of output: Gray: Inactive – stopped or paused Green: Good playback output condition Red: Fault condition -

4.3 Player - Adding a Transport Stream

To create a new IP stream output requires that you select a play file and define its output parameters. To create or add a playing stream, click on the  Add Transport Stream icon. Note that this selection is available for each of the physical connector ethernet ports of your MIP 6210. Select the  Add Transport Stream icon in the section corresponding to the Ethernet port in which you want the output to stream.

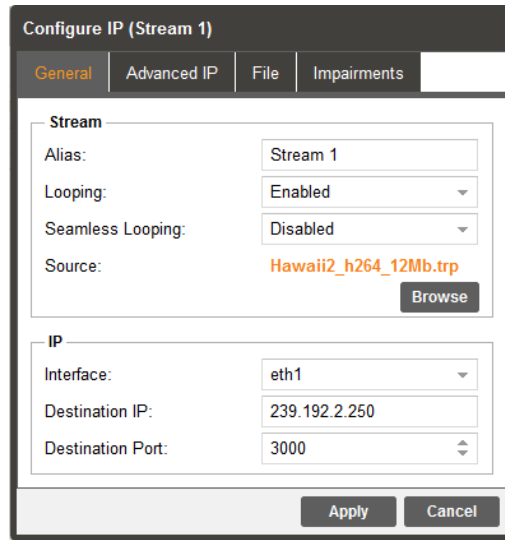


The Play Control Panel is simplified for viewing with a Hide/Show streams feature for each Physical Connector eth section. To show all the streams outputting to an Ethernet port click on the Show/Hide icon .

4.3.1 Add Transport Stream - General Configuration

Upon clicking on the  Add Transport Stream icon, the Add Transport Stream menu opens. This menu contains 3 selection tabs which provide menus for defining the transport IP stream. By default, the General tab is selected providing some common selections to configure the output. The General configuration menu provides selections defining the output IP stream and IP destination address and ports. This section provides an overview of the configuration fields.

The first step is to select a source file for playout. Click on the Browse field and navigate to the file you wish to select for playout. Select the file and open it. It will populate the Source listing with your file name. In the Stream section of the click on the Alias field and enter an alias name if desired. This is not required as the application automatically assigns a name as an incrementing stream number.



If you want the playing stream upon reaching the ending point to loop back to the start and continue playing out, click on the dropdown arrow in the Looping field. Select “Enabled” if you want the looping feature active. When looping is enabled, the Seamless Looping field becomes available to configure. Set this field to “Enabled” if you want the MIP 6210 to properly seem together the ending point with the beginning point of the stream. With this enabled the MIP 6210 corrects PCR discontinuities and continuity counters.

Define the IP parameters in the IP section. Verify that the Physical Connector field indicates the desired Ethernet port. If not, select the Ethernet port you wish to output the stream. Enter the Destination IP and the Destination Port values. Click on the Destination IP field and enter the destination address. Click on the Destination Port field and enter a Destination Port. Click on the Apply box to add the stream to the Playout Control Panel under the respective Ethernet port.

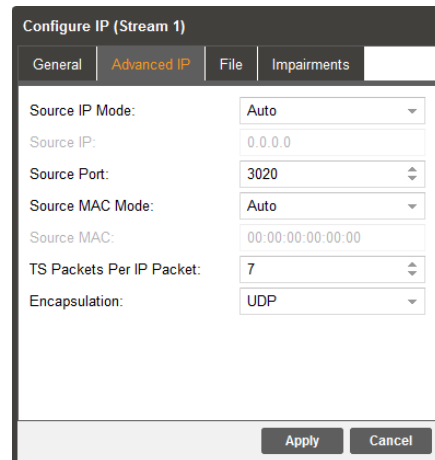
Add Transport Stream – General Tab Settings

Setting	Range	Description
Stream - Alias	Value and or Letter Entry	Provides entry to name or assign alias to identify a stream. If no name is entered, the MIP 6210 assigns an incrementing stream number
Stream - Looping	Enabled Disabled	Turns on the looping function in which the file plays to the end and then loops back and starts playing from the start again. When disabled, the stream stops when it reaches the end of the file
Seamless Looping	Enabled Disabled	Enabled: Provides corrections to PCR values and PAT/PMT table continuity counts so as to appear to the receiver as a continuous uninterrupted stream.
Source	Not selectable	Indicates “No Source” when no file has been selected. Indicates the selected file name when a

		file is opened.
Browse	Click on  field to access stream files in library	Provides navigation to browse to available stream and PCAP files for selection.
IP – Physical Connector	Selects eth0 or eth1, the standard Ethernet ports, eth2 and eth3 available if MIP 6210 has added optional ports	Entry selects which of the available Ethernet ports on the MIP 6210 that the stream output is assigned
Destination IP	224.0.0.0 – 239.255.255.255	This address is the IP address the source device is sending to for a multi-cast. A unicast would use an IP address less than 224.0.0.0.
Destination Port	0 – 65535	This is the UDP port the source device is sending to.

4.3.2 Add Transport Stream - Advanced IP Configuration

The Add Transport Stream Advanced IP tab includes settings to define the MIP 6210 as a specific source device for IGMPv3. This feature allows each stream to be seen by the network as a unique source device with a unique IP address, and/or source port, and/or MAC address. This section provides descriptions of the settings in the Advanced IP menu.



Configure IP (Stream 1)

General **Advanced IP** File Impairments

Source IP Mode: Auto

Source IP: 0.0.0.0

Source Port: 3020

Source MAC Mode: Auto

Source MAC: 00:00:00:00:00:00

TS Packets Per IP Packet: 7

Encapsulation: UDP

Apply Cancel

Setting	Range	Description
Source IP Mode	Settings: Select Auto or Manual	In Auto, the MIP 6210 simulates a source device and creates and communicates a unique source IP address. In Manual, a user entered source IP address can be entered.
Source IP	Available for entry when Source IP Mode is set to Manual.	Provides entry of a Source IP address for the stream that is communicated by the MIP 6210
Source Port	Click up or down arrows to increment value shown. Click in field and enter value. Range: 1030 to 65535	Specifies a value for the source port associated with the stream.
Source MAC Mode	Auto, Manual	In Auto, the MIP 6210 simulates a source device and creates and communicates a unique source MAC address for the stream. In Manual, a user Source MAC address can be entered.
Source MAC	In “Manual Mode” enter MAC address,	Provides entry of a MAC address you want to specify as the Source MAC for the stream
TS Packets Per IP Packet	Enter value 1 to 7, Default is 7	This setting determines the number of TS stream packets that are inserted into IP packets. 7 being the maximum and the typical setting. Lesser packets may be selected.

4.3.3 Add Transport Stream - File Configuration

The File tab within the Add Transport Stream menu provides selection to define starting and ending points when playing out an IP stream file. It further provides a selection to automatically or manually control the output IP stream bitrate. To access this configuration menu, click on the File header tab

You can enter starting and ending times within the play duration time of the IP play file. You can enable or disable the playout to conform to these entered start point and end point times. Set the Start/End Point field to “Enabled” and enter the Start Point and End Point.

The Bitrate Mode provides an automatic setting in which the MIP 6210 automatically determines the ideal playout stream rate. You can set the Bitrate mode to Manual when you wish to increase the output bitrate. In the manual mode, click on the up and/or down arrows in the bitrate field to increase or decrease the bitrate in Mbps.

The following chart provides an overview of the configuration settings in the File menu.

The screenshot shows the 'Configure IP (Stream 1)' dialog box with the 'File' tab selected. The 'Start/End Points' dropdown is set to 'Disabled'. The 'Start Point' and 'End Point' fields both show '00:00:00'. The 'Bitrate Mode' dropdown is set to 'Auto'. The 'Bitrate (Mbps)' field shows '0'. At the bottom right, there are 'Apply' and 'Cancel' buttons.

Setting	Range	Description
Start/End Points	Enabled Disabled	Adds control of the output defining a starting and stopping point within the play duration of the selected stream or PCAP play file
Start Point	Range of play file duration but prior to End Point	This setting establishes a point/time in the play file duration which defines the starting point of the stream or PCAP file when it is streaming to the output port
End Point	Range of play file duration but after the start point	This setting establishes a point/time in the play file duration which defines the ending point of the stream or PCAP file when it is streaming to the output port
Bitrate Mode	Auto Manual	In Auto the MIP 6210 determines the playout rate automatically. In Manual, the user may modify or enter a playout bitrate.
Bitrate (Manual)	Enter Bitrate	Provides user entry to manually enter a desired output bitrate

The Bitrate Mode provides an automatic setting in which the MIP 6210 automatically determines the ideal playout stream rate. You can set the Bitrate Mode to Manual to increase the output bitrate. In the manual mode, click on the up and/or down arrows in the bitrate field to select from available bitrates in Mbps. The following chart provides an overview of the configuration settings in the File menu.

4.3.4 Add Transport Stream – IP - Impairments Configuration

The Impairments tab within the Configure IP menu provides selections to add IP impairments to the IP TS stream output. You can add and define jitter events to occur in the output IP stream. You can add and define IP packet drops to the IP stream output. Impairments can be used for testing IP analysis equipment or testing robustness of IP receive devices.

The Impairments feature of the MIP 6210 is a licensed feature. The tab only appears in the network GUI screen when the feature is licensed for use. This section defines the configuration options provided by the Impairments section. To access this configuration menu, click on the Impairments header tab in the Configuration IP menu.

To add jitter to the output, click in the Add Jitter dropdown arrow field and select “Enabled.” To disable jitter in the output, return this field to the “Disabled” selection. When jitter is enabled, the

jitter event(s) which occur in the output stream occur at a rate and severity determined by the Jitter Shape, Jitter Period (mS), and Jitter Amplitude (uS) settings.

When the Jitter Shape is set to “Random”, a change occurs in the IP stream which changes the IPT (Inter Packet Time). IPT is the time between arrival of the 1st byte of a frame and the arrival time of the 1st byte of the next frame. The time is randomly shortened or lengthened by the amount entered in the Jitter Amplitude (uS) field. The jitter amplitude of the random jitter event is selectable from 1 uS to 10 seconds. For example, a random setting with a Jitter Amplitude setting of “5” means the IPT of the output TS over IP stream would randomly change by + or - 5 uS.

The Jitter Shape provides settings in which the jitter element added to the IP output has a rate of change or delta. The jitter is caused to change within a period of time (rate) and the variation or rate of change associated with the jitter within this period is sinusoidal or square wave in nature. This rate variation to the jitter element can be defined as a sinewave or a square delta. The Jitter Period (ms) entry field defines the period or rate of the jitter variation. The Jitter Amplitude (uS) defines the magnitude or amplitude of the jitter variation. For example, a sinewave shape with a Jitter Period of 1000 mS and Jitter Amplitude of 20 uS would create a sinusoidal rate of jitter variation reaching + and – 20 uS through the 1 sec period.

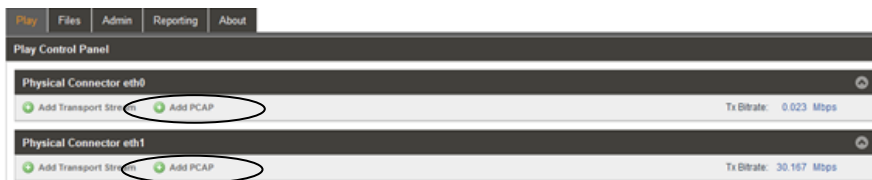
The following chart provides an overview of the configuration settings in the Impairments menu.

Setting	Range	Description
Add Jitter	Enabled Disabled	Controls if jitter is added to the output. Enabled: Jitter is added to the IP output. Disabled: Jitter is not added to the IP output
Jitter Shape	Random, Sinewave, Square wave dropdown menu selections	This selection establishes the occurrence pattern in which jitter is present or added to the IP output. It defines the delta or rate-of-change to the jitter through a period of time selected in the Jitter Period field. Random: Jitter event is random and reaches amplitude entered in the Jitter Amplitude field. Sinewave: Jitter varies amplitude with sinusoidal rate of change through the define period entered in the Jitter Period field and reaching + and – amplitudes entered in the Jitter Amplitude field Square wave: Jitter varies amplitude with square wave rate of changes through the define period entered in the Jitter Period field and reaching + and – amplitudes entered in the Jitter Amplitude field
Jitter Period (ms)	Enter or increment value. Range 1000 to 10000000 mS	This setting establishes the duration in mS of the sinusoidal or square wave jitter event.
Jitter Amplitude (uS)	Enter or increment value. Range 1 to 1000000 uS	This setting establishes the amount of the jitter variation uS that occurs in the jitter period

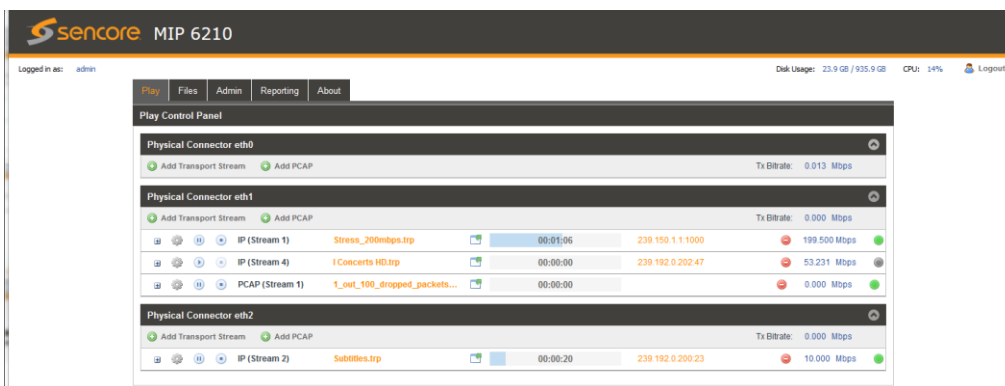
IP Packet Drops	Enabled, Disabled selection	Controls if IP Packet Drops occur in the IP output. Enabled: Packet Drops will be produced as IP impairments on the IP output. Disabled: Packet Drops will not occur as impairments to the IP output
Packet Drop Rate	Enter values in fields: Min (left field): 1 to 100000 Max (right field): 1 to 1000000	Defines the rate of IP packet drops on the IP output. Enter a total number of packets at the right entry field. Enter how many drop packets you want to occur during the total packets entered at the left value field.

4.4 Adding a PCAP Play File

To create a new PCAP output file test stream requires that you select a PCAP file and define its output parameters. To create or add a PCAP stream, click on the  Add PCAP icon. Note that this selection is available for each of the Physical Connector Ethernet ports of your MIP 6210. Select the  Add PCAP icon in the section corresponding to the Ethernet port in which you want the output to stream. This section describes how to select, add and configure a PCAP file to playout one of the MIP 6210's Ethernet port outputs.



The Play Control Panel is simplified for viewing with a Hide/Show streams feature for each Physical Connector eth section. To show all the streams outputting to an Ethernet port click on the Show/Hide icon .



4.4.1 Add PCAP - General PCAP Play Settings

When adding a PCAP file to play on the MIP 6210 use the configuration settings in the General, Advanced PCAP, and File tabs to configure the output.

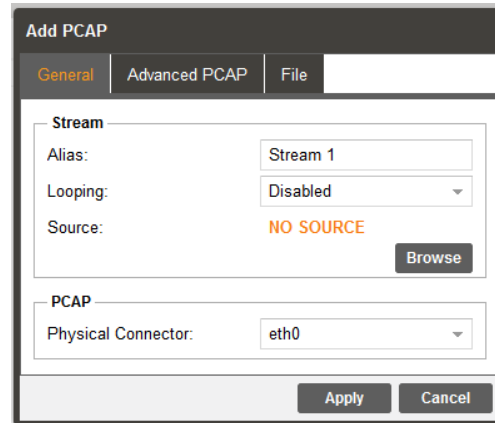
Click on the  Add PCAP icon to add a PCAP file to the play list. Upon clicking the icon, the Add Transport Stream menu opens. This menu contains 3 selection tabs which provide menus for defining the transport PCAP stream. By default, the General tab is selected providing some common selections to configure the output. The General configuration menu provides selections defining the output PCAP stream and its destination address and ports. This section provides an overview of the configuration fields.

The first step is to select a source PCAP file for playout. Click on the Browse field and navigate to the PCAP file you wish to select for playout. Select the file and open it. It will populate the Source listing with the file name. In the Stream section of the menu click in the Alias field and enter an alias name as desired. This is not required as the application automatically assigns a name as an incrementing stream number.

If you want the playing PCAP stream upon reaching the ending point to loop back to the start and continue playing out, click on the dropdown arrow in the Looping field. Select “Enabled” if you want the looping feature active.

Define the PCAP parameters in the PCAP section. Verify that the Physical Connector field indicates the desired Ethernet port. If not, select the Ethernet port you wish to output the stream. Enter the Destination IP and the Destination Port values.

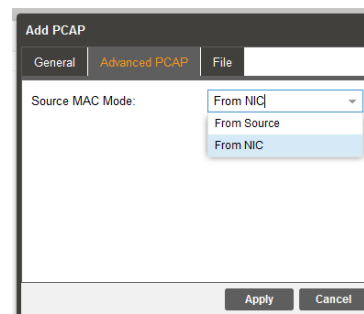
The PCAP file contains within it the destination and port addresses so these parameters cannot be entered in the same manner as with a TS stream. When finished with the configuration, click on the Apply box to add the stream to the Playout Control Panel under the respective Ethernet port.



Setting	Range	Description
Stream - Alias	Value and or Letter Entry	Enter name you want to identify stream. If no name is entered, the MIP 6210 assigns an incrementing stream number
Looping	Enabled Disabled	Enabled: Turns on the looping function in which the PCAP file plays to the end and then loops back and starts playing from the start again. Disabled: After the file is started it plays to the end of the file and stops.
Source	Not selectable	Indicates “No Source” when no file has been selected. Indicates the selected file name when a file is opened.
Browse	Click on  field to access PCAP files in library	Provides navigation to browse to available PCAP files for selection.
IP – Physical Connector	Selects eth0 or eth1, the standard Ethernet ports, eth2 and eth3 available if MIP 6210 has added optional ports	Entry selects which of the available Ethernet ports on the MIP 6210 that the PCAP output is assigned

4.4.2 Add PCAP - Advanced PCAP Settings

The Advanced PCAP selection tab provides a menu to define the Source MAC Mode. The MAC address indicated by the PCAP play output may be configured to match the MAC address of the NIC or be IP Source criteria. The following provides descriptions of the settings included.



Source MAC Mode: From NIC

When the MAC address source is set to “From NIC” the MAC address for all the Ethernet frames transmitted during PCAP play output shall be the same as the MAC address of the selected output NIC.

Source MAC Mode: From Source

When the MAC address source is set to “From Source” the MAC address for all Ethernet frames transmitted during a PCAP play output shall be the same as captured in the selected PCAP file.

Setting	Range	Description
Source MAC Mode	From NIC	Determines the MAC address transmitted with all Ethernet frames during PCAP output.
	From Source	From NIC: MAC is the same as MAC of selected NIC
		From Source: MAC address is the same as MAC captured in the selected PCAP file.

4.4.3 Add PCAP - File Play Settings

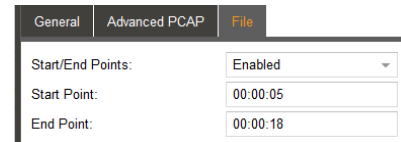
The File tab within the Add PCAP menu provides selection to define starting and ending points when playing out a PCAP file. You can enter starting and ending times within the play duration time of the PCAP file. You can enable or disable the playout to conform to these entered start point and end point times that you specified. To access this configuration menu, click on the File header tab. The following section provides an overview of this menu.

Keep in mind some general rules. You cannot set an End Point time that is after the normal End Play time of the selected file. You cannot set an End Point that is prior to the Start Point time. You can set a Start Point and End Point in the File Menu, but you must set the Start/End Points to “Enabled” to playout only the part of the PCAP specified by the Start/End Point times.

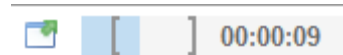
Setting	Range	Description
Start/End Points	Enabled	Adds control of the output defining a starting and stopping point within the play duration of the selected stream or PCAP play file
	Disabled	
		Enabled: Directs output to follow the defined start and ending time references entered
		Disabled: Output PCAP does not follow start or ending time entries. Playout is from the beginning of the file to the end of the file
Start Point	Range of play file duration but prior to End Point	This setting establishes a point/time in the play file duration which defines the starting point of the stream or PCAP file when it is streaming to the output port
End Point	Range of play file duration but after the start point	This setting establishes a point/time in the play file duration which defines the ending point of the stream or PCAP file when it is streaming to the output port

To setup starting and ending playback points for a PCAP file. Note the duration of the file in the Play Control Panel prior to specifying the starting and ending points as the times selected must be within the duration offered by the file.

Select the cog wheel for the PCAP file to be specified. Click on the File tab to select the File Menu containing the starting and end points settings. Click the dropdown arrow in the Start/End Points field and select “Enabled.” The Start Point and Ending Point fields become available for entry. Click on the appropriate hour, minute, seconds fields and modify to the desired start time. Repeat to enter the desired end time.



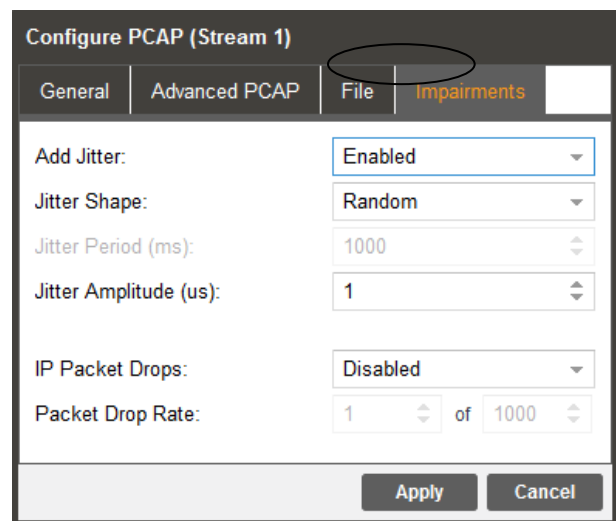
When starting and ending points are specified and enabled, the playback windows observed in the Playback Control Panel change to indicate the start/end limits that are specified. Brackets indicate the starting and ending points.



4.4.4 Add PCAP - Impairment Settings

The Impairments tab within the Configure IP menu provides selections to add IP impairments to the PCAP stream output. You can add and define jitter events to occur in the output PCAP stream. You can add and define IP packet drops to the PCAP stream output. Impairments can be used for testing IP analysis equipment or testing robustness of IP receive devices.

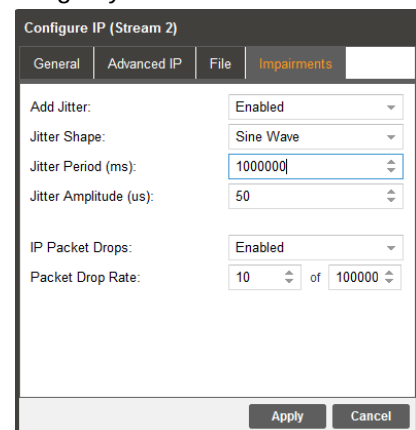
The Impairments feature of the TSS 6220 is a licensed feature. The tab only appears in the network GUI screen when the feature is licensed for use. This section defines the configuration options provided by the Impairments section. To access this configuration menu, click on the Impairments header tab in the Configuration IP menu.



To add jitter to the output, click in the Add Jitter dropdown arrow field and select “Enabled.” To disable jitter in the output, return this field to the “Disabled” selection. When jitter is enabled, the jitter event(s) which occur in the output stream occur at a rate and severity determined by the Jitter Shape, Jitter Period (mS), and Jitter Amplitude (uS) settings.

When the Jitter Shape is set to “Random”, a change occurs in the IP stream which changes the IPT (Inter Packet Time). IPT is the time between arrival of the 1st byte of a frame and the arrival time of the 1st byte of the next frame. The time is randomly shortened or lengthened by the amount entered in the Jitter Amplitude (uS) field. The jitter amplitude of the random jitter event is selectable from 1 uS to 10 seconds. For example, a random setting with a Jitter Amplitude setting of “5” means the IPT of the output TS over IP stream would randomly change by + or - 5 uS.

The Jitter Shape provides settings in which the jitter element added to the IP output has a rate of change or delta. The jitter is caused to change within a period of time (rate) and the variation or rate of change associated with the jitter within this period is sinusoidal or square wave in nature. This rate variation to the jitter element can be defined as a sinewave or a square delta. The Jitter Period (ms) entry field defines the period or rate of the jitter variation. The Jitter Amplitude (uS) defines the magnitude or amplitude of the jitter variation. For example, a sinewave shape with a Jitter Period of 1000 mS and Jitter Amplitude of 20 uS would create a sinusoidal



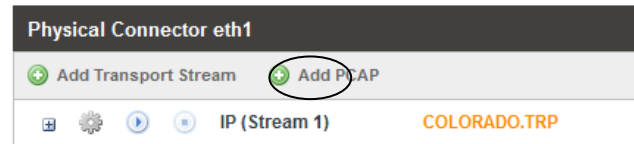
rate of jitter variation reaching + and – 20 uS through the 1 sec period.

The following chart provides an overview of the configuration settings in the Impairments menu.

Setting	Range	Description
Add Jitter	Enabled Disabled	Controls if jitter is added to the output. Enabled: Jitter is added to the IP PCAP output. Disabled: Jitter is not added to the PCAP IP output
Jitter Shape	Random, Sinewave, Square wave dropdown menu selections	This selection establishes the occurrence pattern in which jitter is present or added to the IP output. It defines the delta or rate-of-change to the jitter through a period of time selected in the Jitter Period field. Random: Jitter event is random and reaches amplitude entered in the Jitter Amplitude field. Sinewave: Jitter varies amplitude with sinusoidal rate of change through the define period entered in the Jitter Period field and reaching + and – amplitudes entered in the Jitter Amplitude field Square wave: Jitter varies amplitude with square wave rate of changes through the define period entered in the Jitter Period field and reaching + and – amplitudes entered in the Jitter Amplitude field
Jitter Period (ms)	Enter or increment value. Range 1000 to 10000000 mS	This setting establishes the duration in mS of the sinusoidal or square wave jitter event.
Jitter Amplitude (uS)	Enter or increment value. Range 1 to 1000000 uS	This setting establishes the amount of the jitter variation uS that occurs in the jitter period
IP Packet Drops	Enabled, Disabled selection	Controls Packet Drops occur in the PCAP output. Enabled: Packet Drops will be produced as IP impairments on the PCAP output. Disabled: Packet Drops will not occur as impairments to the IP output
Packet Drop Rate	Enter values in fields: Min (left field): 1 to 100000 Max (right field): 1 to 1000000	Defines the rate of IP packet drops on the IP output. Enter a total number of packets at the right entry field. Enter how many drop packets you want to occur during the total packets entered at the left value field.

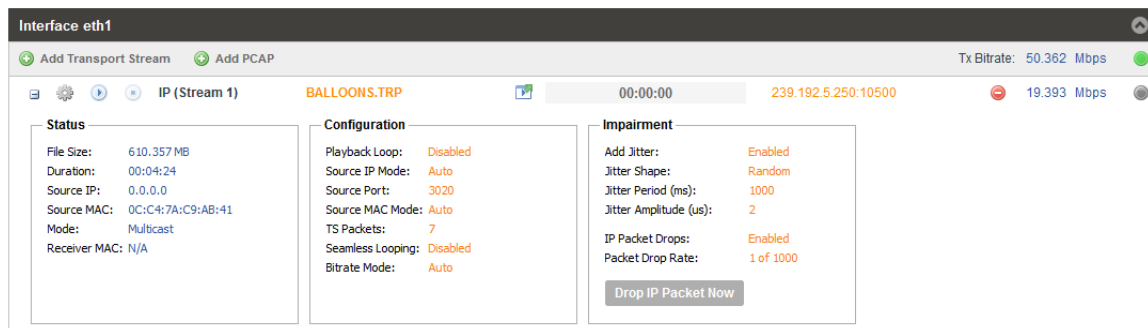
4.5 IP Stream and PCAP Status & Configuration Information

For each of the IP streams or PCAP files that are listed in the Play Control Panel a Status and Configuration window is available. To access this window and add it to the panel, click on the  icon at the left of the row containing the IP stream or PCAP listing. The Status and Configuration boxes are added to the Play Control Panel providing status and configuration details. Click on the  icon at the same location to hide the status and configuration information.



IP Stream - Status and Configuration Windows

This section summarizes the status and configuration information provided for an IP playout stream.



Summary of the listings and descriptions of the Status section.

Status Listing	Description
File Size:	Indicates the total memory size of the play file
Duration:	Indicates the total playtime or duration of the selected file or PCAP
Source IP:	Indicates the source IP address
Source MAC:	Indicates the source MAC address
Mode:	Indicates the current streaming Mode, Multicast, Unicast,
Receiver MAC:	Indicates the MAC address of the receiver, when available or communicated by the receiver

Summary of the listings and descriptions of the Configuration section.

Configuration Listing	Description
Playback Loop:	Indicates the Playback Loop setting as Enabled or Disabled. Indicates if the Playback Loop feature is active for stream playout
Source IP Mode:	Indicates the Source IP Mode setting as Auto or Manual. Auto indicates the IP automatically selected by the TSS 6220. Manual provides user entry of the source IP

	address.
Source Port:	Indicates the Source Port value setting
Source MAC Mode:	Indicates the Source MAC Mode setting as Auto or Manual. Auto indicates the MAC address is automatically selected and communicated by the TSS 6220. Manual provides user entry of the MAC address communicated as the Source
TS Packets:	Indicates the number of TS packets per IP packet setting
Seamless Looping:	Indicates the Seamless Looping Setting as Enabled or Disabled
Bitrate Mode:	Indicates the Bitrate Mode setting as Auto or Manual.

Summary of the listings and descriptions of the Impairment section.

Impairments Listing	Description
Add Jitter	Indicates if the impairment feature to add jitter to the output is enabled or disabled. When enabled, the output will have jitter introduced at the rate and magnitude of the Jitter Shape, Period and Amplitude settings
Jitter Shape	Indicates the jitter setting of random, sinewave, or squarewave
Jitter Period (mS)	Indicates the jitter period in the sinewave or square wave shape
Jitter Amplitude (mS)	Indicates the magnitude of the jitter variation through the jitter period at the shape selected
IP Packet Drops	Indicates the current count of the number of packet drops produced in the active output of the play event
Packet Drop Rate	Indicates the rate of the packet drops
 icon	Click on icon to drop an IP packet in the play event's output

PCAP File - Status and Configuration Windows

Click on the  icon at the left of the row containing a PCAP stream adds the Status and Configuration windows to the Play Control Panel. There is less status and configuration information for a PCAP file compared to an IP stream file. The following describes the information provided in the Status and Configuration windows. Click on the  icon at the same location to hide the Status and Configuration windows.

PCAP (Stream 1)
20180619_R-PHY_DEPL_60s....

00:00:00

Status

File Size: 293.5 MB
Duration: 00:00:59
Source MAC: 00:01:2E:93:D8:33

Configuration

Playback Loop: Enabled
Source MAC Mode: From NIC

Impairment

Add Jitter: Disabled
Jitter Shape: Random
Jitter Period (ms): 1000
Jitter Amplitude (us): 1
IP Packet Drops: Disabled
Packet Drop Rate: 1 of 1000

Drop IP Packet Now

Status Listing Description

File Size:	Indicates the total memory size of the PCAP file
Duration:	Indicates the total playtime or duration of the selected PCAP file
Source MAC:	Indicates the source MAC address

Configuration Listing Description

Playback Loop:	Indicates the Playback Loop setting as Enabled or Disabled. Indicates if the Playback Loop feature is active for PCAP playout. When Enabled, the PCAP output upon playing to the end of the file loops back and restarts
Source MAC Mode:	Indicates the Source MAC Mode setting as From NIC or From Source. Setting determines the Source MAC transmitted with Ethernet frames. From Source: MAC address is the same as MAC captured in the selected PCAP file.

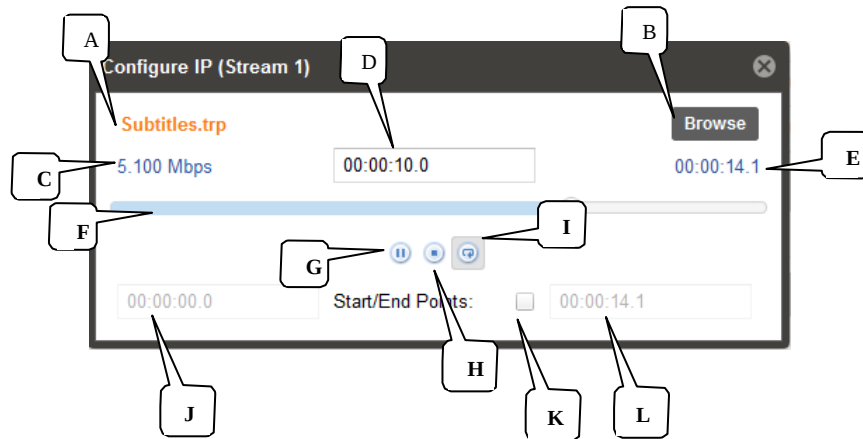
Summary of the listings and descriptions of the Impairment section.

Impairments Listing Description

Add Jitter	Indicates if the impairment feature to add jitter to the output is enabled or disabled. When enabled, the output will have jitter introduced at the rate and magnitude of the Jitter Shape, Period and Amplitude settings
Jitter Shape	Indicates the jitter setting of random, sinewave, or squarewave
Jitter Period (mS)	Indicates the jitter period in the sinewave or square wave shape
Jitter Amplitude (mS)	Indicates the magnitude of the jitter variation through the jitter period at the shape selected
IP Packet Drops	Indicates the current count of the number of packet drops produced in the active output of the play event
Packet Drop Rate	Indicates the rate of the packet drops
Drop IP Packet Now icon	Click on icon to drop an IP packet in the play event's output

4.6 IP and PCAP Monitor Panel

For each listed transport stream or PCAP row in the Play Control panel you will find a  icon. Clicking on this icon provides a monitoring panel for that transport stream or PCAP output. This panel provides a convenient shortcut to improve viewing of the playout statistics and provides several convenient control options. The following descriptions provide an overview of the features provided.



Configure IP/PCAP Panel Descriptions

Item or Field Name	Button/Action	Description
A. File name	Not a selectable field	Indicates the current source file for the transport stream or PCAP file that is playing.
B. Browse	Click to browse or view available files	Provides quick access to view files, to locate current play file or search for files. Files cannot be selected in this menu to replace the existing play file.
C. Bitrate	Not selectable	Indicates the bitrate of IP or PCAP stream
D. Play location time indicator	Not selectable	Indicates the current play position or time within the duration or total play time of the IP or PCAP stream
E. Stream End Time	Not selectable	Indicates the total time duration or the ending time of the IP or PCAP stream.
F. Play Bar Progress Indicator	Not selectable	Provides visual indicator that the stream output is active and progressing. Indicates the current play position or time relative to the start and end points.
G. Play/Pause Control	⏸ Pause, Click on icon to pause output ▶ Play – click on icon to start output	Indicates IP/PCAP stream as playing or paused. Click on icon to pause or play. When paused, the current location of the stream or PCAP is maintained.
H. Stop Control	⏹ Click on icon to stop IP/PCAP output	Stops a playing or looping IP/PCAP output. Click on play icon to restart – restarts at file starting point.
I. Loop Control	🔁 Click on icon to enable loop mode. Enable or Disable	🔁 Indicates the loop mode is enabled. The stream plays to the end and loops to the starting point and continues to play out.

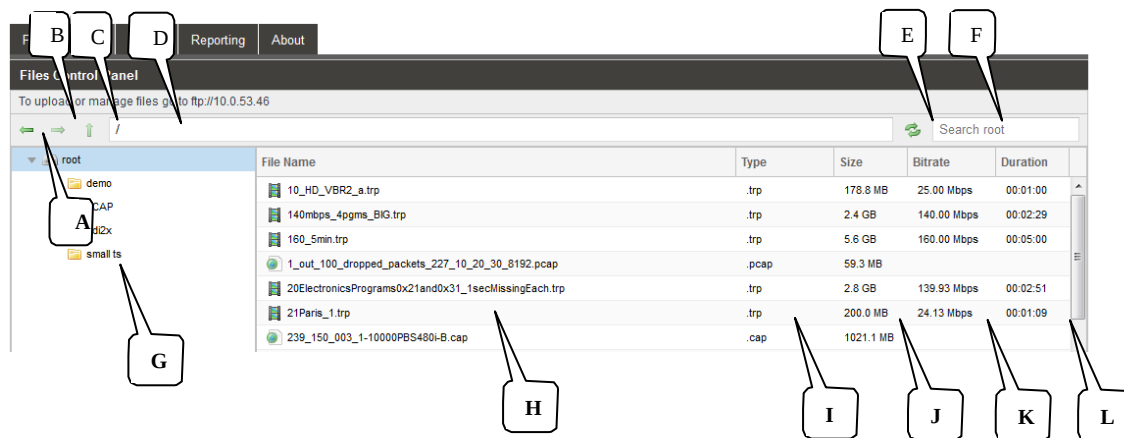
 Indicates the loop mode is disabled. The stream plays to the end and stops.

J. Start Point Time	Value cannot be changed in this menu	Indicates a specified stream starting point time.
K. Start/End Time Play Enable	Click box – adds check in box (Enabled), click box removes check mark (Disabled)	Provides Enable/Disable control of start/end points of the playout stream. Enabled (Box checked) stream plays from entered start to end points. Disabled (box not checked) the stream plays from beginning to end of the file
L. End Point Time	Value cannot be changed in this menu	Indicates a specified stream End Point time.

5 File Viewing Panel

The File Viewing Panel provides a convenient reference to view the media drive folders and files. It provides navigation to all directory levels. It provides information of each file including the naming, type, size, bitrate and duration information. This section describes the navigation tools and information provided.

The File Viewing Panel does not provide file or folder management. All folder and file management functions are performed using FTP or SMB. FTP or SMB provides file loading to the media drive, folder creation and naming. It provides file management including renaming, moving, and deletion. The next sections in this chapter describe how to access and use FTP and SMB.



File Viewing Panel Descriptions

The File Viewing Panel is structured much like that of a PC based file viewing application. It differs in the information provided regarding the file information providing information important to managing the MIP 6210's output. The following chart provides details of the fields and features of this panel.

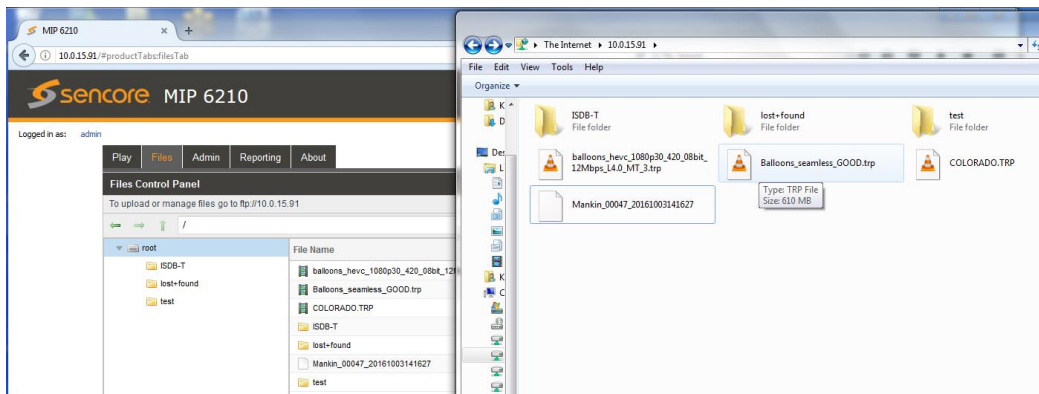
To view folders or files, click on the folder in the root directory. Or, you may click on the navigational icons to move back or up in the folders directory.

Item or Field Name	Button/Action	Description
A. Back	Click back icon 	Moves back one level in the directory
B. Forward	Click forward icon 	Moves forward in the directory level. When grayed out – the action is not available file
C. Up	Click Up Icon 	Moves up in the directory. When grayed out the action is not available
D. Directory	Not selectable	Shows the selected file/folder hierarchy with left to right order
E. Refresh Screen	Click on  icon	Refreshes the page and contents

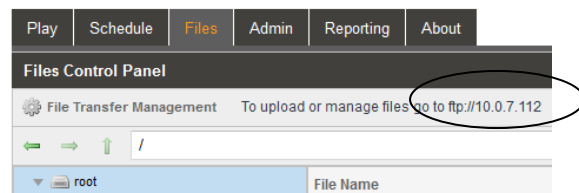
F. Search Folder/File hierarchy	Enter text in the Search root field	Click on field – enter folder or file names to search the directory
G. Folder/File Directory	Not a Selectable field  root	This field shows the selected file/folder hierarchy
H. File Name	Not a Selectable field	Indicates a list of all the files by name of in the selected folder
I. File Type	Not a selectable field	Indicates the type of file by suffix for each of the files
J. File Size	Not a selectable field	Indicates the memory size of the named file
K. File Bitrate	Not a selectable field	Indicates the playout bitrate of the file when added to the playlist and output from the MIP 6210
L. File Duration	Not a selectable field	Indicates total duration of the play file

5.1 FTP - SMB Loading Play Files to the MIP 6210

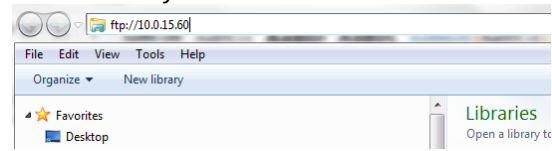
The MIP 6210 requires stream files and PCAP files to play out as scheduled events. The files must be loaded onto the internal storage drives of the unit. This is done using FTP (File Transfer Protocol), a common protocol used for the transfer of computer files between a client and server on a network. Or, you may use Samba (SMB), a network file sharing protocol implemented in windows.



The FTP server address is located in the File Viewing Panel (Files tab) in the MIP 6210's web GUI. Look near the top of the page under the Files Control Panel header. (See circle in illustration) Click at the end of the field and drag the mouse to highlight the ftp address. Copy the address – (Keyboard Ctrl-C key sequence). When using SMB (Samba), copy only the IP address.

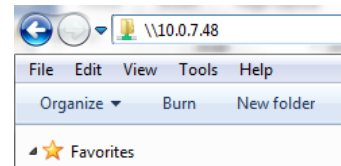


Open a Windows Explorer or File Explorer application window on your PC. In the header of this application – paste in the ftp address listed in the MIP 6210's File menu on the second line below the Files Control Panel heading. Paste the ftp address – (Ctrl V). For SMB protocol, enter backslash key entries and paste only the IP address listed into the Control Panel address line of Windows Explorer. See example below.



Example ftp shown: ftp://10.0.15.60.

Example SMB (Samba) shown: \\10.0.7.48



Press the Enter key on your keyboard.

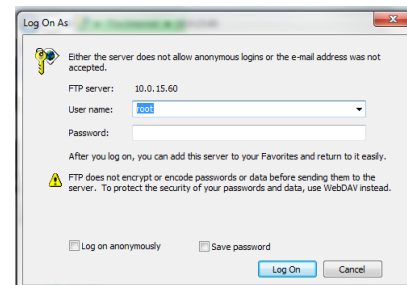
Upon connection to the ftp server you will be prompted for a username and password: The default username and password is shown below. Please see the next section in this chapter on how to create a Username and Password to provide protection against unwanted file transfers or deletions.

Default Settings:

User Name: root

Password:

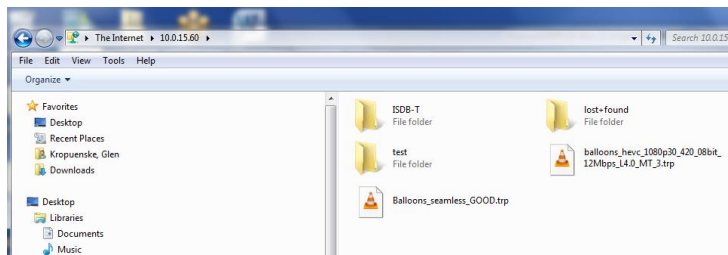
Note: The Password field is left blank or no entry as shown.



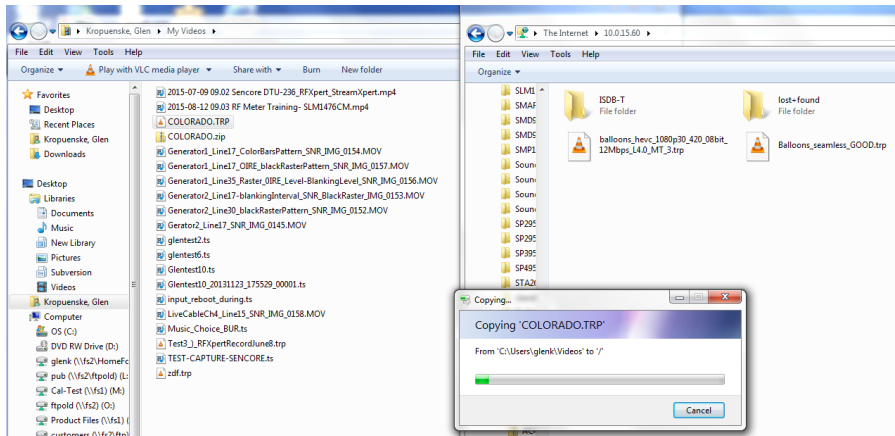
The User Name and Password can be changed and managed to provide protection against unwanted file changes by unauthorized users. Please see the next section of this manual.

Once you have entered the User name and Password, click on the Log On field to access the server.

Upon connection to the server you can view the current folders and play files in the MIP 6210.

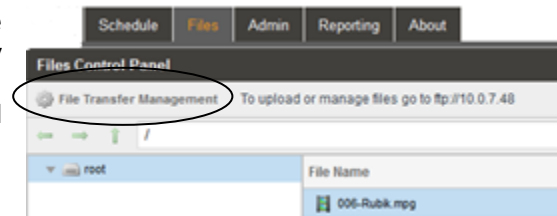


To transfer files to the server, you may use common Window's-based file copy and paste techniques or drag and drop techniques. For example, open a 2nd version of Windows Explorer application. (Right mouse click on the Windows Explorer icon at the bottom system tray – click on Windows Explorer) You now have both the server window and the Windows Explorer application running. Position both the server window and the Windows Explorer windows beside each other on your PC screen. See example below. Click on a file or folder in the Windows Explorer window and drag it into the right side of the server window. The folder or file is transferred.

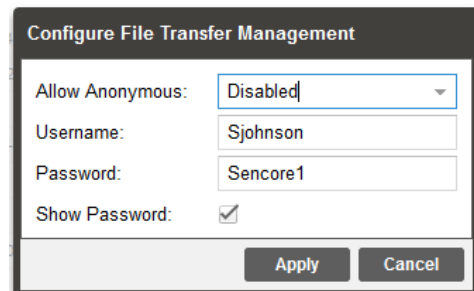


5.2 File Transfer Management - User Name and Password

The ability to access the internal media files of the MIP 6210 can be limited to authorized users by setting up a User name and associated password. Click on the File Transfer Management cog wheel located at the left of the page under the Files Control Panel header.



The Configure File Transfer Management menu appears providing entry of enabling/disabling the Username/Password protection. Enabling the Allow Anonymous setting provides anonymous user entry and access. Disabling the Allow Anonymous setting enables the Username/Password user requirement.



Username/Password: These fields provide entry for a Username and associated Password. Click in the field and enter up to 32 characters. Click the Apply field to enter changes. Click on the Show Password checkbox to check it if you wish to made the characters of the entered Password visible.

Field	Action/Range	Description
Allow Anonymous	Click dropdown arrow, select Enabled or Disabled	Enabled: Username/Password entry not required – allows anonymous user entry. Disabled: Username/Password entry required
Username		Select which network protocol used to transmit to the Syslog server
Password	Click in the box, enter up to 32 characters	IP of the Syslog server. 0.0.0.0 and 255.255.255.255 are not permitted

5.3 Managing Play Files & Folders

All file and folder management in the MIP 6210's media drive is done using the FTP or server. For details on getting connected and viewing the files and folders in FTP see the previous section of this manual, Section 5.1. Once connected you can use conventional Window's-based file management techniques. The management tasks are summarized below:

In FTP you can do the following file/folder management tasks:

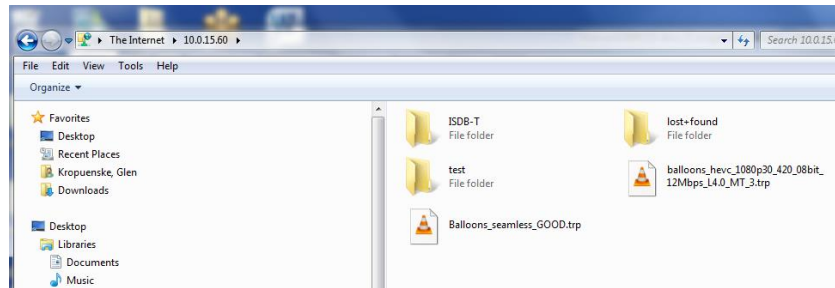
Delete a file: Right click on the file you want to delete. Select Delete. Click Yes to confirm.

Rename a file: Right click on the file you want to rename. Select Rename. Click in the name field and edit or rename as desired. Click outside the field to apply

Create a new folder: Click on the File tab at the top. Click on "New". Click on Folder. Click in naming field and name as desired

Delete a folder: Right click on the folder you wish to delete. Select Delete. Click Yes to confirm.

Rename a folder: Right click on the folder you want to rename. Select Rename. Click in the naming field and edit or enter the desired name. Click outside the field to apply.



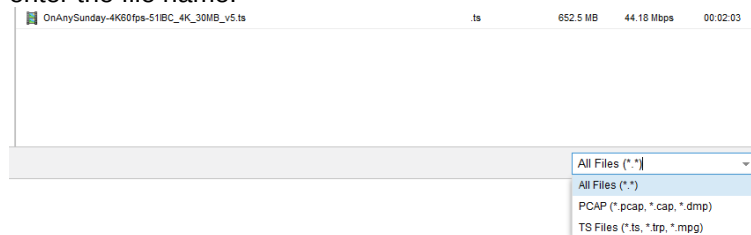
Move a folder: Select the folder. Click on the Edit tab at the top. Click on Move to folder selection. Browse and select the new folder location. Click Move.

5.4 File Viewing Panel – Filter by Type

The files listed in the File Viewing Panel may be filtered by type so you can see only the TS files or the PCAP files. The filter selection is located at the bottom right of the File viewing Panel. Click on the dropdown to see the filter categories.

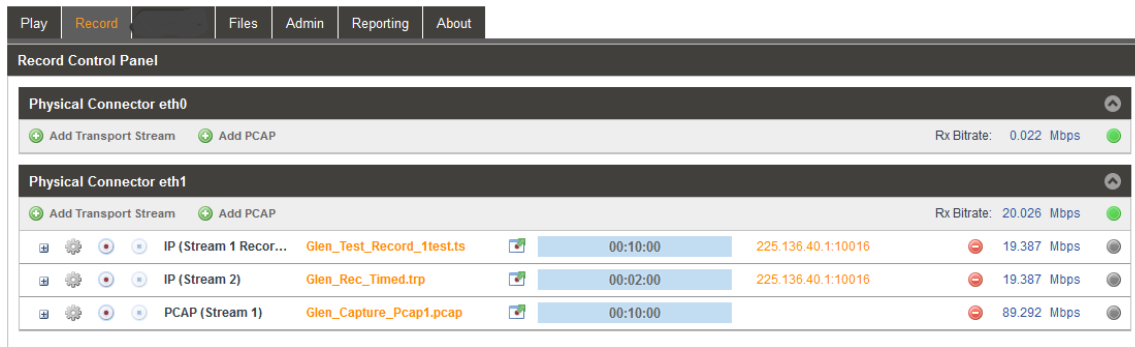
By default, the "All Files" type is selected. This shows all file types in the panel. You may select the "PCAP" or "TS Files" selections to filter and view only the chosen file types. In a library that contains many files it can speed up finding a file of interest.

To search for a known file name, use the file search utility that is located at the top right side of the panel. Click on the folder or root index listing at the left, click in the field and enter the file name.



6 Record Panel

The Record Panel provides a recording feature to record an incoming transport stream or PCAP. The record feature is a licensed feature of the MIP 6210. When licensed, the Record tab is shown and available to select. To access the Record Panel, click on the Record tab in the header. This chapter provides descriptions and overviews of the features provided by the Record feature.



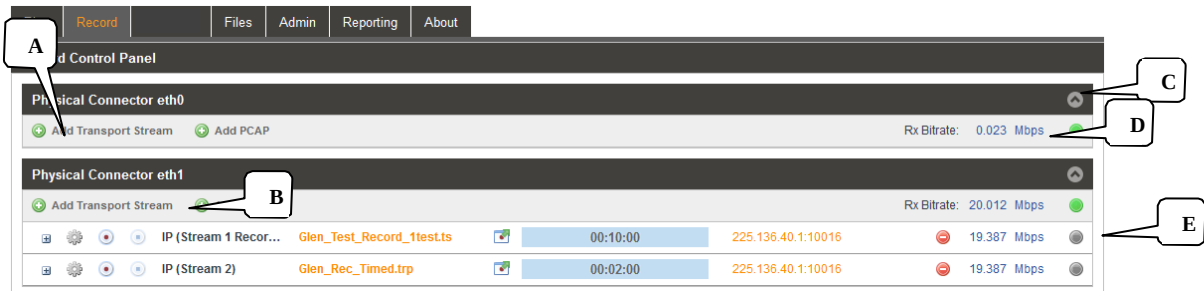
The record feature provides manual recording in which a user may control the start and ending of the record segment. A user may also perform a scheduled record event in which the duration of the timed recording may be specified along with the start date and time.

The MIP 6210 can record a transport stream via an MPEG-IP unicast or multicast as available from the specified Ethernet port. It also can perform a PCAP capture from the specified Ethernet port. Filters are available to specify PCAP IP address and/or port. Multiple recording events can be created and scheduled for each available Ethernet port. Each record license includes the ability to display and configure 10 record events.

To perform a recording requires that you first create and configure a recording event. A recording event can be specified as an immediate event or a scheduled (Date/Time) event. Each created record event is shown as a listing or row of information in the Record Panel. Each listing, or row of information, provides details of the event and user control of the event.

6.1 Record Panel Overview

The Record Panel includes a section for each available Ethernet port. The sections are identified by headers indicating the physical connector port. For example, the Ethernet port 0 is shown as “Physical Connector eth0.” If you have added the optional Ethernet ports to the MIP 6210, then two additional sections are included for Physical Connector eth2 and eth3. The shown ports are available for input transport stream or PCAP recording.

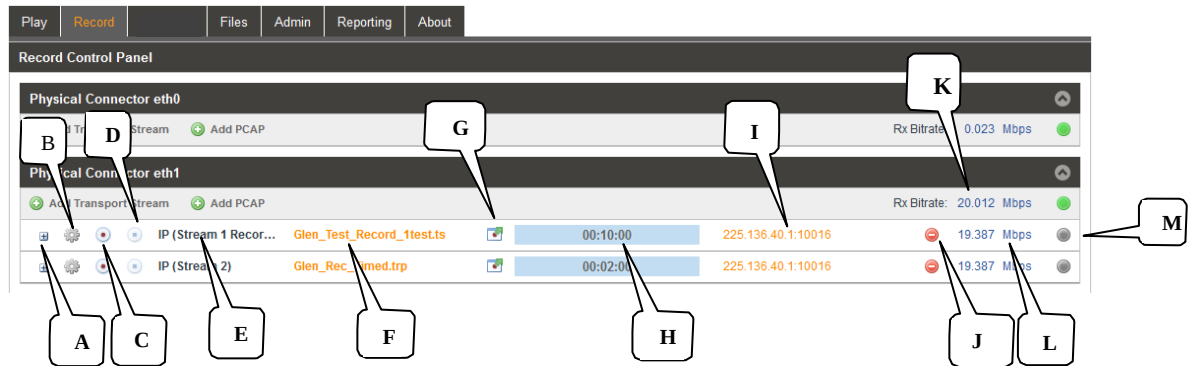


Each Ethernet port section includes some common control fields. The following is a general overview of items in the Record Control Panel and description of some common fields. The remainder of this chapter describes definition of the fields and configuration menus.

Item or Field	Button/Action	Description
A. Add Record event to eth0 port	 Click on this icon to add a recording event to eth 0	Provides menus to select record file, define input criteria, define record criteria and schedule,
B. Add Record event to eth1 port	 Click this icon to add a recording event to eth 1	Provides a menu to select record file, define input criteria, define record criteria and apply a schedule.
C. Show/Hide port record event info	Selectable, click on the icon 	Hides or shows all the record event listings, click to hide or click to show all listed record events
D. TX Bitrate	Not a selectable field	Shows the receive input bitrate of stream or PCAP to the Ethernet port
E. A record event	See next section	Row showing a created record event and information regarding the event's current status and input to Ethernet 1 port (eth1)

6.2 Record – Information Fields

The Record Panel creates and shows all the record events and scheduled record events. Each event has a row of information and related control functions. There are common data fields for each listed record event forming columns of information in the panel. This section provides a brief definition of the information and/or features provided in each column.



Item or Field Name	Button/Action	Description
A. Status & Configuration	 Click on this icon	Provides a window showing IP record stream/PCAP status and configuration information
B. Configuration Menu Select	Click on this icon 	Provides a menu with configuration settings to define the record IP/PCAP stream and IP address
C. Output Control	 Record - click on icon to start recording	Indicates IP/PCAP stream as record active or paused. Click on icon to record. When paused, the current location of the record event of stream or PCAP is maintained.
D. Stop Control	 Click on icon to stop IP/PCAP recording	Stops a recording or timed recording event. Click on record icon to restart – restarts at file recording point.
E. Stream name or alias	Not selectable, No action	Shows a default output IP/PCAP stream name. See section 6.3 for naming streams. (Alias field)
F. TS/PCAP File name	Double click to browse to name/select record file	Indicates the current selected/named record file.
G. Stream configuration	 Click on icon to open configuration menu	Provides convenient overview of stream input and record status, some critical settings, and provides some control features. See section 6.6 for details.

H. Record Status	Not selectable	Indicates a stream recording is active. Indicates record position/time within the start-to-end duration time span. Visual blue highlight indicates stream progress.
I. IP Address/Port	Not selectable	Indicates the IP receive address and port
J. Delete icon	Click  to delete stream or PCAP	Removes a IP/PCAP stream record event from the record listings
K. Total Port Bitrate Indication	Not selectable, view only	Indicates Ethernet port receive bitrate of the addition of all recording TS streams and PCAP files
L. Bitrate Indication	Not selectable, view only	Indicates bitrate of the individual record stream/PCAP to the Ethernet port
M. Status Indicator	Not selectable, view only	Indicates status of record event. Gray: Inactive – stopped or paused Green: Good recording active condition Red: Fault record condition

6.3 Recording Input TS Stream Configuration

To record a new TS stream requires that you select or name a record file and configure the input receive MPEG-IP parameters. To create a record event click on the  **Add Transport Stream** icon. Note that this selection is available for each of the Physical connector Ethernet ports of your MIP 6210. Select the  **Add Transport Stream** icon in the section corresponding to the Ethernet port in which you want to create a record event.



The Record Panel is simplified for viewing with a Hide/Show feature for each Physical Connector eth section. To show all the record events listed for use with a certain Ethernet port, click on the Show/Hide icon . To hide all the record events listed for a certain Ethernet port, click on the Show/Hide icon .

6.3.1 Record Add Transport Stream - Configuration

To define a recording event, start by clicking on the  Add Transport Stream icon. The Add Transport Stream menu opens. The Add Transport Stream record menu provides configuration of the record file, receive MPEG-IP configuration, and how the recording event will start and end. This menu contains 2 sections for configuring the record stream event, the top “Stream” section and the lower “IP” section. This part of the manual covers the settings within the top “Stream” section of the menu. The next part of this manual (section 7.3.2) covers the settings within the IP section of this menu.

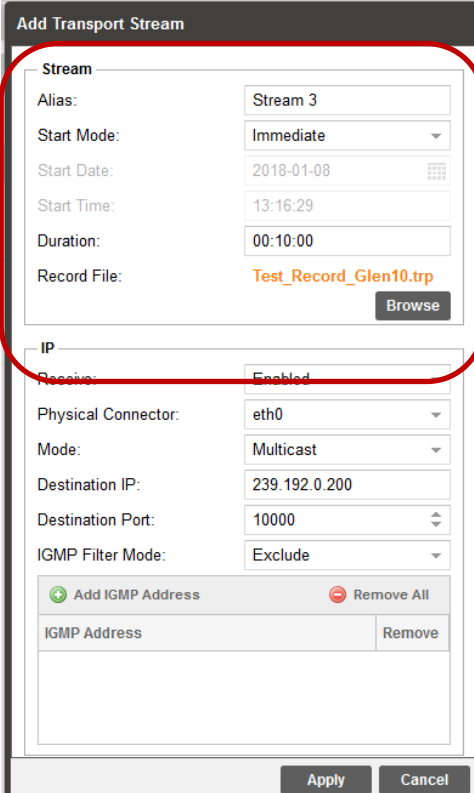
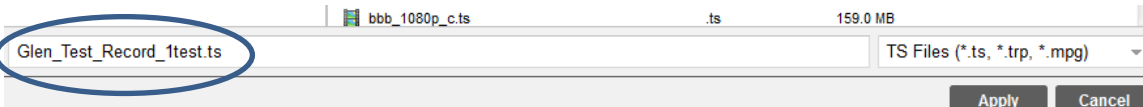
The Stream section of the Add Transport Stream menu provides entry of an alias name to provide a convenient reference. Click on the Alias field and enter an alias name. This is not required as the application automatically assigns a name as an incrementing stream number.

The Start Mode field defines how the recording event starts. The event can be configured to start immediately when the record icon is selected in the main menu. If a manual recording start is desired, click in the Start Mode field and select “Immediate.” This setting is the default setting.

A timed recording event may be configured by clicking the dropdown in the Start Mode field and selecting Date/Time. When the Date/Time mode is selected, the menu’s Start Date and Start Time entry fields become available. Select or enter the start date and the start time in these fields. It is important to note that a timed recording event once defined as an event by clicking the Apply field must be launched or be activated by clicking on the record icon in the main menu. Once the record icon is clicked, the recording event becomes active counting down to the date/time specified in the Start Date and Start time field and recording as specified by the time and duration entries.

The Duration field provides entry of the length of the recording. In the duration field enter the hours, minutes, and seconds of the record duration. Keep in mind that the record duration directly impacts the memory of the system using available storage memory space. The memory used is dependent on the incoming stream bit rate and Duration of the recording.

The Output field, and associated Browse button provide definition of the record file name in memory in which to route the incoming transport stream. You can create a new file or select an existing file. To create a new file, click the Browse box . Enter the new file name in the directory or file type field. Click the Apply icon . To select an existing file, click on the Browse icon and select/click the existing file to re-record, replacing the existing record file with the new record event. Click on the Apply icon  to select the file.

The following chart provides a summary of the fields within the Stream section of the Add Transport Stream menu.

Add Transport Stream – Stream Section Settings Overview

Setting	Range	Description
Stream – Alias	Value and or Letter Entry	Provides entry to name or assign alias to identify a record event or stream. If no name is entered, the MIP 6210 assigns an incrementing stream number
Stream – Start Mode	Immediate Date/Time	Selects recording event to start immediately upon manually clicking on the record icon in the main menu. Selecting Date/Time configures for a timed record event in which the record start date and time is defined and the Record event activated by clicking on the record/start icon
Start Date	Enter date in date fields, or click on calendar and click on month/day to select	Selects a day – month/day in which the desired recording event is to be scheduled.
Start Time	Enter time in hours, minutes, seconds	Specifies a time within the day selected in which the recording event will start
Output (Record File)	Creates a new record file name in which the input TS stream is recorded, or, selects an existing recording file to be re-recorded	Creates a new record file name in which the input TS stream is recorded, or, selects an existing recording file to be re-recorded
Browse	Click on  field to access stream files in library.	Provides navigation to browse to available stream and PCAP files for selection. Provides name entry field in which to specify a new file name in which to direct the recording event to a memory file

6.3.2 Record Add Transport Stream - IP Configuration

The Add Transport Stream record configuration menu includes an IP section. The IP section provides configuration of the IP input used to receive the MPEG-IP unicast or multicast and route the TS stream to the record file. This section provides descriptions of the settings in this IP section of the menu.

To configure the IP input set the Receive field to “Enabled.” Select the Physical Connector or Ethernet port on the MIP 6210 to use as the receive port. Eth 0 and Eth 1 are available. If the added ethernet port option is added to your MIP 6210 then eth 2 and eth 3 will be available in the dropdown.

Select the Mode of the receiver to be Unicast or Multicast. For unicast, specify the destination port in the Destination IP field. For Multicast, specify the Destination IP address, and Destination IP Port.

The IP configuration section further includes settings to provide IGMPv3 features. An IGMP filter may be implemented for use to specify the inclusion or exclusion of source addresses. The MIP 6210 is IGMPv3 compliant. IGMPv3 allows each stream to be seen by the network as relating to a unique source device with a unique IP address, port, and/or MAC address. IGMPv2 is used to join/leave multicast streams by default if no IGMP Filter addresses are entered in the Add IGMP Address section of the menu. If IGMP Filter Mode addresses are specified then IGMPv3 is automatically used.

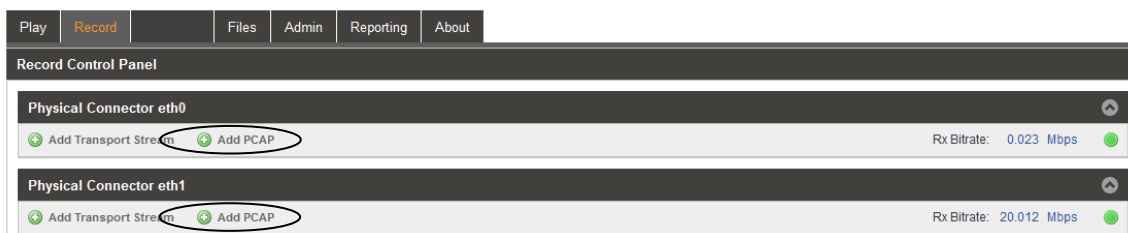
The chart below summarizes the selections within the IP section of the Add Transport Stream record menu.

Setting	Range	Description
IP Receive	Enable Disabled	This setting allows the user to enable or disable these input stream settings.
IP – Physical Connector	Selects eth0 or eth1, the standard Ethernet ports, eth2 and eth3 available if MIP 6210 has added optional ports	Entry selects which of the available Ethernet ports on the MIP 6210 that the stream record input is assigned
IP Mode	Multicast Unicast	<i>Multicast</i> setting allows the unit to receive multicast streams. Multicast streams originate from the IP range 224.0.0.0 – 239.255.255.255. <i>Unicast</i> allows the unit to receive unicast streams. Unicast streams originate directly from a source device.

Destination IP	Enter Value: 224.0.0.0 – 239.255.255.255	This address is the IP address the source device is sending to for a multi-cast. A unicast would use an IP address less than 224.0.0.0. This setting is only available when receiving a multicast stream. This address is the IP address the source device is sending to.
Destination Port	Enter Value: 0 – 65535	This is the UDP port the source device is sending to. This is the only setting required to receive a unicast stream.
IGMP Filter Mode	Settings: Select Include or Exclude	Used on networks supporting IGMPv3. If this setting is set to <i>Exclude</i> any streams originating from the user defined IP addresses will be rejected. If this setting is set to <i>Include</i> any streams originating from the user defined IP addresses will be received.
Add IGMP Address	Click in field - Enter IP address to include or exclude as per filter mode: Values: 0.0.0.0 – 255.255.255.255	Enter and list IP address of IGMPv3 to include or exclude as a filter setting.
Remove All	Click on icon	Removes or clears all the listed IGMPv3 address

6.4 Recording Input PCAP - Configuration

To create a new PCAP record event requires that you select a PCAP file and define its output parameters. To create or add a PCAP record event, click on the  Add PCAP icon. Note that this selection is available for each of the Physical Connector Ethernet ports of your MIP 6210. Select the  Add PCAP icon in the section corresponding to the Ethernet port in which you want to use for the IP input. This section describes how to select, add and configure a PCAP record event for recording from one of the available Ethernet ports.



The Record Panel is simplified for viewing with a Hide/Show feature for each Physical Connector eth section. To show all the record events listed for use with a certain Ethernet port, click on the Show/Hide icon . To hide all the record events listed for a certain Ethernet port, click on the Show/Hide icon .

6.4.1 Record Add PCAP - Stream Configuration

To define a recording event, start by clicking on the  Add PCAP icon. The Add PCAP menu opens. This record menu provides configuration of the record file, receive MPEG-IP configuration, and how the recording event will start and end. This menu contains 2 sections for configuring the record event, the top “Stream” section and the lower “PCAP” section. This part of the manual covers the settings within the Stream section of the menu. The next part of this manual covers the settings within the PCAP section of this menu.

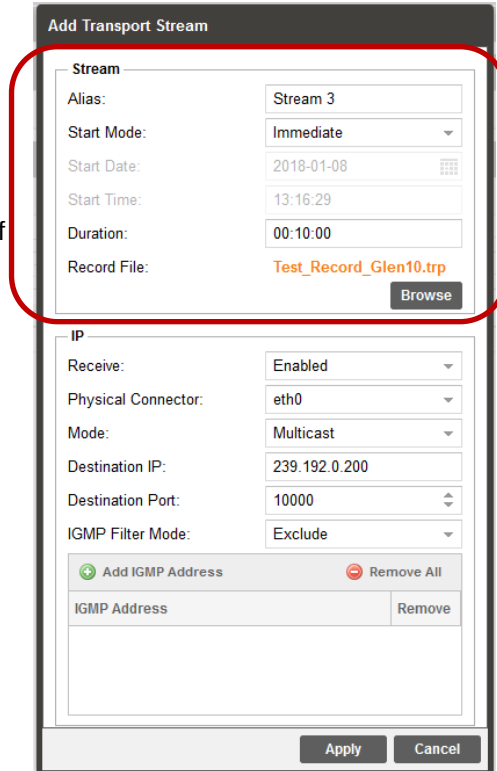
The Stream section of the Add PCAP menu provides entry of an alias name to provide a convenient reference. Click on the Alias field and enter an alias name. This is not required as the application automatically assigns a name as an incrementing stream number.

The Start Mode field defines how the recording event starts. The event can be configured to start immediately when the record icon is selected in the main menu. If a manual recording start is desired, click in the Start Mode field and select “Immediate.” This setting is the default setting.

A timed recording event may be configured by clicking the dropdown in the Start Mode field and selecting Date/Time. When the Date/Time mode is selected, the menu’s Start Date and Start Time entry fields become available. Select or enter the start date and the start time in these fields. It is important to note that a timed recording event once defined as an event by clicking the Apply field must be launched by clicking on the record icon in the main menu. Once the record icon is clicked, the recording event becomes active. When active, you see it counting down to the date/time specified in the Start Date and Start time fields and recording indications when the specified date/time is reached.

The Duration field provides entry of the length of the recording. In the duration field enter the hours, minutes, and seconds of the record duration. Keep in mind that the record duration directly impacts the memory of the system using available storage memory space. The memory used is dependent on the incoming PCAP data bit rate and duration of the recording.

The Output field, and associated Browse button provide definition of the record file name in memory in which to route the incoming PCAP recording. You can create a new file or select an existing PCAP file. To create a new file, click the Browse box . Enter the new file name in the directory or file type field. Click the Apply icon . To select an existing file, click on the Browse icon and select/click the existing file to re-record, replacing the existing record file with the new record event. Click on the Apply icon  to select the file.



Add PCAP – Stream Section Settings Overview

Setting	Range	Description
Stream - Alias	Value and or Letter Entry	Provides entry to name or assign alias to identify a record event or stream. If no name is entered, the MIP 6210 assigns an incrementing stream number
Stream – Start Mode	Immediate Date/Time	Selects recording event to start immediately upon manually clicking on the record icon in the main menu. Selecting Date/Time configures for a timed record event in which the record start date and time is defined and the Record event activated by clicking on the record/start icon
Start Date	Enter date in date fields, or click on calendar and click on month/day to select	Selects a day – month/day in which the desired recording event is to be scheduled.
Start Time	Enter time in hours, minutes, seconds	Specifies a time within the day selected in which the recording event will start
Output (Record File)	Creates a new record file name in which the input TS stream is recorded, or, selects an existing recording file to be re-recorded	Creates a new record file name in which the input TS stream is recorded, or, selects an existing recording file to be re-recorded
Browse	Click on  field to access stream files in library.	Provides navigation to browse to available stream and PCAP files for selection. Provides name entry field in which to specify a new file name in which to direct the recording event to a memory file

6.4.2 Record Add PCAP - PCAP Configuration

The Add PCAP record configuration menu includes an PCAP section. This section provides configuration of the IP PCAP input parameters used to receive and filter the MPEG-IP input and route the PCAP capture data to the specified record file. This section provides descriptions of the settings in this PCAP section of the Add PCAP menu

To configure the IP input set the Receive field to "Enabled." Select the Physical Connector or Ethernet port on the MIP 6210 to use as the receive port. Eth 0 and Eth 1 are available. If the added ethernet port option is added to your MIP 6210 then eth 2 and eth 3 will be available in the dropdown.

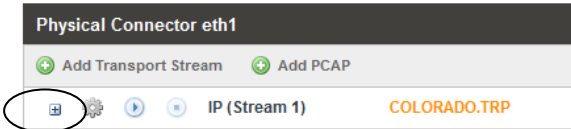
The PCAP record input can be filtered by enabling an incoming Destination IP address and/or a Destination IP port. Set the Destination IP Filter State field and/or the Destination Port Filter State fields to Enabled. Enter the filter IP address and/or the Destination Port Filter value in their respective entry fields. Click on the Apply field to create the record PCAP event with the specified filter values.

The chart below summarizes the selections within the IP section of the PCAP section of the Add PCAP record menu.

Setting	Range	Description
Receive	Enable Disabled	This setting allows the user to enable or disable these input stream settings.
IP – Physical Connector	Selects eth0 or eth1, the standard Ethernet ports, eth2 and eth3 available if MIP 6210 has added optional ports	Entry selects which of the available Ethernet ports on the MIP 6210 that the stream record input is assigned
Destination IP Filter State	Enabled Disabled	Enables or Disables an IP Address filter for the incoming PCAP recording
Destination IP Filter Address	Enter Value: 0.0.0.0 – 255.255.255.255	This IP address is used to filter the incoming PCAP recording
Destination Port Filter State	Enabled Disabled	Enables or Disables an IP Port filter for the incoming PCAP recording
Destination Port Filter	Enter Port Value: 0 – 65535	This port value is used to filter the incoming PCAP recording

6.5 Record Status & Configuration Information

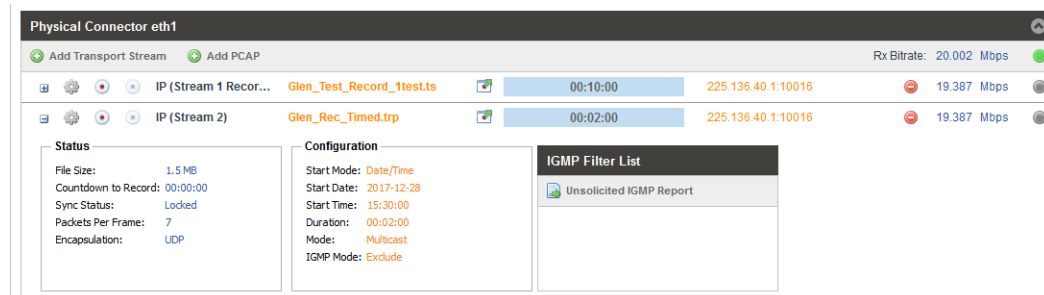
Each of the record events listed in the Record Control Panel includes a Status and Configuration window. To access this window and add it to the panel, click on the  icon at the left of the row containing the IP stream or PCAP record listing. The Status and Configuration boxes are added to the Play Control Panel providing status and configuration details. Click on the  icon at the same location to hide the status and configuration information.



IP Stream - Status and Configuration Windows

The Status and Configuration windows provide information relative to the recording event. This section summarizes the information provided for a record event of an input transport stream.

The Status window indicates the size or memory space required for the recording. The Countdown to Record listing indicates or counts down the time remaining before the recording event starts. *Keep in mind that once the scheduled recording event is created, you need to click on the Record icon to activate or launch the event. Once activated, the countdown indicates the countdown or time remaining.* The Sync Status, Packets Per Frame and Encapsulation fields provide information regarding the incoming receive transport stream. Should the Sync Status indicate “Unlocked” check the IP configuration settings and/or availability of the MPEG-IP stream.



Summary of the informational fields in the Status window:

Status Listing	Description
File Size	Indicates the memory size of the record file
Countdown to Record	Indicates the time remaining from the current time to the scheduled record time of the record event. This field indicates 00.00.00 when the event is an immediate event or when the scheduled recording time is reached or surpassed. This field shows decrementing time values or time remaining until a scheduled recording event.
Sync Status	Indicates the source TS stream is being received and TS sync is established.
Packets Per Frame	Indicates the TS packets per TS frame in the incoming TS stream
Encapsulation	Indicates receive IP stream encapsulation, RTP, UDP

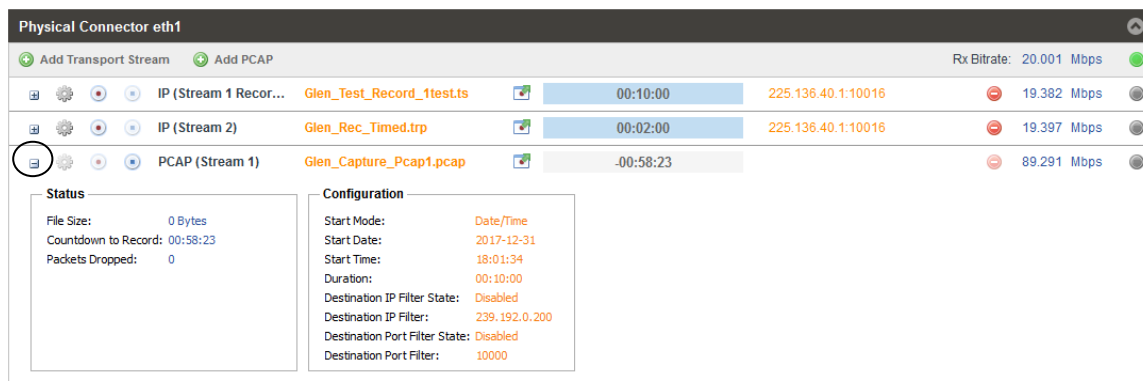
The Configuration part of the window provides information regarding the settings for the record event. It indicates if the record event is to be immediate or scheduled for a later specified date/time. If scheduled, it indicates the user selected start date and time along with the duration. The Configuration window also indicates the IGMP receive mode, unicast or multicast, along with IGMPv3 settings and filter addresses.

Summary of the informational fields in the Configuration window:

Configuration Listing	Description
Start Mode: Immediate or Date/Time	Indicates recording event mode: Immediate: Starts recording immediately upon manually clicking on the record icon in the main menu. Date/Time: Records when specified date/time is reached.
Start Date:	Indicates the year – month – date when the recording event is scheduled to start
Start Time:	Indicates the hour – minute – second when the recording event is scheduled to start
Duration:	Indicates the duration of the record capture once it is started.
Mode:	Indicates if input receive is configured as Unicast or Multicast
IGMP Mode:	Indicates Include or Exclude mode for IGMPv3 address entry
Add IGMP Filter	Indicates listed IGMP filter addresses to Exclude or Include for Source Specific IGMPv3

PCAP File - Status and Configuration Windows

Click on the  icon at the left of the row containing a PCAP stream adds the Status and Configuration windows to the Play Control Panel. There is less status and configuration information for a PCAP file compared to an IP stream file. The following describes the information provided in the Status and Configuration windows. Click on the  icon at the same location to hide the Status and Configuration windows.



The screenshot shows the 'Physical Connector eth1' window. At the top, there are buttons for 'Add Transport Stream' and 'Add PCAP', and a 'Rx Bitrate: 20.001 Mbps' indicator. Below this is a table of streams:

Stream Type	Stream Name	Duration	IP Address	Bitrate
IP (Stream 1 Recorder)	Glen_Test_Record_1test.ts	00:10:00	225.136.40.1:10016	19.382 Mbps
IP (Stream 2)	Glen_Rec_Timed.trp	00:02:00	225.136.40.1:10016	19.397 Mbps
PCAP (Stream 1)	Glen_Capture_Pcap1.pcap	-00:58:23		89.291 Mbps

The 'PCAP (Stream 1)' row is selected, and its status and configuration are displayed in two panels below:

Status

- File Size: 0 Bytes
- Countdown to Record: 00:58:23
- Packets Dropped: 0

Configuration

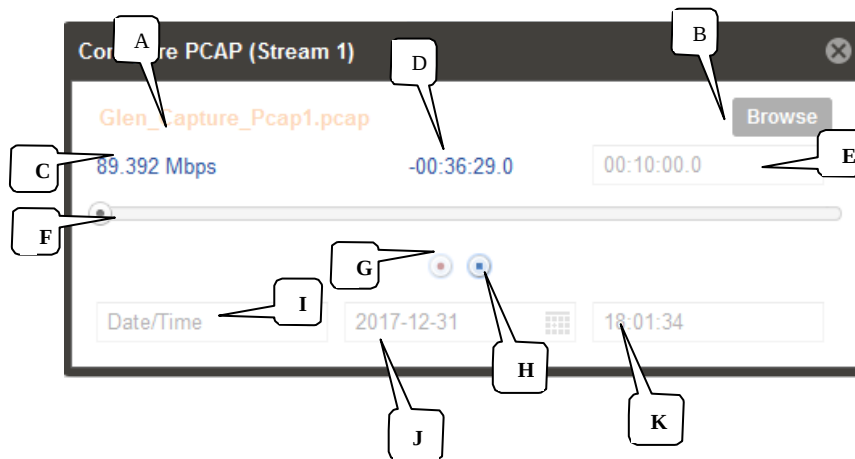
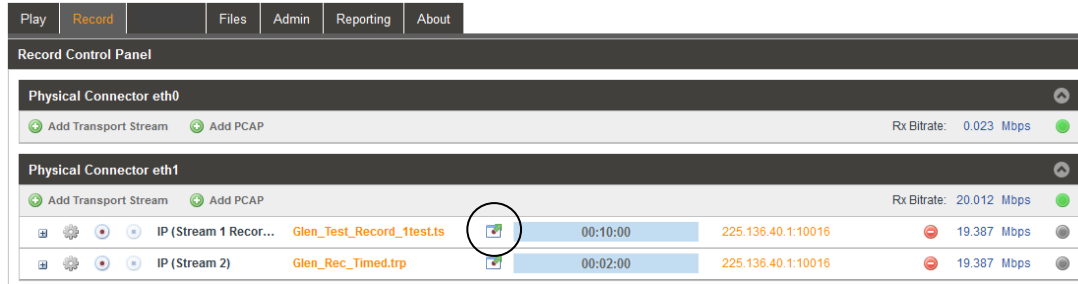
- Start Mode: Date/Time
- Start Date: 2017-12-31
- Start Time: 18:01:34
- Duration: 00:10:00
- Destination IP Filter State: Disabled
- Destination IP Filter: 239.192.0.200
- Destination Port Filter State: Disabled
- Destination Port Filter: 10000

Status Listing	Description
File Size	Indicates the total memory size of the recorded PCAP file
Countdown to Record	Indicates the time remaining from the current time to the scheduled record time of the record event. This field indicates 00.00.00 when the event is an immediate event or when the scheduled recording time is reached or surpassed. This field shows decrementing time values or time remaining until a scheduled recording event.
Packets Dropped	Indicates the dropped packet count of the incoming p-cap recording

Configuration Listing	Description
Start Mode:	Indicates recording event mode: Immediate: Starts recording immediately upon manually clicking on the record icon in the main menu. Date/Time: Records when specified date/time is reached.
Start Date:	Indicates the year – month – date when the recording event is scheduled to start e
Start Time:	Indicates the hour – minute – second when the recording event is scheduled to start
Duration:	Indicates the duration of the record capture once it is started.
Destination IP Filter State:	Enables or Disables an IP Address filter for the incoming PCAP recording
Enabled or Disabled	
Destination IP Filter:	This address is used to filter the incoming PCAP recording
Destination Port Filter State:	PCAP recording Enables or Disables an IP Port filter for the incoming
Destination Port Filter:	This port value is used to filter the incoming PCAP recording

6.6 IP and PCAP Monitor Panel

For each listed transport stream or PCAP record event listed in the Record Control panel you will find a  icon. Clicking on this icon provides a record monitoring panel for that transport stream or PCAP record event and corresponding input. This panel provides a convenient shortcut to improve viewing of the record event and provides several convenient control options. The following descriptions provide an overview of the features provided.



Descriptions of fields in the Record Event Monitor Panel

Item or Field Name	Button/Action	Description
A. File name	Not a selectable field	Indicates the current record file for the transport stream or PCAP record event
B. Browse	Click to browse or view available files	Provides quick access to view files, to locate current file or search for files. Files cannot be selected in this menu to replace the existing play file. (A file is created in memory after a record event is started.)
C. Bitrate	Not selectable	Indicates the bitrate of input IP or PCAP stream
D. Record time indicator	Not selectable	Indicates the current record time position or time within the duration. When record scheduled – indicates negative time countdown to record event time

E. Record Time Duration	Not selectable	Indicates the total time duration or the ending time of the TS or PCAP recording.
F. Record Bar Progress Indicator	Not selectable	Provides visual indicator that the stream record is active and progressing, Indicates the current record position or time relative to the start time and record duration.
G. Start Control	 Record – click on icon to start output	Indicates IP/PCAP stream as playing or paused. Click on icon to pause or play. When paused, the current location of the stream or PCAP is maintained.
H. Stop Control	 Click on icon to stop IP/PCAP recording	Stops a recording of IP/PCAP input. Click on record icon to restart – restarts at file starting point.
I. Record Mode	Indicates Immediate or Date/Time mode	Indicates the record mode. If Date/Time is selected the day and time information indicates the record start date and time
J. Record Date	Value cannot be changed in this menu	Indicates a specified stream record starting - year, month, day
K. Record Time	Value cannot be changed in this menu	Indicates a specified stream record starting time – hour, minute, second

7 Admin

The Admin Panel provides administrative tasks and configuration settings. To access the Admin Control Panel, click on the **Admin** tab. This section provides descriptions and overviews of the features provided by the Admin panel.

The screenshot displays the Admin Control Panel with the following sections:

- General Settings:** Includes a 'Configure General Settings' link and a 'Unit Alias' field showing '(No Alias)'.
- Network:** Shows 'Configure Networks' with Hostname: sencore1, Default Gateway: eth0, and Primary Nameserver: 8.8.8.8. Below is a table of network interfaces:

Name	Mode	IP Address	Subnet Mask	Gateway	MAC	Link Status	Tx Rate	Rx Rate
eth0	DHCP	10.0.7.59	255.255.0.0	10.0.1.3	00:30:48:B2:13:DF	1Gbps (Up)	0.004	0.026
eth1	Static	192.168.10.50	255.255.0.0	192.168.10.1	C4:3D:C7:82:3E:E4	10Mbps/Half (Down)	0.000	0.000
- License Information:** Includes 'Apply License Key' and 'Software Support Agreement Expiration: 2019-01-13'. A table lists licenses:

Option	Supported	State	Instances
MIP 6210 - Base Platform	Yes	Licensed	1
MIP 62102 - File Record License	Yes	Licensed	100
- Date / Time:** Includes 'Configure Date / Time' and settings like Update Mode: Manual, Current Date: 2018-01-08, Current Time: 15:28:52, NTP Server: 0.0.0.0, and Time Zone: GMT.
- SNMP Communities:** Includes 'Configure SNMP Communities' and settings for Read-Only Community: public and Read-Write Community: private.
- SNMP Trap Managers:** Includes 'Configure SNMP Managers'.

Located directly under the admin control panel are the options for saving/loading profiles, changing the network password, downloading the SNMP MIBs, downloading the diagnostic file, updating the unit software, and resetting to factory defaults. Below is a short description of each feature shown. The sections that follow provide more operational details for each of the features.

This screenshot shows the top of the Admin Control Panel with the navigation bar (Play, Files, Admin, Reporting, About) and a row of icons for Change Password, Profiles, Diagnostics, Update Unit, Reboot, and Reset to Defaults.

Change Password: Select to change the unit's network login credentials (User name/password)

Profiles: Creates, saves, recalls, applies unit configuration files or profiles

Diagnostics: Generates a diagnostic file to be used by Engineers when analyzing unit operation.

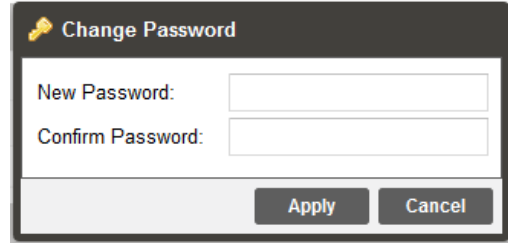
Update Unit: Provides updates to the unit's operational software version.

Reboot: Provides a reboot of the unit.

Reset to Defaults: Resets the unit to factory preset configuration settings.

7.1 Changing Unit Password

The MIP 6210 can be assigned an access password and the current access password can be changed. In order to make changes to passwords, click the  **Change Password** button. A window will appear to enter the current password and new password. Enter the new password and click the Apply field.



Change Password

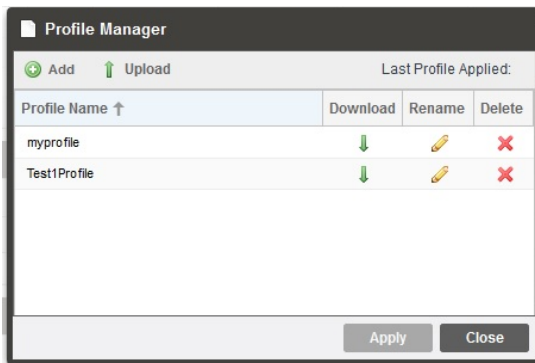
New Password:

Confirm Password:

Apply **Cancel**

7.2 Profile Manager

The MIP 6210 has the ability to save all configuration settings to a file (profile). Multiple profiles can be saved for recall. Profiles can be saved locally, renamed and saved to external storage to be used on other MIP 6210s. Profiles can be used to quickly and easily change the configuration of an MIP 6210 to suit different applications.

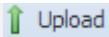


Profile Manager

 **Add**  **Upload** Last Profile Applied:

Profile Name ↑	Download	Rename	Delete
myprofile			
Test1Profile			

Apply **Close**

Action	Button	Description
Add New Profile		Adds a new profile from current settings. User must name profile before creation is complete.
Upload Profile		Allows the user to browse to external storage or workstation to upload profile to MIP 6210.
Last Profile Applied	Last Profile Applied:	Select to see the last profile that was applied.
Apply Profile		Select a profile from the drop-down menu and click this button. All settings in the selected profile are applied
Rename Profile		Select a profile from the drop-down menu and click this button. You are prompted for a new name for the profile.
Delete Profile		Select a profile from the drop-down menu and click this button. You are prompted to confirm profile deletion.
Download Profile		Select a profile from the drop-down menu and click this button. The user will be prompted to select a directory to download the profile.

7.3 SNMP MIB Files

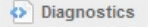
The MIP 6210 stores the SNMP MIB files for the currently installed version of software on the unit. These files can be downloaded directly from the MIP 6210 by clicking on the  icon. The screen below will appear where the files can be downloaded and saved off of the unit.

Index of /mibs/

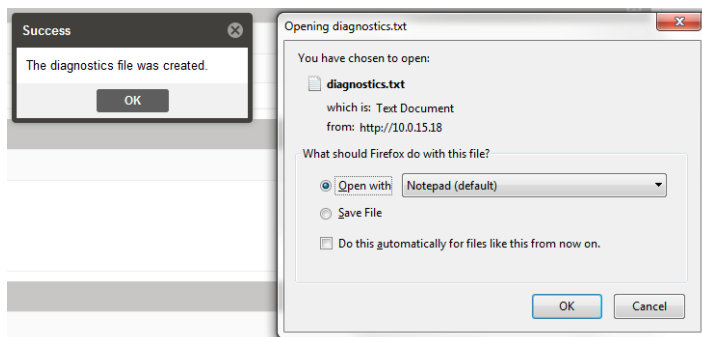
Name	Last Modified	Size	Type
Parent Directory/		-	Directory
 INET-ADDRESS-MIB.MIB	2017-Oct-17 12:18:30	16.3K	application/octet-stream
 SENCORE-CSP-MIB.MIB	2017-Oct-17 12:13:06	86.3K	application/octet-stream
 SENCORE-GLOBAL-REG.MIB	2017-Oct-17 12:13:06	2.3K	application/octet-stream
 SENCORE-TSS6220-MIB.mib	2017-Oct-17 12:13:04	37.1K	application/octet-stream
 SNMP-COMMUNITY-MIB.MIB	2017-Oct-17 12:18:31	15.1K	application/octet-stream
 SNMP-FRAMEWORK-MIB.MIB	2017-Oct-17 12:18:31	21.8K	application/octet-stream
 SNMP-MPD-MIB.MIB	2017-Oct-17 12:18:31	5.3K	application/octet-stream
 SNMP-TARGET-MIB.MIB	2017-Oct-17 12:18:30	22.2K	application/octet-stream
 SNMP-USER-BASED-SM-MIB.MIB	2017-Oct-17 12:18:31	38.2K	application/octet-stream
 SNMP-VIEW-BASED-ACM-MIB.MIB	2017-Oct-17 12:18:31	33.3K	application/octet-stream
 SNMPv2-MIB.MIB	2017-Oct-17 12:18:31	28.6K	application/octet-stream
 SNMPv2-SMI.MIB	2017-Oct-17 12:18:30	8.7K	application/octet-stream
 SNMPv2-TC.MIB	2017-Oct-17 12:18:30	37.1K	application/octet-stream

To Download: Right-Click, Save Link As or Save Target As

7.4 Diagnostics

The “Diagnostics” icon  generates a text file for troubleshooting by Sencore support. Click on the  icon to generate the file. This file includes the configuration of the system, a log history, licensing and hardware information.

Upon generation of the diagnostic file you are prompted with an “Opening diagnostics.txt” screen. You may open the file to view the contents using the default application (Notepad) or choose to save the file. Click on the selection circle for “Save File” and enter a file name. The file is saved to the computer browsing to the unit.



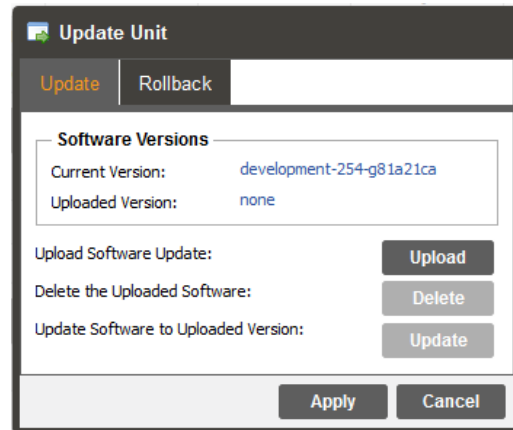
7.5 Update the Unit Software Version

Software updates may become available from Sencore to improve performance or add features. Updates to the MIP 6210 are performed through the web interface. Select the Admin tab of the MIP 6210 main menu and locate the Update Unit icon  Update Unit at the top of the screen.

7.5.0 Applying Software Updates

A software update file is provided by Sencore and named with a numbered sequence indicating the version. The update file is first downloaded from the Sencore web site or from an ftp site as referred by Sencore support. If downloaded as a zip folder, navigate to the zipped folder and unzip the file by right mouse clicking on the file and selecting “Extract All”. Always install or browse to the unzipped folder when applying software updates.

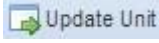
Software updates are governed by Software Subscription Agreements which dictate an expiration date. Software released after the expiration date cannot be loaded. The expiration date is indicated in the License Information section of the Admin tab. Please see section 7.8 in this chapter on Licensing Configuration for more information.

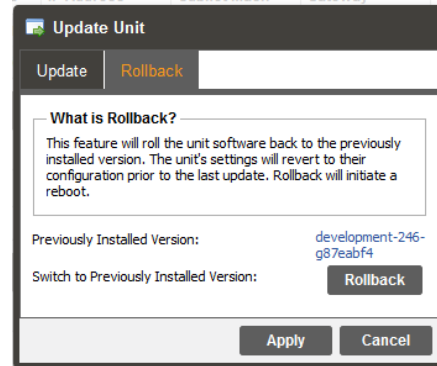


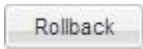
To apply a software update within the web GUI, select the Admin tab and click on the  Update Unit icon. The current version and any uploaded version is displayed in the Software Versions section. If no version has been uploaded, this field indicates “none.” Click on the Upload field and browse to the unzipped folder containing the MIP 6210 update software. Open the file and it will be uploaded and be readied for installation. You will be prompted to approve the installation. Approve and the uploaded software is installed into the MIP 6210. The unit reboots after a software update is complete. The reboot requires that you refresh or re-establish your network connection to the unit.

Action	Button	Description
Upload Software Update		To upload software updates to the MIP 6210, click this button. The user will be prompted to navigate to an update file. The file will then upload to the MIP 6210. When complete the MIP 6210 will prompt the user to either apply the update or cancel
Delete the Uploaded Software		Clicking this button prompts the user to confirm the deletion of the software update from the MIP 6210. This will also clear the Uploaded Version status of the Software Versions section.
Update Software to Uploaded Version		Clicking the button starts the software update process. The MIP 6210 will prompt the user to confirm the update. Click Yes to continue or No to cancel.

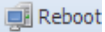
7.5.1 Rollback - Software Update

The MIP 6210 is capable of reverting back to a previous version of software using the Rollback feature. The MIP 6210 maintains two separate software images; one is the most current version of software with all current settings and the other is the previous version of software with all settings. To perform a rollback, click the  button and then click the  tab. The MIP 6210 will reboot after the rollback process is complete.

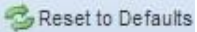


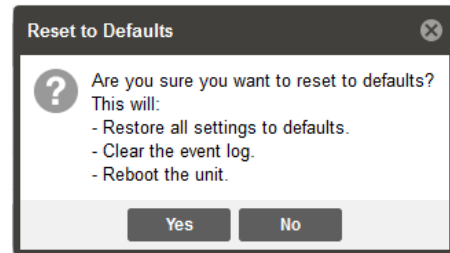
Action	Button	Description
Rollback Software		Clicking this button starts the Rollback process. The MIP 6210 will prompt the user to confirm the rollback or click cancel to stop the process.

7.6 Reboot Unit

The MIP 6210 can be rebooted from the web interface. In order to perform a reboot, click the  button. The MIP 6210 will prompt the user to confirm the reboot. Once the reboot is complete the login screen will appear allowing the web interface to be logged into.

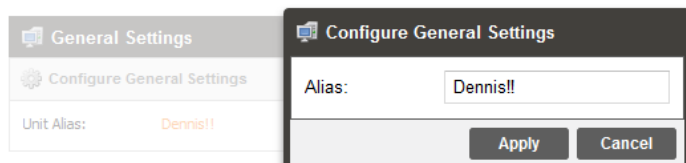
7.7 Reset Unit to Factory Defaults

The MIP 6210 settings can be reset to factory defaults. All settings will be returned to the factory defaults except the network management ports TCP/IP settings. All event logs will be cleared. To reset all settings to default, click the  button. The MIP 6210 will prompt the user to confirm the reset as shown. Click the Yes field to proceed with the reset in which all the unit settings will be set back to factory setting. Press No to exist without resetting the unit to factory defaults.



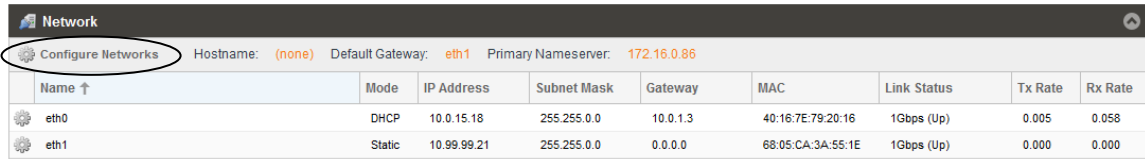
7.8 General Configuration

The MIP 6210 can be assigned an alias which is displayed in the upper right-hand corner of the web interface. The alias helps identify which MIP 6210 the operator is logged into. To edit the Unit Alias, click on the  icon. The name can be up to 32 characters. Click the Apply box to enter or edit changes to the alias name.



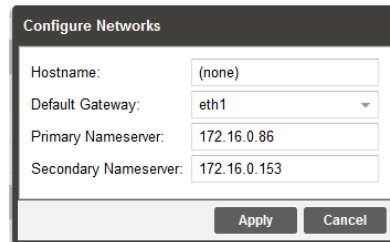
7.9 Network Port Configuration

The Ethernet ports used for web management and stream playout of the MIP 6210 can be configured from the web interface. Select the Admin tab within the MIP 6210 web GUI and locate the Network section as shown below.

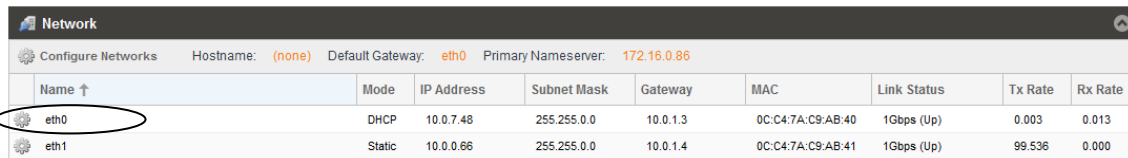


Name ↑	Mode	IP Address	Subnet Mask	Gateway	MAC	Link Status	Tx Rate	Rx Rate
eth0	DHCP	10.0.15.18	255.255.0.0	10.0.1.3	40:16:7E:79:20:16	1Gbps (Up)	0.005	0.058
eth1	Static	10.99.99.21	255.255.0.0	0.0.0.0	68:05:CA:3A:55:1E	1Gbps (Up)	0.000	0.000

Domain name servers can be configured by clicking the  **Configure Nameservers** button. Choose the default gateway from available unit network ports. IP address and web address entries are accepted as Nameserver addresses.



The network ports of the MIP 6210 can be configured from the web interface. To make changes click the  cog wheel icon at the left in the Network section for the respective port you wish to change.

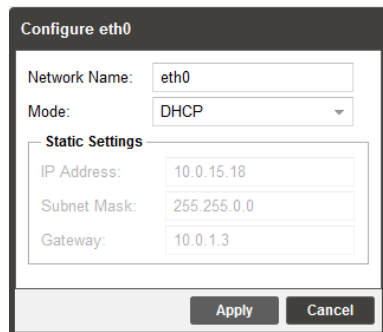
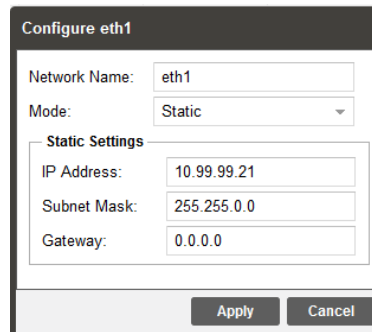


Name ↑	Mode	IP Address	Subnet Mask	Gateway	MAC	Link Status	Tx Rate	Rx Rate
eth0	DHCP	10.0.7.48	255.255.0.0	10.0.1.3	0C:C4:7A:C9:AB:40	1Gbps (Up)	0.003	0.013
eth1	Static	10.0.0.66	255.255.0.0	10.0.1.4	0C:C4:7A:C9:AB:41	1Gbps (Up)	99.536	0.000

NOTE: Exercise caution when performing changes to this menu as network communication can be lost with the MIP 6210.

Note the IP address before making changes and prior to changes so you can reestablish a connection to the unit's web GUI.

When selected for changes, the Configure ethX menu is presented and identified by the Network Name. You may set the port to use DHCP to derive IP settings or select static settings and enter the desired IP Address, Subnet Mask and Gateway addresses.

Configure Networks and Configure Network Port Settings

Setting	Range	Description
Hostname	Valid characters: A through Z 0 through 9 - (hyphen)	This setting allows the user to define an optional unit Hostname.
Mode	DHCP Static	Setting to <i>DHCP</i> will allow the network assign an IP address automatically to the MIP 6210 (if supported). Setting to <i>Static</i> allows the user to manually define all TCP/IP settings for the management port.
IP	Four decimal octets: XXX.XXX.XXX.XXX	This option is only available if Static Mode is set. This is the IP address assigned to the management port.
Subnet Mask	255.0.0.0 – 255.255.255.254	This option is only available if Static Mode is set. This is the Subnet Mask assigned to the management port.
Gateway	Four decimal octets: XXX.XXX.XXX.XXX	This option is only available if Static Mode is set. This is the Gateway address assigned to the management port.

7.10 Licensing Configuration

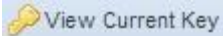
Features of the MIP 6210, such as the Record feature, require an added license to be functional. Licensing information is shown in the web GUI within the Admin tab and License Information section. This section also provides license management in which new licensing may be applied to add a feature(s).

Option	Supported	State	Instances
MIP 6210 - Base Platform	Yes	Licensed	1
MIP 62102 - File Record License	Yes	Licensed	100

The License Information section displays all licenses which are available as well as the following status regarding the listings.

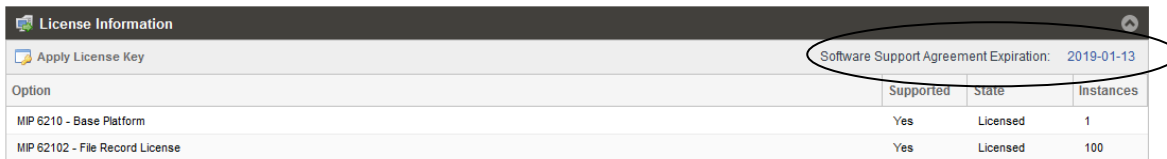
- License Locked or Unlocked
- License is Supported or Unsupported by the installed hardware
- Instances of the license when multiple licenses with the same name are applicable

If licenses need to be applied to the MIP 6210 click  **Apply License Key** icon. The menu below appears where the user can copy and paste the provided license key from Sencore. The currently applied license

key, if applicable, can be viewed by clicking the  button.

7.10.1 Software Support Agreements (SSAs)

The MIP 6210 software updates are managed by software support agreements (SSAs). A 1-year SSA is automatically included at the time of the unit purchase and issuance of the base software license. The user is able to apply any software update that was created by Sencore before the SSA expiration date. The expiration date is indicated at the far right of the Apply License key row in the GUI as shown/circled below. Software updates created by Sencore after the indicated SSA expiration date cannot be loaded into the MIP 6210.



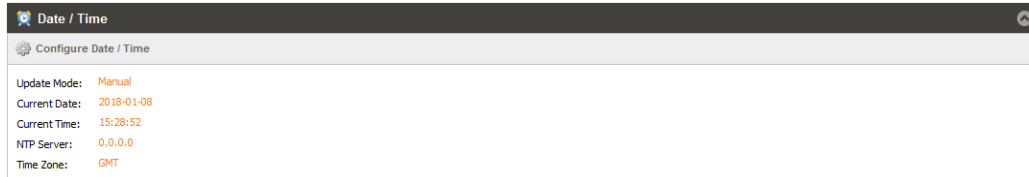
License Information			
Apply License Key			
Option	Supported	State	Instances
MIP 6210 - Base Platform	Yes	Licensed	1
MIP 62102 - File Record License	Yes	Licensed	100

Customers may purchase extensions to the Software Support Agreement period to extend the expiration date. Extensions are available to add 1-year, 2-years, or 4-years of software support time.

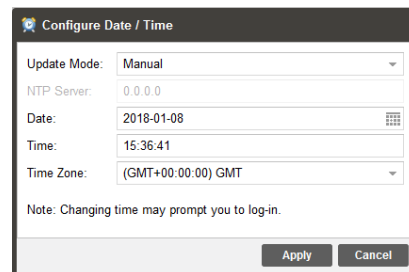
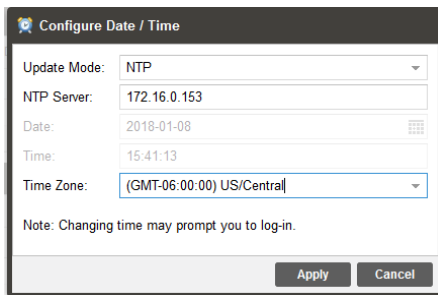
7.11 Date/Time Configuration

The MIP 6210 provides date and time references. The date/time can be set to synchronize with an NTP server or a manual data and time can be defined by the user. The Date/Time setting is found in the web GUI under the ADMIN tab. Locate the Date/Time section and click the

 **Configure Date / Time** button to configure the date and time. The date/time values are used to timestamp entries in the Alarm and Event logs under the Reporting tab.



To set the Date/Time manually, click the  **Configure Date / Time** icon and set the Update Mode to “Manual.” Enter the current date and time. Click on the Apply field at the bottom. To update the date and time via an NTP server, click on the  **Configure Date / Time** icon and set the Update Mode to “NTP.” Enter the NTP Server address in the address field. Click the Apply field.

Setting	Range	Description
Update Mode	NTP Manual	Setting to <i>NTP</i> uses the local network's NTP server to synchronize date and time. <i>Manual</i> allows the user to define a date and time.
NTP Server	Four decimal octets: XXX.XXX.XXX.XXX Domain Name	This is the IP Address or Domain Name of the local NTP Server on the network. This setting is only available if Update Mode is set to NTP.
Date	YYYY-MM-DD	This setting is the user defined date. A calendar widget can be used to select the data by clicking the  button. This setting is only available if Update Mode is set to Manual.
Time	00:00:00 – 24:00:00	This setting is the user defined time. The time is based on a 24-hour clock. This setting is only available if the Update Mode is set to Manual.
Time Zone	Click arrow dropdown, select GMT	Select GMC offset from the world time zone descriptions

7.12 SNMP Communities

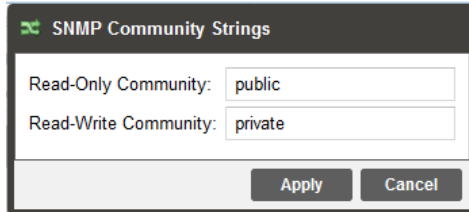
SNMP Communities define whether users have read-only read-write SNMP rights. These two communities are given unique names. The default names for these communities are:

- Read –Only Community: public
- Read- Write Community: private



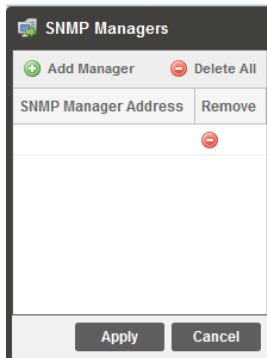
or

To modify the names of these communities, click on the  **Configure SNMP Communities** button.



7.13 SNMP Trap Managers

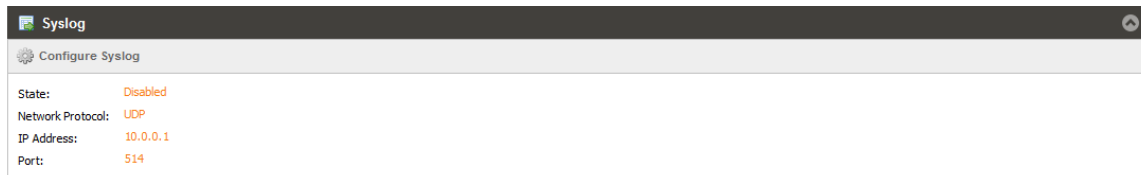
The SNMP trap managers are recipients of SNMP traps sent from the MIP 6210. The following menu allows the user to configure the recipient's IP addresses. To add and remove recipients of the SNMP traps click the  **Configure SNMP Managers** button.



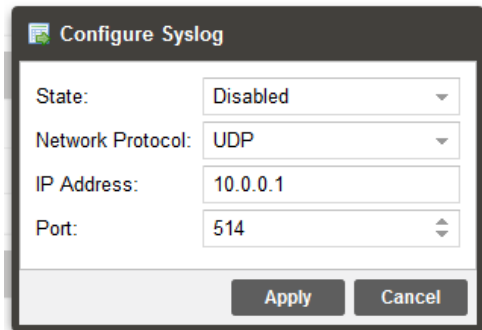
Action	Button	Description
Add Manager	 Add Manager	Clicking this button prompts the user for the IP address of the SNMP trap manager.
Delete All	 Delete All	Clicking this button prompts the user to confirm the deletion of all SNMP trap manager IP addresses. If the user confirms deletion all SNMP trap manager IP addresses will be removed.
Delete Single Entry		Highlight a single SNMP trap manager IP address and click this button to delete the entry. A prompt will appear confirming the deletion of IP address.

7.14 Syslog Configuration

The MIP 6210 can be configured to send error and event logs formatted in the syslog protocol to a remote user specified Syslog server. Configuration is provided in the Admin tab section of the MIP 6210 web GUI within the Syslog section.



To configure the Syslog, click on the Configure Syslog icon  **Configure Syslog**. Enter the IP address and port values along with the network protocol. Enable or Disable the Syslog state as desired.



Action	Range	Description
State	Enabled	Enable or Disable sending messages to Syslog server.
	Disabled	
Network Protocol	UDP	Select which network protocol used to transmit to the Syslog server
	TCP	
IP Address	Four decimal octets: XXX.XXX.XXX.XXX	IP of the Syslog server. 0.0.0.0 and 255.255.255.255 are not permitted
Port	0 - 65535	Destination port of the Syslog server

8 Reporting Panel

The reporting tab provides listings of unit alarms that are currently active alarms and also a listing of logs that show past alarm activities and conditions. To access the Reporting panel, click on the Reporting tab at the top of the screen. This section provides an overview of the alarm and logging features of the MIP 6210 and shows how to configure the operation.

Sencore MIP6210

Logged in as: admin Disk Usage: 3.9 GB / 935.9 GB CPU: 12% Logout

Streams Files Admin **Reporting** About

Reporting Control Panel

Alarms Logs Configure

State	Name	Location	Last Changed
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout MPEG/IP (Stream 1)	04/17/2017 13:21:36
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout ASI (Stream 2)	04/17/2017 13:21:36
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout PCAP (Stream 3)	04/17/2017 13:21:36
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout (Stream 4)	04/17/2017 13:21:36
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout (Stream 5)	04/17/2017 13:21:36
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout (Stream 6)	04/17/2017 13:21:36
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout (Stream 7)	04/17/2017 13:21:36
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout (Stream 8)	04/17/2017 13:21:36
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout (Stream 9)	04/17/2017 13:21:36
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout (Stream 10)	04/17/2017 13:21:36

The **Reporting** tab in the MIP 6210 contains logs for active alarms currently affecting the unit and an event log. The active alarms are updated periodically in order to reflect the real-time state of the unit. Once an error is cleared it will be cleared from the active alarms window. The event log can be used to view alarm and event history. Both the active alarm and event logs can be configured to hide or change the behavior of alarms and events.

8.1 Active Alarms

Clicking on the **Alarms** button displays the Active Alarms menu. This list displays all of the active alarms currently affecting the unit. There are four columns in the log that display different types of information.

Sencore MIP6210

Play Files Admin **Reporting** About

Reporting Control Panel

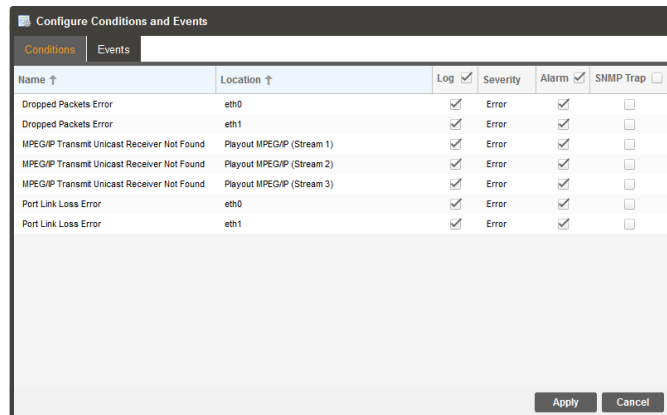
Alarms Logs Configure

State	Name	Location	Last Changed
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout MPEG/IP (Stream 1)	06/19/2017 17:05:34
ⓘ	MPEG/IP Transmit Unicast Receiver Not Found	Playout ASI ()	06/20/2017 14:28:31

Title	Description
State	This column displays the nature of the alarm. The  icon means the log entry is informational and is not an error. The  icon means the log entry is an active alarm.
Name	This column displays the description of the error. The function that is experiencing an error condition is described here.
Location	This column displays the hardware or function that is experiencing the active error.
Last Changed	This column displays the data and time the error was raised. This data and time correlates with the Date and Time settings configured in Section Error! Reference source not found.

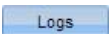
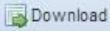
MIP 6210 Alarm Conditions:

- **Link Loss Error:** Error occurs when the NIC on the Streaming Server Platform NIC is providing a network link for an enabled output IP stream and the NIC loses physical link to the network
- **Link Loss Error Ends:** Error condition clears when the NIC regains the link or unit reconfiguration has the NIC no longer providing a network link for an output IP stream or PCAP
- **MPEG/IP Transmit Unicast Receiver Not Found:** Error condition occurs when the streamer is outputting a unicast and cannot communicate with a receiver
- **MPEG/IP Transmit Unicast Receiver Found:** Error clears when the unicast receiver communication occurs
- **Dropped Packet Error:** Error condition occurs when TS packet counter indicates an improper increment indicating a dropped packet
- **NTP Server Unreachable:** The NTP Server specified cannot be connected or has lost connection



Name ↑	Location ↑	Log	Severity	Alarm	SNMP Trap
Dropped Packets Error	eth0	☒	Error	☒	☐
Dropped Packets Error	eth1	☒	Error	☒	☐
MPEG/IP Transmit Unicast Receiver Not Found	Playout MPEG/IP (Stream 1)	☒	Error	☒	☐
MPEG/IP Transmit Unicast Receiver Not Found	Playout MPEG/IP (Stream 2)	☒	Error	☒	☐
MPEG/IP Transmit Unicast Receiver Not Found	Playout MPEG/IP (Stream 3)	☒	Error	☒	☐
Port Link Loss Error	eth0	☒	Error	☒	☐
Port Link Loss Error	eth1	☒	Error	☒	☐

8.2 Event Logs

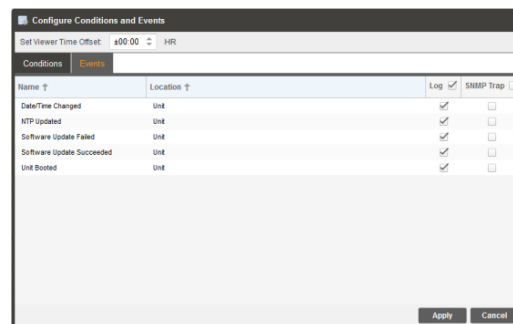
Clicking on the  button displays the Event Log menu. This list displays all of the events and alarms that have affected the unit. The MIP 6210 stores up to four days' worth of logs. If the unit is rebooted or powered off and on, the event logs are cleared. The logs can be cleared manually by clicking the  button. The logs can be downloaded as a .tsv file and saved to an external location by clicking the  button. There are five columns in the log that display different types of information.

Play	Files	Admin	Reporting	About
Reporting Control Panel				
Alarms		Logs		Configure
Refresh	Clear	Download		
Severity	Timestamp	Transition	Location	Message
	07/25/2017 21:25:26		Playout MPEG/IP (Stream 1)	Unicast Receiver Found
	07/25/2017 21:24:56		Playout MPEG/IP (Stream 1)	Unicast Receiver Not Found
	07/25/2017 21:24:54		Playout MPEG/IP (Stream 1)	Unicast Receiver Found
	07/25/2017 21:24:23		Playout MPEG/IP (Stream 1)	Unicast Receiver Not Found
	07/25/2017 21:24:14		Playout MPEG/IP (Stream 1)	Unicast Receiver Found
	07/25/2017 21:22:47		Playout MPEG/IP (Stream 1)	Unicast Receiver Not Found
	07/25/2017 21:11:25		Playout MPEG/IP (Stream 1)	Unicast Receiver Found
	07/25/2017 21:10:47		Playout MPEG/IP (Stream 1)	Unicast Receiver Not Found
	07/25/2017 19:49:59		Playout MPEG/IP ()	Unicast Receiver Found
	07/25/2017 19:17:52		Unit	Unit Booted on Tue Jul 25 19:17:52 2017
	07/25/2017 19:17:28		Unit	Successfully updated software from version 'development-246-g87eabf4' to version 'development-254-g81a21ca'.

Title	Description
Severity	This column displays the nature of the alarm. The icon means the log entry is informational and is not an error. The icon means the log entry is an active alarm.
Timestamp	This column displays the data and time the error was raised or cleared. This data and time correlates with the Date and Time settings configured in Section Error! Reference source not found.
Transition	This column displays when an alarm transition from a bad to good state. When an error is raised the icon is displayed. When an error is cleared the icon is displayed. When an event takes place the icon is displayed.
Message	This column displays the description of the error or event. The function or hardware that experienced the event or error is described here.
Location	This column displays the hardware or function that experienced the alarm or event.

MIP 6210 Event Conditions

- **Unit Booted:** The Streaming Server Platform shall notify the user when the unit is booted.
- **Unit Shutdown Event:** Indicates the unit shutdown
- **Update Succeeded Event:** Notifies when a software update has succeeded.
- **Update Failed Event:** Notifies when a software update has failed.
- **NTP Updated Event:** Notifies when the system time has been updated by an NTP server.

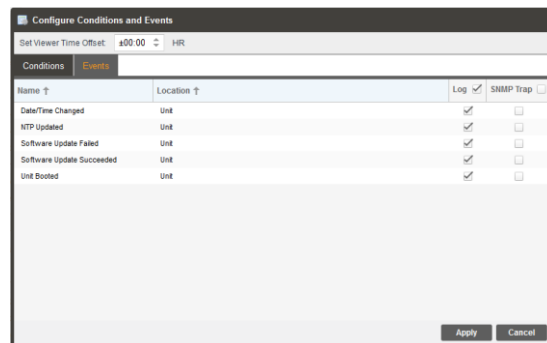
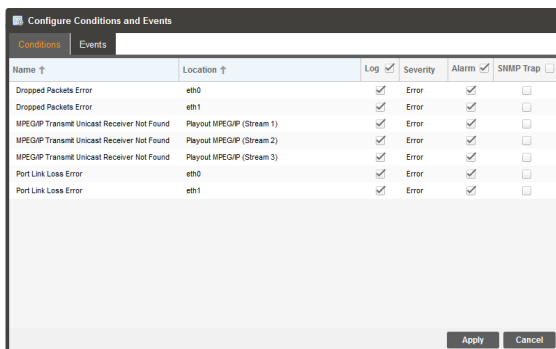


- **Date/Time Changed Event:** Notifies when the system time has been changed by the user.

8.3 Configuring the Logs

The MIP 6210 allows the user to configure alarms and events. Events and alarms can be hidden or set to send SNMP traps. To configure these options, click the  button while in the **Logs** section of the **Reporting** tab.

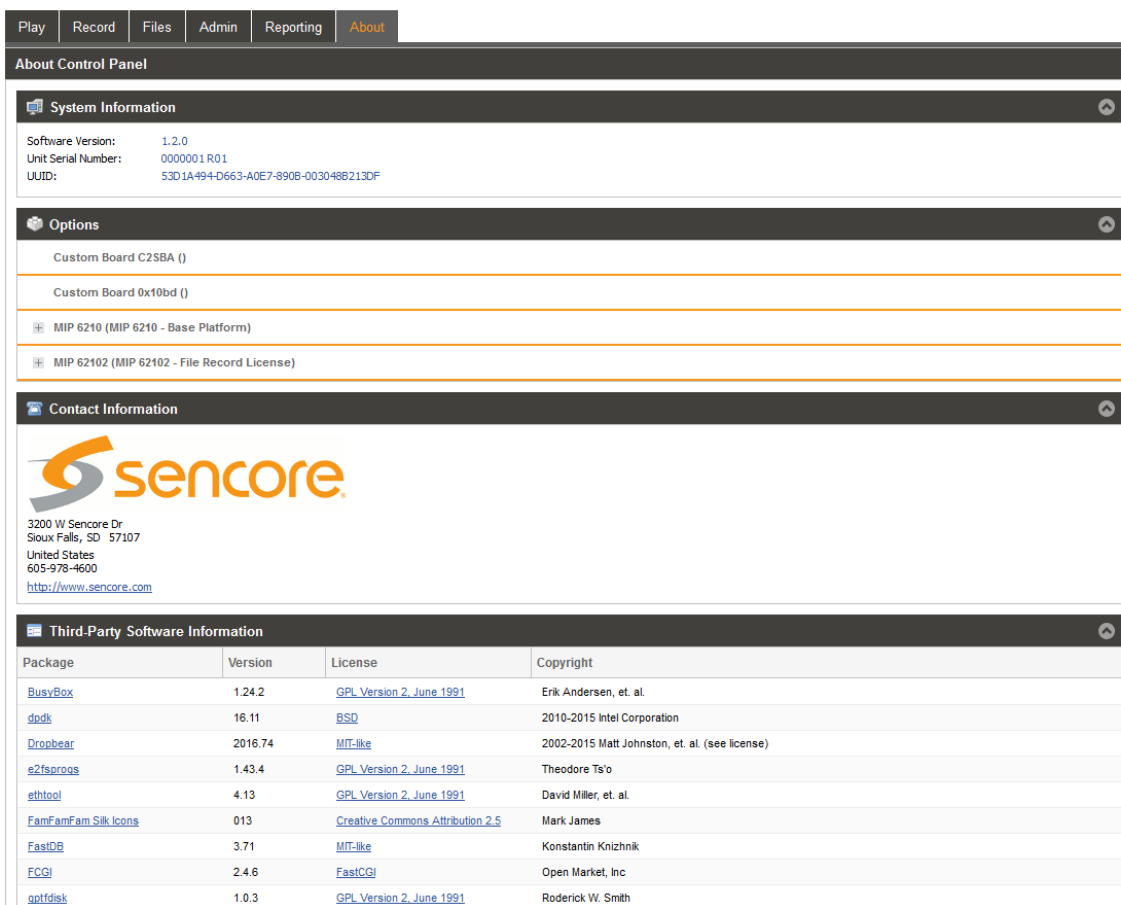
The **Conditions** tab allows the user to configure the alarms reported by the MIP 6210. The **Events** tab allows the user to configure the events reported by the MIP 6210. Each column and its function are described below. A user configured time offset can also be applied to allow viewing the logs in a local time zone.



Title	Description
Name	This column displays the name of the error or condition. This is informational data; no options can be set here.
Location	This column displays the hardware or function that the alarm or event applies to. This is informational data; no options can be set here.
Log	Checking the box in this column creates an entry in the event log in the case this error or event is raised. If this box is unchecked this error or event will be hidden and not logged if raised.
Log Severity	This column is only available in the Conditions tab. This option allows the user to set the severity of the error to Info or Error. If Info is selected in the drop-down box the  icon will be displayed in the event log. If Error is selected the  icon will be displayed in the event log.
Alarm	This column is only available in the Conditions tab. This option allows the user to enable or disable this alarm in the Active Alarms log. If checked the alarm will be displayed in the Active Alarms log if raised. If this box is unchecked this error will be hidden.
SNMP Trap	This column allows the user to send an SNMP Trap if this alarm is raised. If this box is checked an SNMP Trap is sent when this alarm is raised. If this box is unchecked an SNMP is not sent.

9 About Panel

The About tab provides information regarding the MIP 6210 including system information, hardware and software options, Sencore contract information, and third-party software information. Click on the About  tab to access the About Panel.



The screenshot shows the 'About Control Panel' interface with the following sections:

- System Information:**
 - Software Version: 1.2.0
 - Unit Serial Number: 0000001 R01
 - UUID: 53D1A494-D663-A0E7-890B-003048B213DF
- Options:**
 - Custom Board C2SBA ()
 - Custom Board 0x10bd ()
 - MIP 6210 (MIP 6210 - Base Platform)
 - MIP 62102 (MIP 62102 - File Record License)
- Contact Information:**
 - 
 - 3200 W Sencore Dr
Sioux Falls, SD 57107
United States
605-978-4600
<http://www.sencore.com>
- Third-Party Software Information:**

Package	Version	License	Copyright
BusyBox	1.24.2	GPL Version 2, June 1991	Erik Andersen, et. al.
dpdk	16.11	BSD	2010-2015 Intel Corporation
Dropbear	2016.74	MIT-like	2002-2015 Matt Johnston, et. al. (see license)
e2fsprogs	1.43.4	GPL Version 2, June 1991	Theodore Ts'o
ethtool	4.13	GPL Version 2, June 1991	David Miller, et. al.
FamFamFam Silk Icons	013	Creative Commons Attribution 2.5	Mark James
FastDB	3.71	MIT-like	Konstantin Knizhnik
FCGI	2.4.6	FastCGI	Open Market, Inc
gotfdisk	1.0.3	GPL Version 2, June 1991	Roderick W. Smith

Under the  tab, there are no user definable parameters. Below is a description of the information found in the About Panel.

System Information

The System Information section provides the following information regarding the specific MIP 6210.

Software Version: Indicates the current software version

Unit Serial Number: Indicates the unit's serial number

UUID: Indicates a unique unit identification number

Options

The Options section provides a list of the unit's hardware and software options. Click on the  symbol at the left of each listing for additional drop down informational lines and details of each option. The listings provide useful information regarding the hardware versions and unit configuration. The listings differ depending on the configuration and options of the MIP 6210.

Contact Information

The Contact Information section provides Sencore company and contact information.

Third Party Software Information

The Third-Party Software Information section lists all the MIP 6210's third party software. Information includes the package identification, software version, license numbers and copyright information. Click the box  to show a complete listing.