

# Configuring the AXIS® Q7401 Video Encoder for Multicast Playback Using SAFARI Montage® Selective Video Streaming

**PLEASE NOTE BEFORE BEGINNING:** These instructions supplement the manufacturer's installation guide and describe the configuration of the AXIS Q7401 Video Encoder for multicast playback using SAFARI Montage Selective Video Streaming.

## Requirements:

- AXIS Q7401 Video Encoder
- IP address of the AXIS Q7401 Video Encoder
- SAFARI Montage Media Player, available through SAFARI Montage by selecting **Help -> Browser and Plug-in Downloads -> SAFARI Montage Media Player**

## AXIS Installation and Configuration:

1. Install and configure the AXIS Q7401 Video Encoder in accordance with the manufacturer's installation guide. The AXIS Q7401 Installation Guide is available in the box with the encoder or via download at the AXIS Communication's website. There are two utilities provided by AXIS Communication that can be used to access and configure your encoder. These utilities are the **AXIS IP Utility** and **AXIS Camera Management**. These utilities are located on the CD that accompanied your encoder or can be downloaded from the AXIS Communication's website. Either utility will locate any AXIS encoders on your network and allow you to configure them in accordance with your networking infrastructure. Refer to pages 7 and 8 of the AXIS Q7401 Installation Guide for details on using these utilities.  
**Note:** The AXIS Q7401 is set to DHCP from the factory. If your network does not have DHCP, the encoder will use **109.168.0.90** as the default address.
2. Install the SAFARI Montage Media Player and set as the default player used in SAFARI Montage.
3. Navigate to the web management interface of the AXIS Q7401 by using a web browser and the unit's IP address.  
**Note:** Microsoft® Internet Explorer® users. When accessing the encoder for the first time, you will be required to install three add-ons, the **AXIS Media Control**, **H.264 Decoder** and **AAC Decoder**. These three add-ons must be installed to all workstations that will be using Microsoft Internet Explorer to access and view streaming media from the encoder. The only way to install these three add-ons is to access the encoder's web management interface from each workstation.
4. Select **Setup** from the top right-hand of the screen.  
**Note:** The username and password created during the initial setup of the AXIS Encoder will be required.
5. Expand the **Basic Setup** section of the left-hand navigation.

6. Select option **1. Users** and configure the following:

*User Settings*

- Enable (check) **Enable anonymous viewer login** and click on the **Save** button.

User Name	User Group	User Info
root	Administrator	

Buttons: Add..., Modify..., Remove

HTTP/RTSP Password Settings  
Allow password type: Encrypted & unencrypted

User Settings  
 Enable anonymous viewer login (no user name or password required)  
 Enable anonymous PTZ control login (no user name or password required)  
 Enable Basic Setup

Buttons: Save, Reset

7. Select option **3. Date & Time**, set the date and time settings for the unit, and click on the **Save** button.

8. Select option **4. Video Stream**, configure the following settings and click on the **Save** button for each tab.

**Note:** The settings below are recommended values that may be adjusted, based on local requirements.

**Image Tab**

- **Resolution: 4CIF (704 x 480)**
- **Compression: between 20 and 30**

Image Appearance  
Resolution: 4CIF (704 x 480) [Aspect ratio correction unchecked]  
Compression: 30 [0..100]  
Mirror image: unchecked  
Color setting: Color

Video Stream  
Maximum frame rate: Unlimited [Limited to 1..30 fps per viewer]

Text Overlay Settings  
Include date: unchecked, Include time: unchecked  
Include text: [ ]  
Text color: white, Text background color: black  
Place text/date/time at: top of image

### Audio Tab

- **Enable Audio: Checked**

The screenshot shows the 'Audio' tab selected in a settings menu. Under the 'Enable Audio' section, the 'Enable audio' checkbox is checked. A note states: 'Note that the image preview is without audio.' Below this, the 'Current Audio Settings' are listed as 'AAC, Half duplex'.

### H.264 Tab

- **Use: Constant bit rate**
- **Target bit rate: 3000 kbit/s**

The screenshot shows the 'H.264' tab selected. Under 'GOV Settings', the 'Length' is set to 32. Under 'Bit Rate Control', the 'Use' radio button for 'Constant bit rate' is selected. The 'Target bit rate' is set to 3000 kbit/s, and the 'Priority' is set to 'None'.

9. Select option **5. Audio Settings**, configure the following settings and click on the **Save** button.

### Audio Channels

- **Audio mode: Half duplex**

### Audio Input

- **Source: Line**
- **Input Gain: 12 dB** (adjust based on source and volume needs)
- **Encoding: AAC** (this setting is required for multicast support with SAFARI Montage Selective Video Streaming)

The screenshot shows the 'Audio Settings' dialog box. Under 'Audio Channels', 'Audio mode' is set to 'Half duplex'. Under 'Audio Input', 'Source' is set to 'Line'. There is a checkbox for 'Enable microphone power' which is unchecked. 'Input gain' is set to 12 dB. 'Encoding' is set to 'AAC'. 'Sample rate' is 16 kHz, 'Bit rate' is 32 kbits/s, and 'Alarm level' is 50%. Under 'Audio Output', 'Output gain' is set to 0 dB. A note at the bottom states: 'Note: The Java applet only supports G711 audio. QuickTime supports G711 and AAC.' There are 'Save' and 'Reset' buttons at the bottom.

10. Expand the **Live View Config** section of the left-hand navigation.
11. Configure the following settings in **Live View Layout**, and click on the **Save** button.

**Stream Profile**

- Stream profile: **H.264**

**Default Viewer**

- Windows Internet Explorer: **AMC (ActiveX)**
- Other Browsers: **QuickTime**

**Viewer Settings**

- Enable H.264 decoder installation (**Checked**)

### Live View Layout ?

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**Stream Profile**

Stream profile: H.264 ▼

Show stream profile selection

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**Default Viewer**

Windows Internet Explorer: AMC (ActiveX) ▼

Other Browsers: QuickTime ▼

**Note:** QuickTime is only used with H.264. Motion JPEG will be shown with AMC in Windows Internet Explorer and with server push in other browsers.

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**Viewer Settings**

Show viewer toolbar

Enable H.264 decoder installation

Show crosshair in PTZ joystick mode\*

Use PTZ joystick mode as default\*

Enable recording button

\*Not applicable to AMC (ActiveX).

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**Action Buttons**

Show manual trigger button

Show snapshot button

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**User Defined Links**

<input type="checkbox"/> Show custom link 1	Use as: <input checked="" type="radio"/> cgi link <input type="radio"/> web link
Name: <input style="width: 80%;" type="text" value="Custom link 1"/>	URL: <input style="width: 80%;" type="text" value="http://"/>
<input type="checkbox"/> Show custom link 2	Use as: <input checked="" type="radio"/> cgi link <input type="radio"/> web link
Name: <input style="width: 80%;" type="text" value="Custom link 2"/>	URL: <input style="width: 80%;" type="text" value="http://"/>
<input type="checkbox"/> Show custom link 3	Use as: <input checked="" type="radio"/> cgi link <input type="radio"/> web link
Name: <input style="width: 80%;" type="text" value="Custom link 3"/>	URL: <input style="width: 80%;" type="text" value="http://"/>
<input type="checkbox"/> Show custom link 4	Use as: <input checked="" type="radio"/> cgi link <input type="radio"/> web link
Name: <input style="width: 80%;" type="text" value="Custom link 4"/>	URL: <input style="width: 80%;" type="text" value="http://"/>

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**Output Buttons**

No outputs are specified.

Save
Reset

12. Expand the **System Options** section of the left-hand navigation, select **Network -> TCP/IP -> Advanced**, configure the following settings and click on the **Save** button.

**RTSP**

- **Enable RTSP server: Checked**
- **RTSP port: 554**

**Advanced TCP/IP Settings**

**DNS Configuration**

Obtain DNS server address via DHCP [View](#)

Use the following DNS server address:

Domain name:  (use ; to separate names)

Primary DNS server:

Secondary DNS server:

**NTP Configuration**

Obtain NTP server address via DHCP [View](#)

Use the following NTP server address:

Network address:  (host name or IP address)

**Host Name Configuration**

Use the host name:

Enable dynamic DNS updates

Register DNS name:  (Axisproduct.example.com)

TTL:

**Link-Local IPv4 Address**

Auto-Configure Link-Local Address [View](#)

**HTTP**

HTTP port:

**HTTPS**

HTTPS port:

**NAT traversal (port mapping) for IPv4**

NAT traversal is disabled. [Enable](#)

Use manually selected NAT router:  (LAN IP address)

Alternative HTTP port:  \*

\* If set to blank or 0, a port number will be set automatically upon enable.

**FTP**

Enable FTP server

**RTSP**

Enable RTSP server\*

RTSP port:

\*H.264 video streams will be unavailable if this is disabled.

[Save](#) [Reset](#)

13. Expand the **System Options** section of the left-hand navigation, select **Network -> RTP** in the left-hand navigation, configure the following settings and click on the **Save** button.

**Port Range**

- Start port: **50000**
- End port: **50999**

**Multicast**

- Video address: <Multicast Address> (as determined by your network administrator)
- Video port: **50000**
- Audio address: <Multicast Address> (enter as determined by your network administrator)
- Audio port: **50002**

The screenshot shows the 'RTP / H.264' configuration page. It is divided into two main sections: 'Port Range' and 'Multicast'.  
In the 'Port Range' section, there are two rows. The first row is for 'Start port' with a value of 50000 and a range of [1024..65534]. The second row is for 'End port' with a value of 50999 and a range of [1025..65535].  
In the 'Multicast' section, there are four rows. The first row is for 'Video address' with a value of 239.225.82.73. The second row is for 'Video port' with a value of 50000 and a range of [0, 1024..65534; even values only]\*. The third row is for 'Audio address' with a value of 239.225.82.73. The fourth row is for 'Audio port' with a value of 50002 and a range of [0, 1024..65534; even values only]\*. Below these rows is a 'Time to live' field with a value of 5 and a range of [1..255].  
At the bottom of the form, there is a note: '\*0 = Port automatically selected within the port range specified above.' and two buttons: 'Save' and 'Reset'.

14. Click on **Live View**, located in the top right-hand of the screen, to confirm the video stream from the encoder.

## Configuring a Multicast Stream in SAFARI Montage:

1. Log in to SAFARI Montage as an administrator.
2. Select the **Admin** tab in the header.
3. Select **Selective Video Streaming** -> **Video Streaming** from the left-hand navigation.
4. Select **New Stream** at the top of the stream list and configure the following settings:

Setting Name	Setting
Video Stream Name	Enter an appropriate name for the video stream
Active Stream	Checked
Reservations	Checked or unchecked as required
School News	Checked or unchecked as required
School	Select a school to associate with the video stream; typically the school responsible for controlling
URL	Enter the URL for the video stream, using the following syntax <b>For Unicast:</b> rtsp://<ip address of AXIS encoder>/axis-media/media.amp <b>For Multicast:</b> axrtmp://<ip address of AXIS encoder>/axis-media/media.amp?codec=h264 <b>Note:</b> Enter the IP address of the AXIS encoder, not the multicast address.
Type	Select the type of stream from the AXIS encoder (Video or Motion JPEG)
Source	Select the video stream's source (DTV, Internet, Cameras or DVD)
Bitrate (Optional)	Enter value in Kb or Mb
Description (Optional)	Enter a description for the video stream
Controlled Devices (Optional) <b>Note:</b> This option only appears when editing a stream and is not available during <b>New Stream</b> setup.	Select a Pathways SM controllable device; this will allow the user to control the source device, e.g., a PTZ camera or DTV tuner, for the video stream through the associated Pathways SM virtual remote control. <b>Note:</b> Applies only to systems with the Pathways SM Module.
Assign to (Optional)	Select School Groups or Individual Schools that will have access to view the video stream. <b>Note:</b> The school set in the <b>School</b> setting above will always be selected.

**Edit Video Stream**

**Video Stream Name:**   
 Max Name Length: 60 characters

**Active Stream:**

**Reservations:**  1  
 Require title to be scheduled and only allow x users. Maximum is 99.  
 \* Streams will not be available to remote schools when reservations are required.

**School News:**

**School:**

**URL:**

**Type:**

**Source:**

**Bitrate:**

**Description:**   
 Max Description Length: 1,000 characters

**Controlled Devices:**

**Assignments**

**Assign to:**  Toggle will uncheck selected items.

- Ember Middle School
- KCR School
- KLM School
- Ken's Tech Pub School w/Pathways
- Kingsway High School
- Marion County HS
- May School
- Merge School
- Mirage School \*Remote
- Neely's Elementary School - HD OFF

5. Click on the **Save Changes** button.
6. Navigate to **Admin -> Selective Video Streaming -> Video Streaming** and confirm that the stream plays back correctly.

**Support:**

For assistance with SAFARI Montage or SAFARI Montage Selective Video Streaming, please contact SAFARI Montage Technical Support by calling (800) 782-7230 or by visiting <http://www.safarimontage.com/support>.