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> [URayCoder UHE265-4-4K 4K HDMI to IP Network Video Stream Encoder User Manual](#)

URayCoder UHE265-4-4K

URayCoder UHE265-4-4K 4K HDMI to IP Network Video Stream Encoder User Manual

Model: UHE265-4-4K | Brand: URayCoder

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the URayCoder UHE265-4-4K 4K HDMI to IP Network Video Stream Encoder. This device is designed to convert HDMI video signals into various IP network video streams, supporting a wide range of protocols and platforms for professional live streaming and content distribution. Please read this manual thoroughly before using the product to ensure proper functionality and to maximize its capabilities.

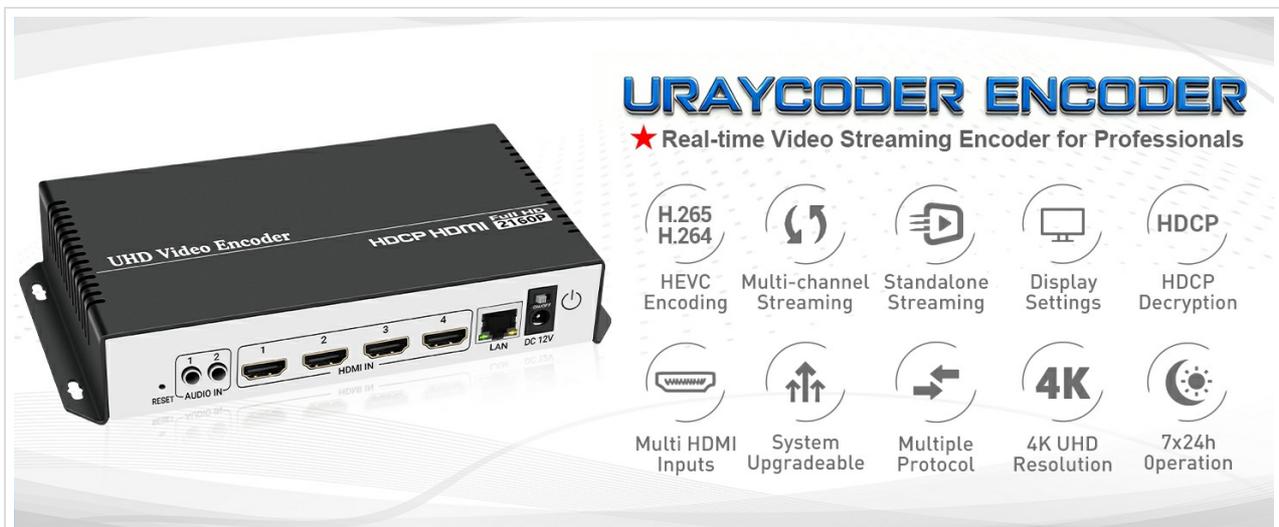


Figure 1.1: URayCoder UHE265-4-4K Encoder Overview. This image showcases the encoder unit and its primary features, including H.265/H.264 encoding, multi-channel streaming, 4K UHD resolution, and multi-protocol support.



Figure 1.2: Advanced Encoder Core Chip. This image highlights the high-end chip adopted for powerful and stable performance of the URayCoder encoder.

2. KEY FEATURES

- **Advanced Encoding:** Equipped with H.265/H.264 dual encoding chip, supporting 4K UHD (3840x2160) video input and output at 30fps, and up to 120fps at 2K and lower resolutions. Includes HDCP 1.4 decryption for various HDMI ultra HD video sources.
- **Multi-protocol & Multi-platform Compatibility:** Supports HTTP, RTSP, RTMP(S), SRT, HLS(M3U8), MP4, Multicast (UDP, RTP, PTL), ONVIF, FLV, WebRTC, TRTC, ICECAST. Simultaneously outputs up to 4 video streams to platforms like YouTube, Facebook, Twitch, and Vimeo.
- **Customizable Settings:** Allows adding static text, scrolling captions, brand logos, and timestamps. Adjustable parameters include video resolution, frame rate, bitrate, cropping, rotation, flipping, and mirroring.
- **Dual Audio Input:** Supports HDMI embedded audio and line-in audio with adjustable sound quality.
- **Stable Transmission & Easy Operation:** Utilizes HDMI to Ethernet technology for stable, low-latency network transmission. Features an intuitive user interface accessible via computers and mobile phones.
- **Lifetime Support:** Includes lifetime free warranty and technical support, with options for secondary development and feature customization.



Figure 2.1: Video Resolution and Frame Rate Capabilities. This image illustrates the encoder's support for 1080p at 120Hz and 2160p (4K) at 30Hz, showcasing its high-resolution and high-frame-rate capabilities.

3. SETUP GUIDE

3.1 Physical Connections

Follow these steps to connect your URayCoder encoder:

1. Connect your HDMI video source (e.g., broadcast camera, set-top box, laptop) to one of the **HDMI IN** ports on the encoder using an HDMI cable. The encoder supports up to four HDMI inputs.
2. Connect an Ethernet cable from the **LAN** port of the encoder to your network router or switch.
3. (Optional) If using external audio, connect your audio source to the **AUDIO IN** port.
4. Connect the provided 12V DC power adapter to the **DC 12V** port and plug it into a power outlet. The device will power on automatically.

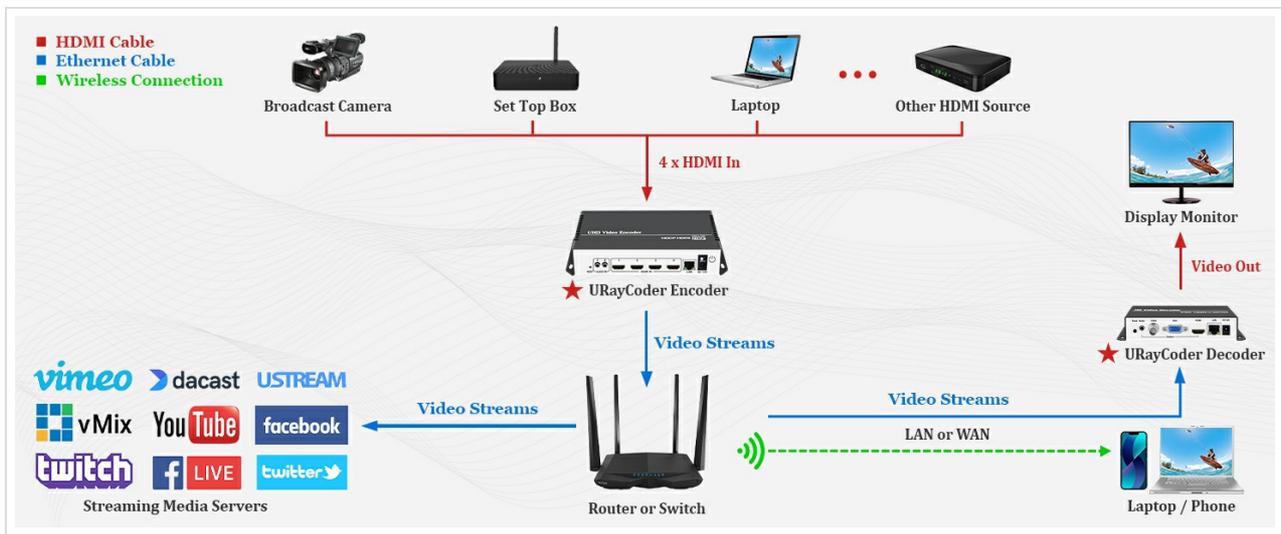


Figure 3.1: Typical Connection Diagram. This image illustrates how to connect HDMI sources, network, and power to the URayCoder encoder, and how video streams are distributed to a router/switch and streaming platforms.

TYPICAL CONNECTION

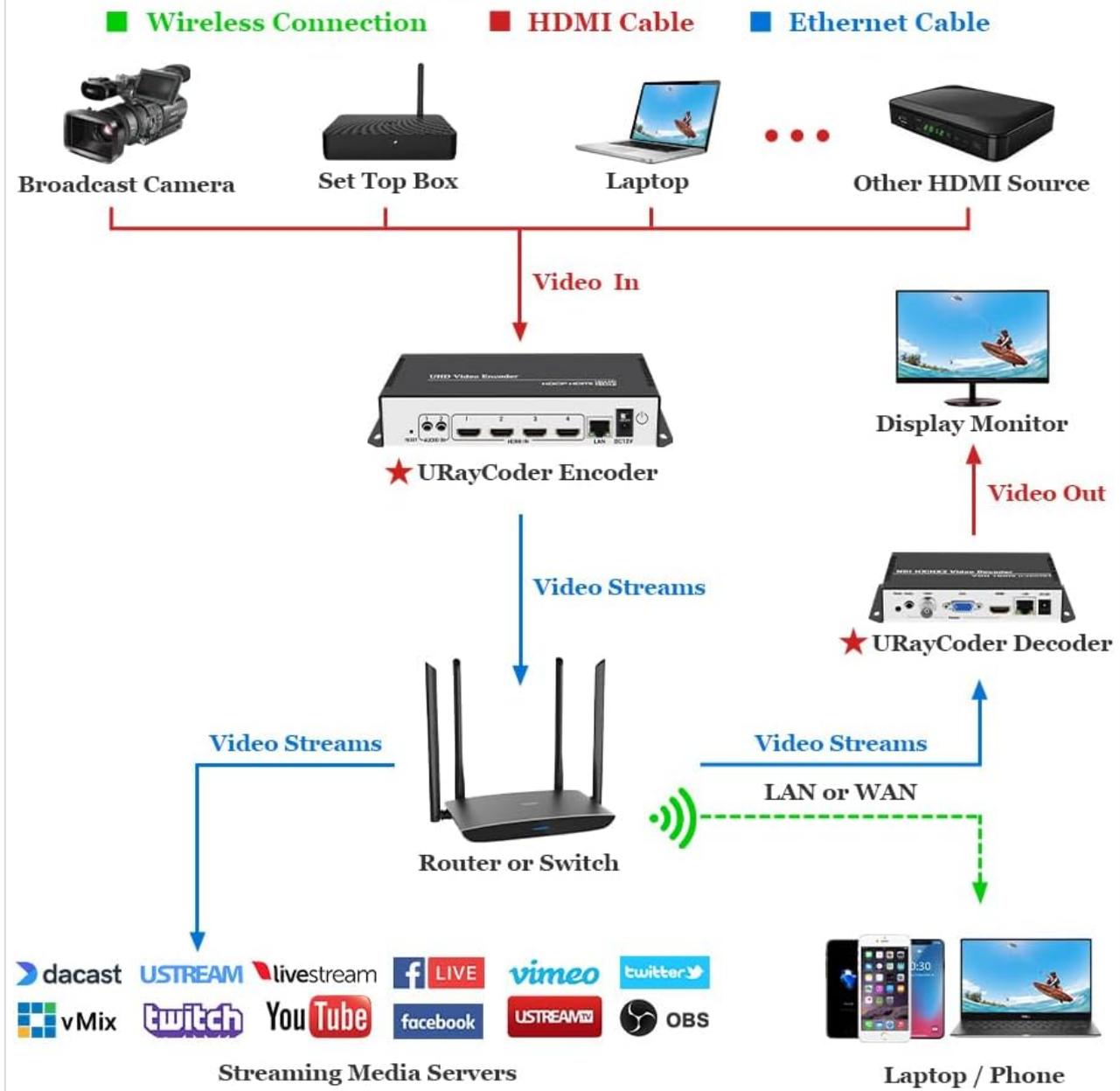


Figure 3.2: Detailed Connection Diagram. This image provides a closer look at the physical connections, including HDMI inputs, audio input, LAN port, and power input, along with the flow of video streams.

3.2 Initial Network Configuration

To access the encoder's web interface for configuration, you need to ensure your computer is on the same network segment as the encoder. By default, the encoder's DHCP setting might be disabled, requiring manual IP configuration for initial access.

1. Connect your computer to the same network as the encoder.
2. Refer to the product documentation or the device label for the default IP address. A common default IP is 192.168.1.168 (this may vary, check your specific model's documentation).
3. If your network uses DHCP and the encoder is not automatically assigned an IP, you may need to temporarily set your computer's IP address to be in the same subnet (e.g., 192.168.1.X, where X is not 168).
4. Open a web browser and enter the encoder's IP address (e.g., <http://192.168.1.168>) to access the web interface.
5. Log in using the default username and password (typically [admin/admin](#) or similar, refer to your specific documentation).

AUDIO SETTING

**H.265/H.264
Multi- Encoder**

Status

Input Port 1

Encoder

Main stream

Substream 1

Substream 2

Substream 3

OSD

Audio

Audio Input: HDMI ▾ → HDMI ANALOG

Sampling Rate: Same as input sample rate ▾ → Same as input sample rate

Encoder: AAC ▾ → AAC

Audio Channel: L+R ▾

Bitrate: 128000 [48000~320000]

Digital Volume: 0 [-50~50]

G711A Over UTP: Enable ▾

ONVIF Audio

G711A Over RTSP: Disable ▾

NETWORK SETTING

**H.265/H.264
Multi- Encoder**

Status

Input Port 1

Input Port 2

Input Port 3

Network

internet access

DHCP: Disable ▾

IP: 192.168.2.168

Netmask: 255.255.255.0

Gateway: 192.168.2.1

MAC: 00:13:14:02:F9:82

DNS

UTC-11

UTC-10

UTC-9

UTC-8

UTC-7

UTC-6

UTC-5

UTC-4

UTC-3

UTC-2

UTC-1

Figure 3.3: Network Setting Page. This screenshot shows the network configuration options within the web interface, including DHCP settings, IP address, Netmask, and Gateway.

4. OPERATING INSTRUCTIONS

4.1 Web Interface Overview

Upon successful login, you will see the main status page, providing an overview of the encoder's current operation. The left navigation panel allows you to access various configuration sections.

H.265/H.264 Multi- Encoder

Status

Input Port 1

Input Port 2

Input Port 3

Input Port 4

System

Status

Status

Running Time: 0000-00-00 00:01:36

Input Size: 3840x2160@30

Collected Video Frames: 5748

Lost Video Frames: 0

Audio Samplerate: 0

Collected Audio Frames: 4501

Net Packet Sent: 771 (Network connectivity test)

Net Packet Dropped: 0



Preview

Main Stream

Encoding Type: H.265

Encoded Size: 3840x2160@30

Video Bitrate: 3200Kbps

Real-time Bitrate: 95kbps

Video Encoded: 2.1MByte

TS URL: <http://192.168.2.168/0.ts>

HLS TS URL: <http://192.168.2.168/0.m3u8>

HLS MP4 URL: Disable

MP4 URL: <http://192.168.2.168/0.mp4>

FLV URL: <http://192.168.2.168/0.flv>

RTSP URL: <rtsp://192.168.2.168/0>

RTMP URL: <rtmp://192.168.2.168/live/0>

RTMP(S) PUSH URL: <rtmp://a.rtmp.youtube.com/live2/xcm8-ev8m-vbe2-3mgf>

Multicast URL: <udp://@238.0.0.1:1234>

SRT URL: <srt://192.168.2.168:9000>

SRT PUSH URL: Disable

HLS PUSH URL: Disable

ICECAST PUSH URL: Disable

WebRTC: Disable

TRTC Room: Disable

[Preview/HTML5](#)
[Preview/FLASH](#)

Figure 4.1: Status Page. This image displays the encoder's status page, showing running time, input resolution, collected frames, network statistics, and stream URLs for various protocols.

4.2 Main Stream Settings

Navigate to the "Encoder" or "Main stream" section to configure video encoding parameters for each input.

- **Encoding Type:** Select H.265 or H.264. H.265 offers better compression efficiency.
- **Resolution:** Choose the output resolution. Options include 4K (3840x2160), 2K, 1080p, and more.
- **Frame Rate (FPS):** Set the desired frames per second. Max 30fps for 4K, up to 120fps for lower resolutions.
- **Bitrate:** Adjust the video bitrate (kbps) to balance quality and bandwidth usage.
- **Protocol Settings:** Configure specific settings for RTMP(S), RTSP, HLS, UDP, SRT, etc., including push URLs and multicast IPs.

MAIN STREAM SETTING

H.265/H.264 Multi- Encoder

- Status
- Input Port 1
- Encoder
- Main stream
- Substream 1
- Substream 2
- Substream 3
- OSD
- Main stream
- Substream 1
- Substream 2
- Substream 3
- LOGO upload
- Video
- Audio
- Input Port 2
- Input Port 3
- Input Port 4
- System

Main stream

Encoding Type: H.265
H.264
MJPEG

FPS: Custom

Custom FPS: 30

GOP: 30

Bitrate(kbit): 3200

Image Quality Range: Lower~Best

Encoded size: Same as input

H.264 Level: high profile

Bitrate Control: vbr
cbr
vbr

TS URL: /0 Enable

HLS TS URL: /0.m3u8 Disable

HLS MP4 URL: /0_mp4.m3u8 Disable

MP4 URL: /0.mp4 Enable

FLV URL: /0.flv Enable

RTSP URL: /0 Enable

RTMP URL: /0 Disable

RTMP(S)/RTSP PUSH URL: rtmp://192.168.1.169/live/0 Enable

Multicast IP: 238.0.0.1 Enable(Multicast)
Enable(TCP Only)

Multicast Port: 1234 [1-65535]

Multicast SAP Name: GROUP0_STREAM0

SRT URL Port: 9000 Disable

SRT PUSH URL: srt://192.168.1.169:9000 Disable

SRT Encrvotion Password: 0123456789 Disable

Same as input

Auto

Custom

Best [5-60]

Better-Best [5-300]

Mid~Best [32-32000]

Lower~Best

Lowest-Best

baseline profile

main profile

high profile

Same as input

3840x2160

2560x1080

1920x1200

1920x1080

1680x1056

1680x1050

1600x1200

1600x900

1440x900

1366x768

1280x1024

1280x720

1024x768

1024x576

1024x540

960x540

850x480

800x600

720x576

Figure 4.2: Main Stream Setting Page. This image shows the detailed configuration options for the main video stream, including encoding type, resolution, frame rate, bitrate, and various protocol settings.

4.3 Display Settings (OSD)

The On-Screen Display (OSD) settings allow you to overlay text, logos, or timestamps onto your video stream.

- **Enable Zone:** Activate up to four zones for OSD elements.
- **Type:** Select text, image (logo), or time.
- **Position:** Set X and Y coordinates for placement.
- **Text/Image:** Enter text content or upload a logo.
- **Font Size/Color:** Customize text appearance.



Figure 4.3: Display Setting Page. This screenshot illustrates the OSD configuration interface, allowing users to add and customize text overlays, including position, font size, and color. It also shows options for adding logos and time.

4.4 Audio Settings

Configure audio input and encoding parameters.

- **Audio Input Source:** Choose between HDMI embedded audio or external analog line-in audio.
- **Sampling Rate:** Select the audio sampling rate (e.g., 44100, 48000).
- **Encoder:** Select audio encoder type (e.g., AAC, MP3).
- **Bitrate:** Adjust audio bitrate for quality.
- **Digital Volume:** Control the output volume.



Figure 4.4: Dual Audio Input Ports. This image highlights the HDMI audio input and the separate 3.5mm line-in audio input ports on the encoder, allowing for flexible audio source selection.

AUDIO SETTING

H.265/H.264 Multi-Encoder

Status

Input Port 1

Encoder

Main stream

Substream 1

Substream 2

Substream 3

OSD

Audio

Audio Input: HDMI

HDMI
ANALOG

Sampling Rate: Same as input sample rate

44100
48000
Same as input sample rate

Encoder: AAC

AAC
AAC+
AAC++
MP3
MP2
AC3

Audio Channel: L+R

Bitrate: 128000 [48000~320000]

Digital Volume: 0 [-50~50]

G711A Over UTP: Enable

ONVIF Audio

G711A Over RTSP: Disable

NETWORK SETTING

H.265/H.264 Multi-Encoder

Status

Input Port 1

Input Port 2

Input Port 3

Network

internet access

DHCP: Disable

IP: 192.168.2.168

Netmask: 255.255.255.0

Gateway: 192.168.2.1

MAC: 00:13:14:02:F9:82

UTC-11
UTC-10
UTC-9
UTC-8
UTC-7
UTC-6
UTC-5
UTC-4
UTC-3
UTC-2
UTC-1

DNS

Figure 4.5: Audio Setting Page. This screenshot displays the software interface for configuring audio input source, sampling rate, encoder type, bitrate, and digital volume.

4.5 Multi-protocol and Multi-platform Streaming

The encoder supports simultaneous output of multiple streams using different protocols to various platforms.

- Configure each stream (Main Stream, Substream 1, 2, 3) with desired resolution, bitrate, and protocol.
- Enter the RTMP(S) push URL provided by your streaming platform (e.g., YouTube, Facebook Live, Twitch).
- For HLS, RTSP, UDP, and other protocols, the encoder will generate specific URLs that can be used by compatible players or decoders.

MULTIPLE NETWORK VIDEO STREAMS



Figure 4.6: Multiple Network Video Streams. This diagram illustrates how the encoder can take multiple HDMI inputs and generate separate main and secondary streams for each, allowing for flexible distribution.



Figure 4.7: Supported Video Stream Types. This image displays the various streaming protocols supported by the encoder, including RTMP, RTSP, MP4, FLV, HLS, UDP, SRT, ONVIF, and HTTP.



Figure 4.8: Supported Broadcast Platforms. This image lists popular live streaming platforms compatible with the encoder, such as Dacast, Twitch, Livestream, Ustream, YouTube, Wowza, Vimeo, and Facebook Live.



Figure 4.9: Compatible Playback Software. This image shows various software applications that can be used for playback or further processing of the encoder's streams, including Wirecast, OBS, Flash Player, XSplit, vMix, Ffmpeg, Potplayer, and VLC.

5. MAINTENANCE

- **Firmware Updates:** Periodically check the URayCoder official website for firmware updates. Keeping the firmware updated ensures optimal performance and access to new features.
- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Do not use liquid cleaners or aerosols.
- **Ventilation:** Ensure the device is placed in a well-ventilated area to prevent overheating. Do not block ventilation openings.
- **Power Cycle:** If the device experiences unexpected behavior, try power cycling it by disconnecting and reconnecting the power adapter.

6. TROUBLESHOOTING

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No video output/stream	<p>Incorrect HDMI connection.</p> <p>Input resolution/format not supported.</p> <p>HDCP issues.</p> <p>Incorrect stream settings.</p>	<p>Verify HDMI cables are securely connected and functional.</p> <p>Check the input source resolution and ensure it's within supported ranges.</p> <p>Ensure HDCP is enabled on the encoder if the source requires it.</p> <p>Review stream encoding settings (resolution, bitrate, frame rate) in the web interface.</p>
Cannot access web interface	<p>Incorrect IP address.</p> <p>Network connectivity issues.</p> <p>DHCP disabled on encoder.</p>	<p>Confirm the encoder's IP address.</p> <p>Ensure your computer is on the same network subnet.</p> <p>Temporarily configure your computer's IP to match the encoder's default subnet if DHCP is off.</p> <p>Check Ethernet cable connection.</p>
Stream is choppy or pixelated	<p>Insufficient network bandwidth.</p> <p>High bitrate for available bandwidth.</p> <p>Encoder overload.</p>	<p>Reduce the video bitrate in the stream settings.</p> <p>Ensure your network has sufficient upload bandwidth for the configured streams.</p> <p>Check CPU usage on the encoder (if available in status).</p>
Audio/Video synchronization issues	<p>Encoding delay.</p> <p>Playback device issues.</p>	<p>Adjust audio delay settings if available in the encoder's web interface.</p> <p>Ensure your playback software or device is up-to-date and configured correctly.</p>

7. SPECIFICATIONS

Feature	Detail
Model Number	UHE265-4-4K
Product Dimensions (L x W x H)	4.72 x 3.94 x 1.18 inches
Item Weight	1 pounds
Compatible Devices	Devices with HDMI Output
Specific Uses	Encode HDMI Video into Network Video Streams
Connector Type	HDMI, Ethernet (RJ45), 3.5mm Audio In, DC 12V Power
Color	Black on top, silver on bottom
Manufacturer	URay
Video Encoding	H.265 / H.264

Feature	Detail
Max Input/Output Resolution	4K UHD (3840x2160) @ 30fps; up to 120fps @ 2K and lower resolutions
Supported Protocols	HTTP, RTSP, RTMP(S), SRT, HLS(M3U8), MP4, Multicast(UDP, RTP, PTL), ONVIF, FLV, WebRTC, TRTC, ICECAST

8. WARRANTY AND TECHNICAL SUPPORT

All URayCoder video encoders, including the UHE265-4-4K, come with a lifetime free warranty and comprehensive technical support. This commitment ensures long-term reliability and assistance for any operational queries or issues you may encounter.

URayCoder also offers secondary development and feature customization services to meet specific enterprise-level requirements. For support or customization inquiries, please contact URayCoder customer service through their official channels or the platform where the product was purchased.