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URayCoder UHE265-1S-4K

URayCoder 4K HDMI Video Streaming Encoder (Model UHE265-1S-4K) User Manual

Comprehensive instructions for setup, operation, and maintenance.

1. Introduction

This manual provides detailed instructions for the URayCoder 4K HDMI Video Streaming Encoder, Model UHE265-1S-4K. This device is designed to convert HDMI video and audio signals into various IP streaming formats, enabling live broadcasts and remote video transmission. Please read this manual thoroughly before operating the device to ensure proper setup and optimal performance.

2. Product Overview

The URayCoder 4K HDMI Video Streaming Encoder is a hardware device capable of encoding 4K UHD video input into H.265 or H.264 formats for IP streaming. It supports multiple streaming protocols and simultaneous output of up to four video streams.

2.1 Key Features

- **4K UHD Video Support:** Supports up to 3840x2160 resolution at 30fps input/output, or 1920x1080 at 60fps input/output.
- **Multiple Streaming Protocols:** Compatible with HTTP, RTSP, RTMP(S), SRT, HLS(M3U8), UDP, RTP, MP4, Multicast, Unitcast, ONVIF, and FLV.
- **Simultaneous Multi-Stream Output:** Outputs up to 4 video streams concurrently, each configurable with different protocols.
- **Customizable Video Streams:** Add static text, scrolling text, logos, or time overlays. Adjust resolution, frame rate, bitrate, crop, rotate, flip, and mirror options.
- **Adjustable Audio Output:** Control audio parameters for optimal sound quality.
- **Wide Platform Compatibility:** Supports live broadcasting to platforms such as YouTube, Facebook, Ustream, Livestream, Twitch, Vimeo, Streamspot, Dacast, Tikilive, and Netrmedi.

2.2 Device Layout

The encoder features essential ports for power, video input, audio input, and network connectivity.

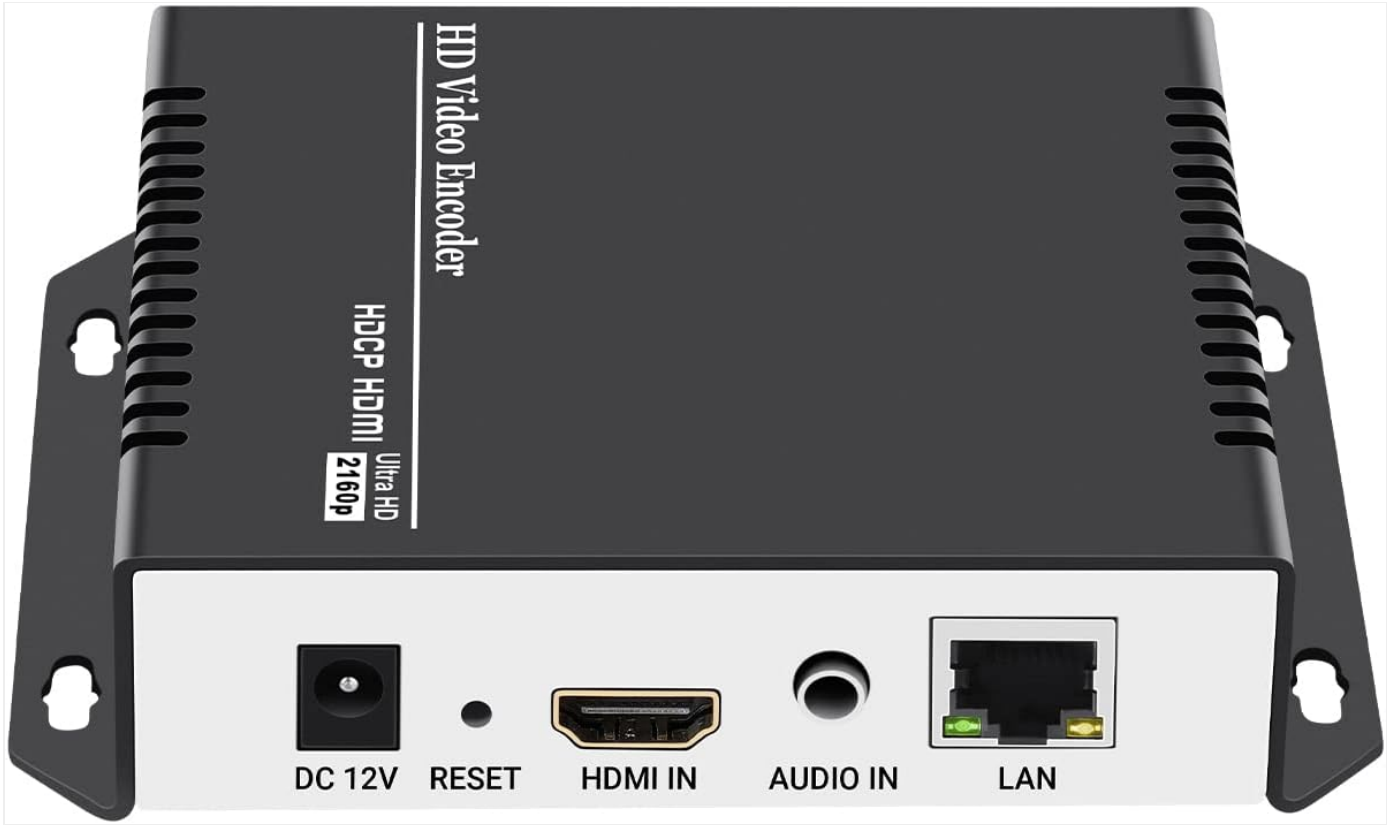


Figure 2.2.1: Front and back view of the URayCoder 4K HDMI Video Streaming Encoder, showing power input, reset button, HDMI input, audio input, and LAN port.

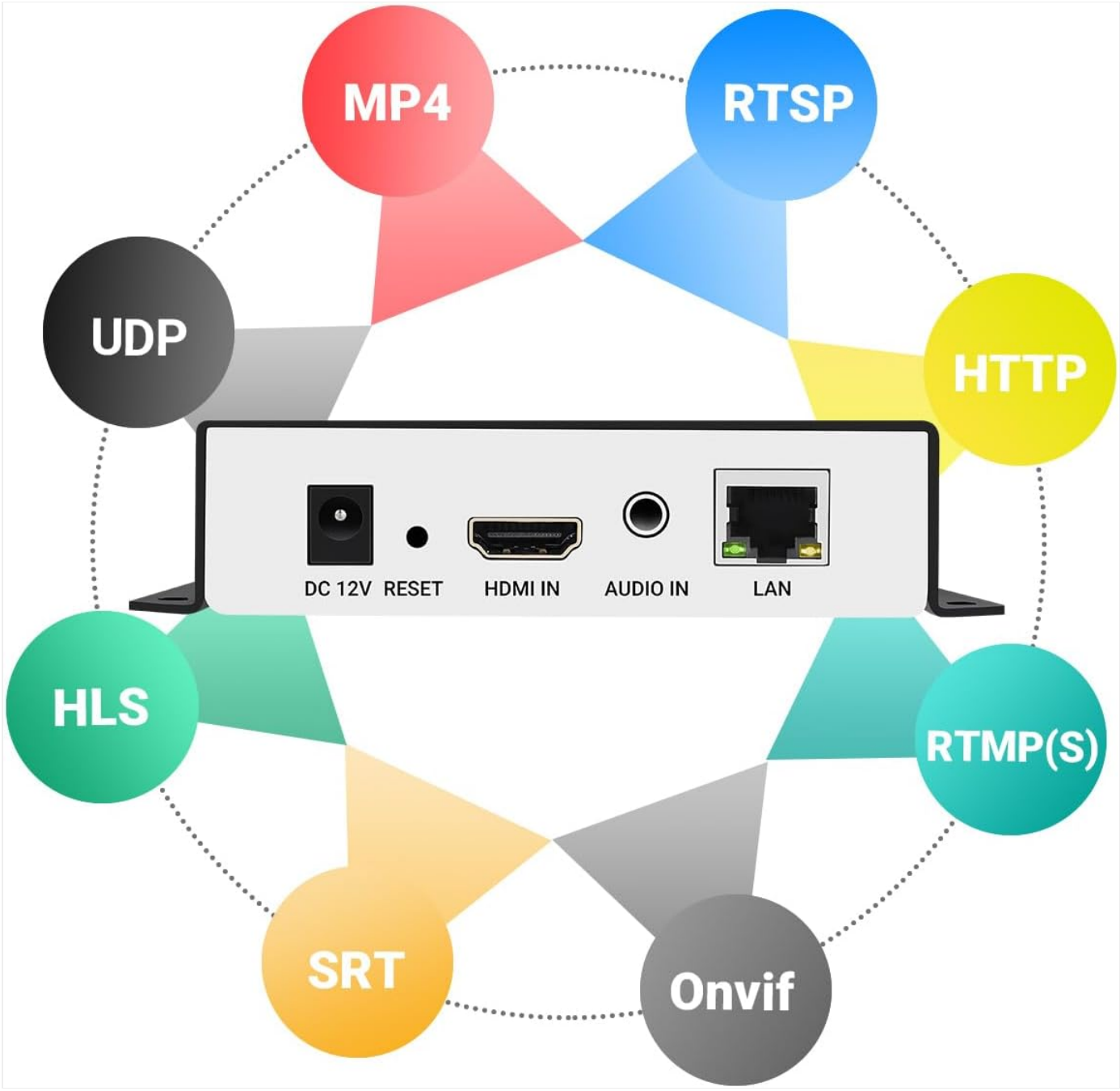


Figure 2.2.2: Close-up view of the encoder's ports, including DC 12V power, RESET button, HDMI IN, AUDIO IN, and LAN port.

Figure 2.2.3: Overview of URayCoder Encoder features, highlighting H.265/H.264 encoding, multi-streaming, OSD settings, 1000 Base-T,

HDCP support, 7x24 working, firmware upgradeability, multi-protocol support, 4K UHD resolution, and low latency.

3. Setup

3.1 Physical Connections

1. **Connect HDMI Source:** Connect your HDMI video source (e.g., camera, computer, set-top box) to the **HDMI IN** port on the encoder using an HDMI cable.
2. **Connect Audio Source (Optional):** If using an external audio source, connect it to the **AUDIO IN** port. Otherwise, audio will be extracted from the HDMI input.
3. **Connect to Network:** Connect the **LAN** port of the encoder to your network router or switch using an Ethernet cable.
4. **Power On:** Connect the 12V DC power adapter to the **DC 12V** port and plug it into a power outlet. The device will power on automatically.

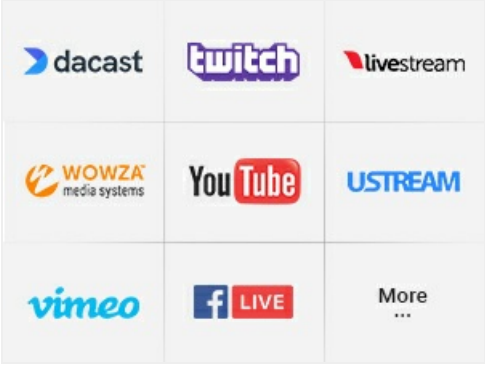


Figure 3.1.1: Diagram illustrating the connection of HDMI audio and external line-in audio to the encoder.

3.2 Network Configuration

After physical connections, the encoder will obtain an IP address via DHCP by default. To access the web-based management interface:

1. Ensure your computer is on the same network as the encoder.
2. Use a network scanning tool (e.g., IP Scanner) to find the encoder's IP address on your network. The default IP address is often 192.168.1.168, but this can vary based on your network's DHCP server.
3. Open a web browser and enter the encoder's IP address in the address bar.
4. Log in using the default credentials (refer to the included quick start guide for default username and password).

Figure 3.2.1: Icon representing network security. It is recommended to change default login credentials for security.

Important: For security, it is highly recommended to change the default password immediately after the first login. You may also configure a static IP address if required for your network setup.

3.3 Connection Diagrams

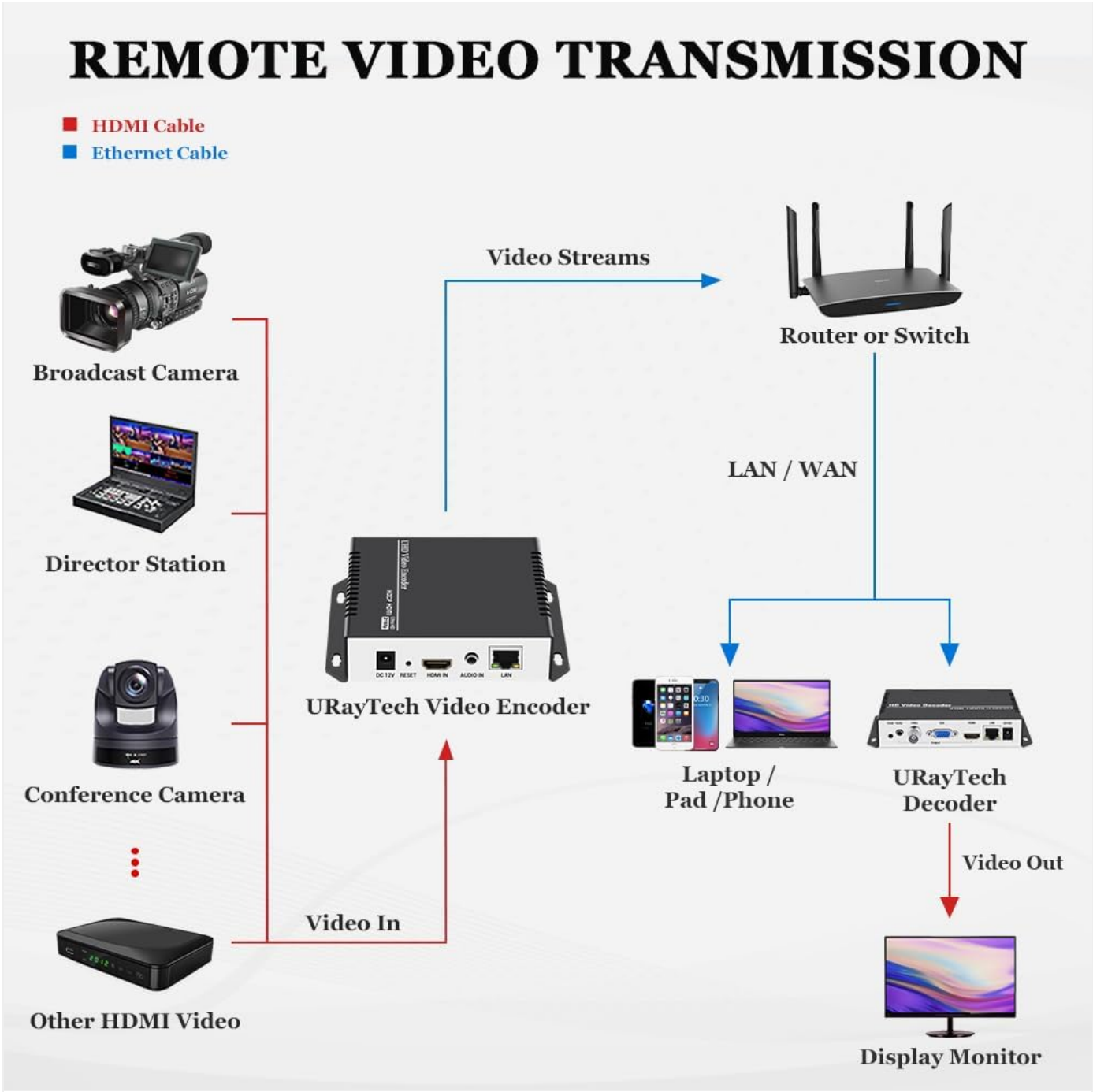


Figure 3.3.1: Diagram illustrating a typical live broadcast connection setup. An HDMI source connects to the URayTech Video Encoder, which sends video streams to a router/switch, then over the internet to various live streaming servers like YouTube, Twitch, and Facebook.

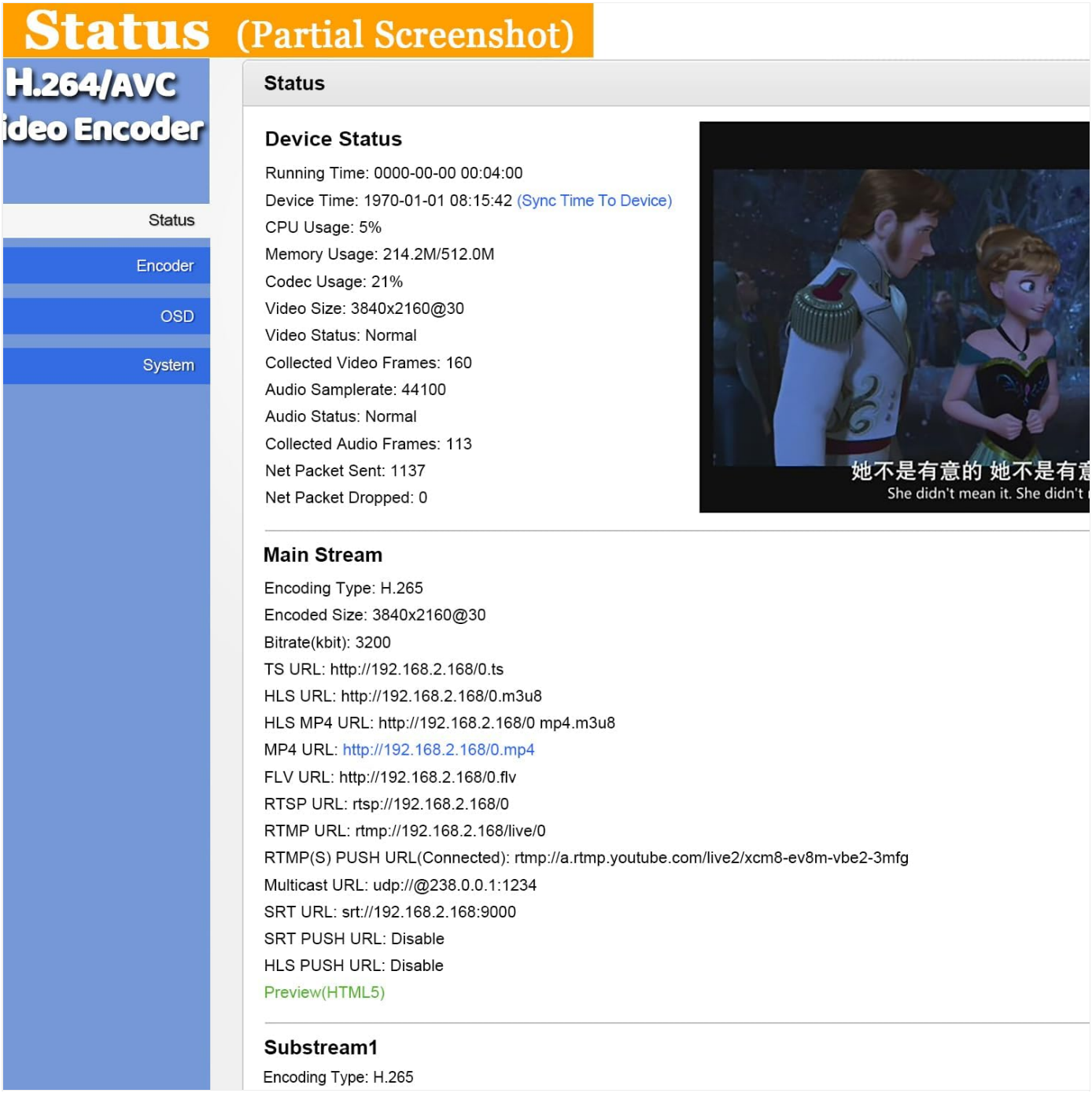


Figure 3.3.2: Diagram illustrating remote video transmission. An HDMI source connects to the URayTech Video Encoder, which sends streams via LAN/WAN to devices like laptops/phones or a URayTech Decoder connected to a display monitor.

4. Operating Instructions

The encoder's functions are managed through its web-based interface.

4.1 Status Monitoring

The "Status" page provides real-time information about the device's operation, including running time, CPU usage, memory usage, codec usage, video size, collected frames, and network packet statistics. This page is crucial for verifying input signal and stream health.

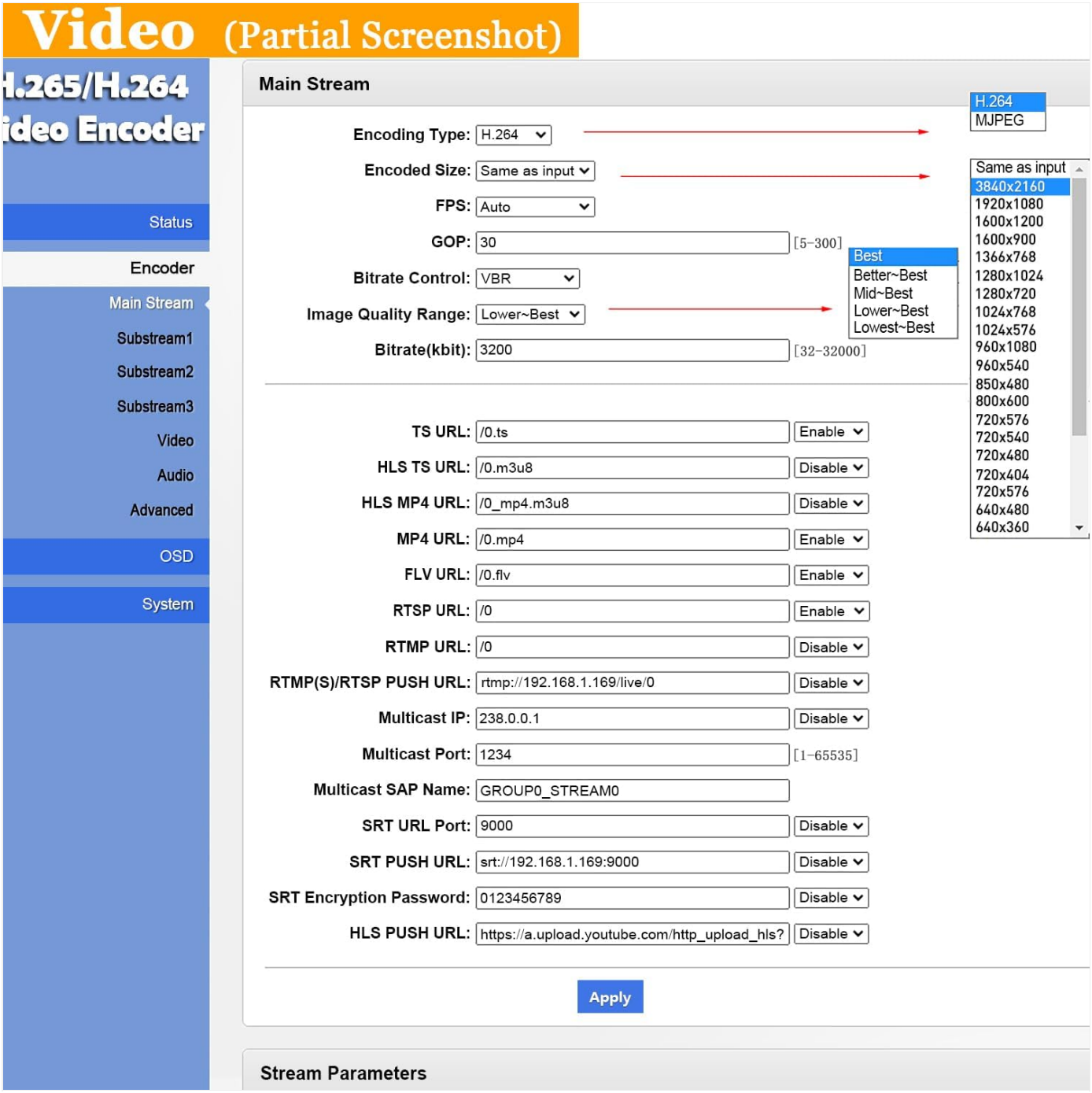


Figure 4.1.1: Partial screenshot of the encoder's web interface "Status" page, displaying device status, video stream details, and network information.

4.2 Video Stream Settings

Navigate to the "Encoder" section to configure video parameters for the main stream and substreams.

- **Encoding Type:** Select H.264 or H.265.
- **Encoded Size:** Choose the output resolution (e.g., 3840x2160, 1920x1080, 1280x720).
- **FPS (Frame Rate):** Set the desired frame rate.
- **Bitrate Control:** Select VBR (Variable Bit Rate) or CBR (Constant Bit Rate).
- **Bitrate (kbit):** Adjust the video bitrate. Higher bitrates generally result in better quality but require more bandwidth.
- **Streaming Protocols:** Enable and configure the desired streaming protocols (RTSP, RTMP, HLS, UDP, SRT, etc.) for each stream.

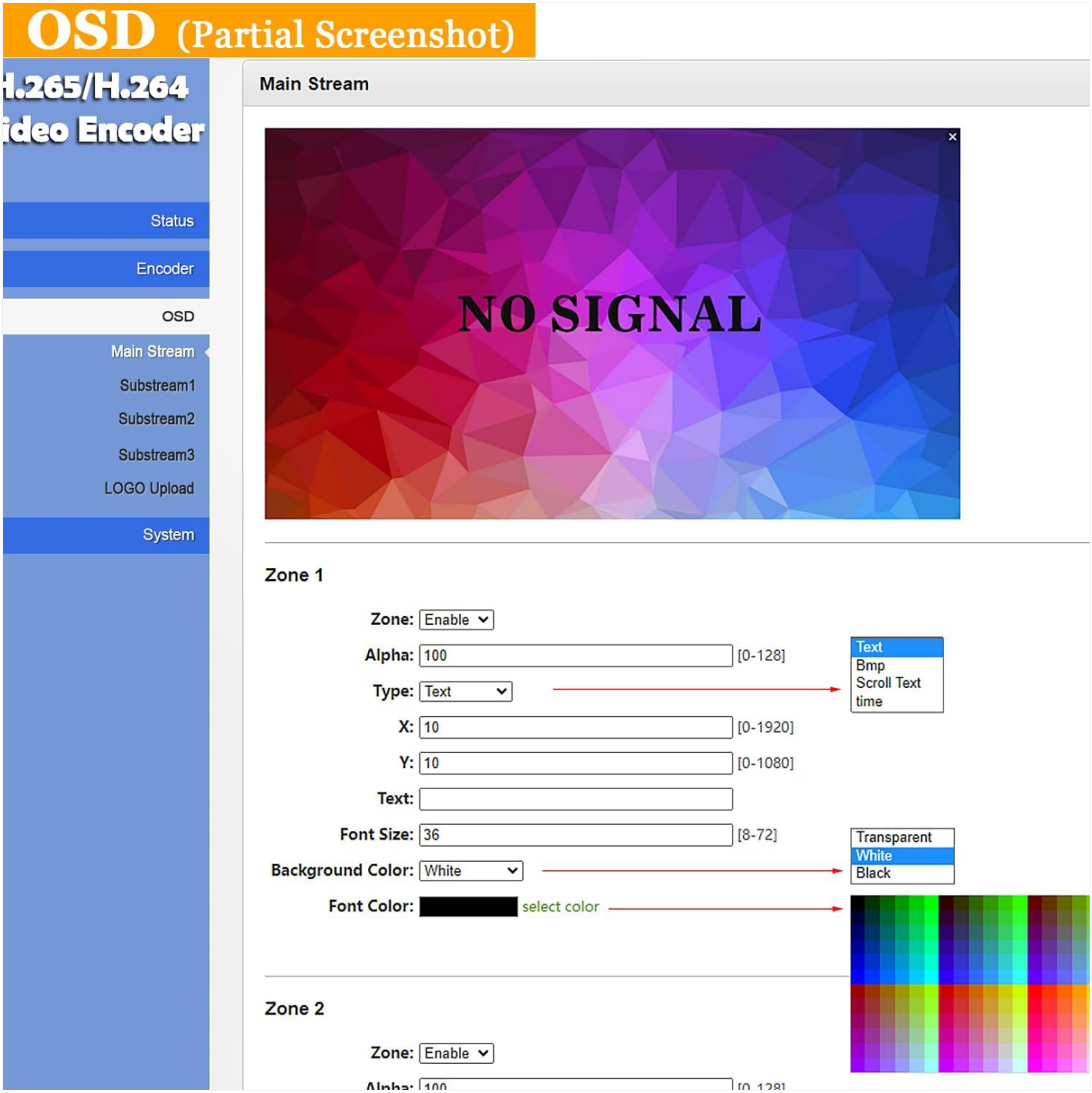


Figure 4.2.1: Partial screenshot of the encoder's web interface "Video" settings page, showing options for encoding type, resolution, frame rate, bitrate, and streaming protocol configuration.

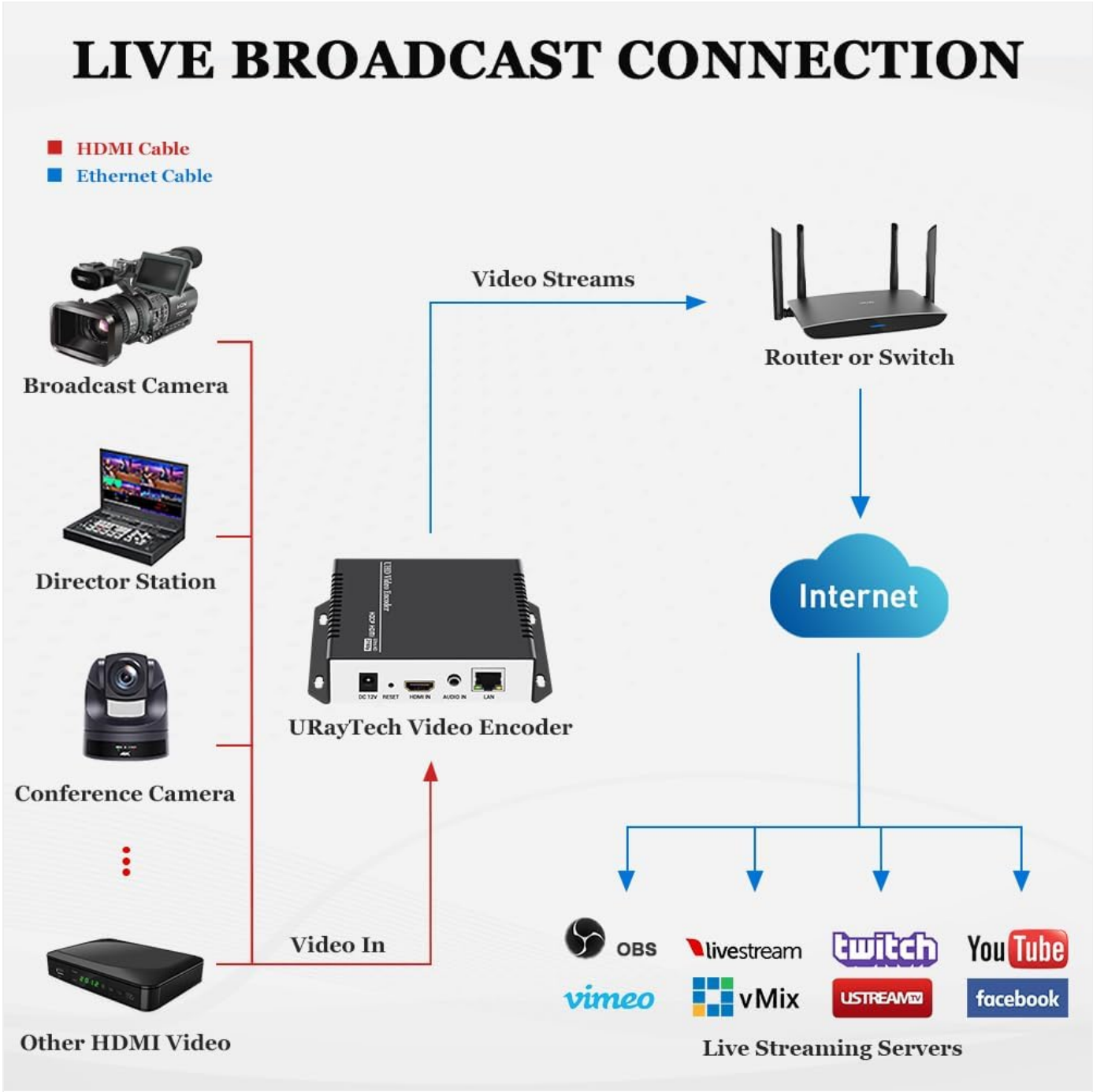


Figure 4.2.2: Diagram illustrating the various streaming protocols supported by the encoder, including MP4, RTSP, HTTP, RTMP(S), Onvif, SRT, HLS, and UDP.

Figure 4.2.3: Icons representing various streaming protocols such as RTMP(S), RTSP, MP4, FLV, HLS, UDP, SRT, and Onvif.

Figure 4.2.4: Visual comparison demonstrating the difference in detail between 1080p and 4K resolutions.

4.3 Audio Settings

In the "Audio" section, you can configure audio input and encoding parameters.

- **Audio Input:** Choose between Digital (HDMI) or Analog (Line-in).
- **Sampling Rate:** Set the audio sampling rate (e.g., 44100 Hz).
- **Encoder:** Select the audio encoding format (e.g., AAC, MP3).
- **Bitrate:** Adjust the audio bitrate.
- **Digital Volume Gain:** Adjust the audio volume.
- **Denoise:** Enable or disable audio noise reduction.

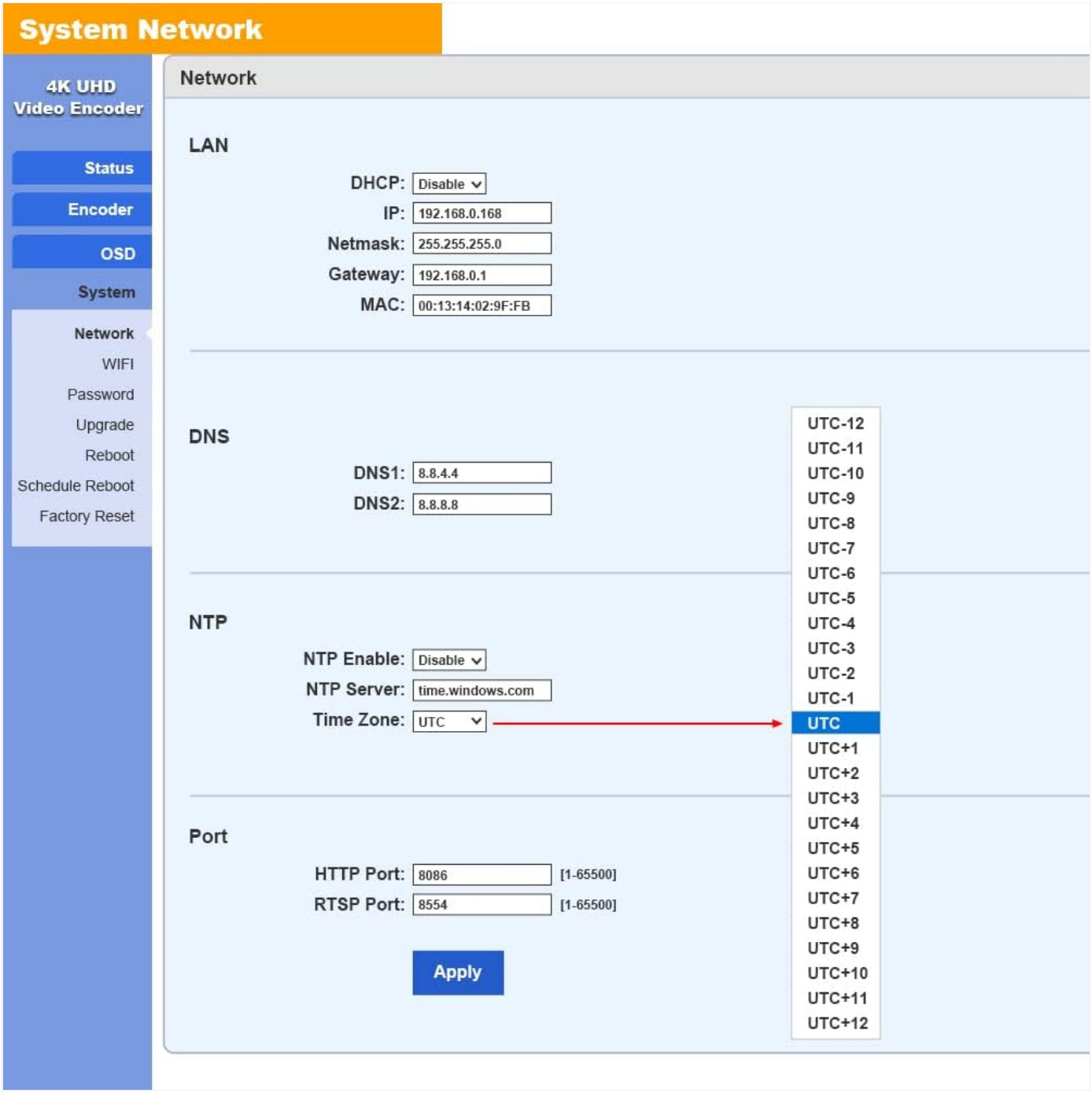


Figure 4.3.1: Partial screenshot of the encoder's web interface "Audio" settings page, showing options for audio input, sampling rate, encoder type, bitrate, and volume gain.

4.4 OSD (On-Screen Display) Settings

The "OSD" section allows you to add overlays to your video streams.

- **Text Overlays:** Add static or scrolling text, customize font size, color, and position.
- **Logo Overlays:** Upload and position a custom logo image.
- **Time Overlays:** Display current time on the video.

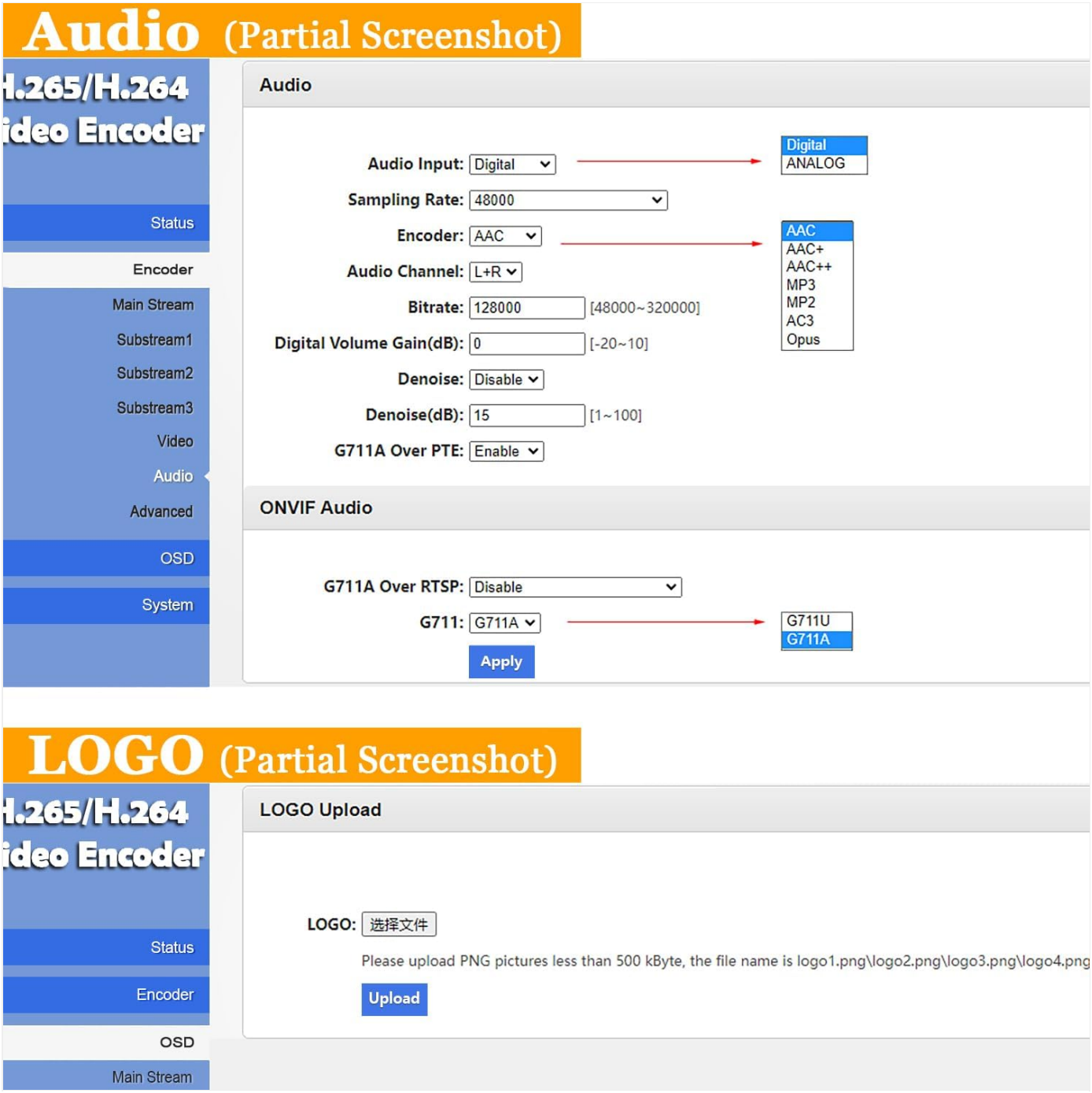


Figure 4.4.1: Partial screenshot of the encoder's web interface "OSD" settings page, showing options for configuring text overlays, including zone, alpha, type, position, font size, background color, and font color.

4.5 Supported Platforms and Software

The encoder is compatible with a wide range of streaming platforms and software for receiving and managing streams.

Figure 4.5.1: Icons representing supported streaming platforms such as Dacast, Twitch, Livestream, Wowza, YouTube, Ustream, Vimeo,

and Facebook Live.

Figure 4.5.2: Icons representing compatible software and tools like Wirecast, OBS, Flash Player, XSplit, vMix, Ffmpeg, Potplayer, and VLC.

Figure 4.5.3: Illustration of a live event streaming scenario, showing a camera feeding into the URayCoder encoder, with output viewed on a laptop and mobile devices.

5. Maintenance

5.1 Firmware Updates

URayCoder provides free lifetime technical support and firmware updates. Regularly checking for and applying firmware updates can improve performance, add new features, and resolve potential issues. Firmware updates are typically performed through the web interface under the "System" or "Upgrade" section. Contact URayCoder support for the latest firmware files and instructions.

5.2 Cleaning

Keep the device clean and free from dust. Use a soft, dry cloth for cleaning. Do not use liquid cleaners or solvents. Ensure ventilation holes are not obstructed.

5.3 Factory Reset

If you encounter persistent issues or forget your login credentials, a factory reset can restore the device to its default settings. This can be done via the web interface (under "System" -> "Factory Reset") or by pressing the physical RESET button on the device for several seconds while it is powered on. Refer to the quick start guide for the exact procedure for your model.

6. Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
No video signal detected.	• HDMI cable loose or faulty. • HDMI source not powered on or outputting signal. • Incorrect resolution/refresh rate from source.	• Check HDMI cable connections. • Ensure HDMI source is active and outputting. • Verify source resolution is compatible with encoder input (up to 4K@30fps or 1080p@60fps).
Cannot access web interface.	• Incorrect IP address. • Network cable disconnected. • Firewall blocking access. • Encoder not powered on.	• Verify encoder's IP address using a network scanner. • Check Ethernet cable connection. • Temporarily disable firewall on your computer. • Ensure power adapter is connected and device is on.
Streaming issues (buffering, no stream).	• Insufficient network bandwidth. • Incorrect streaming protocol settings. • Firewall/router blocking outgoing streams. • Streaming server issues.	• Reduce video bitrate or resolution. • Double-check streaming URL, stream key, and protocol settings. • Configure port forwarding on your router if streaming outside your local network. • Verify the status of your streaming server.
No audio in stream.	• Incorrect audio input selected (Digital/Analog). • Audio source not providing signal. • Audio settings (bitrate, encoder) misconfigured.	• Check "Audio Input" setting in web interface. • Ensure audio source is active and connected correctly. • Verify audio encoder and bitrate settings.

7. Specifications

Feature	Detail
Model Number	UHE265-1S-4K
Video Input	1x HDMI
Audio Input	1x HDMI Embedded Audio, 1x 3.5mm Line-in Audio
Video Encoding	H.265 / H.264
Max Input Resolution	3840x2160@30fps (4K)
Max Output Resolution	3840x2160@30fps (4K) or 1920x1080@60fps
Streaming Protocols	HTTP, RTSP, RTMP(S), SRT, HLS(M3U8), UDP, RTP, MP4, Multicast, Unitcast, ONVIF, FLV
Network Interface	1x RJ45 Ethernet (10/100/1000Mbps)
Power Supply	DC 12V
Dimensions	6.1 x 6.02 x 2.05 inches (Package Dimensions)

Feature	Detail
Weight	12.6 ounces
Manufacturer	URay

8. Warranty and Support

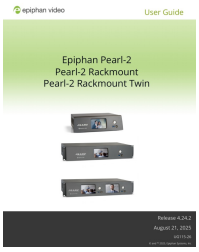
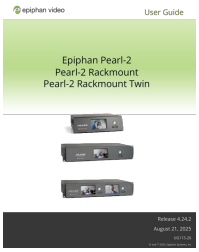
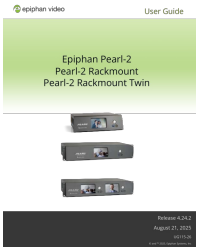
All URayCoder video encoders include free lifetime technical support and warranty.

- **Technical Support:** For any technical assistance, troubleshooting, or inquiries, please contact URayCoder customer support.
- **Firmware/Software Development:** SDK and API documentation, along with CGI control protocol documents, are available for secondary development.
- **Customization Services:** URayCoder offers various customization options, including shell pattern printing, control panel logo addition, and firmware/hardware function development.

Please refer to the official URayCoder website or your purchase documentation for specific contact details and warranty terms.

Related Documents - UHE265-1S-4K

	CORAL HEH Encoder User Manual and Configuration Guide Comprehensive user manual for the CORAL HEH encoder, detailing connection, network configuration, encoder functions, protocols, RTMP setup, system settings, and extended features. Includes troubleshooting and FAQ.
	HED-4KW Wireless HDMI Encoder User Manual | DDMALL Comprehensive user manual for the DDMALL HED-4KW, a mini UHD 4K wireless HDMI encoder. Learn about its features, setup, network settings, streaming protocols (SRT, RTMP, HLS, RTSP, UDP), and troubleshooting for live broadcasting.
	KILOVIEW E3 4K H.265 Video Encoder: User Manual and Technical Guide This user manual provides comprehensive instructions for the KILOVIEW E3 4K HDMI/3G-SDI H.265 Video Encoder, detailing its features, installation, configuration, and operational procedures for professional broadcast and Pro AV applications.

	[Epiphan Pearl-2 User Guide: Features, Setup, and Operation] Comprehensive user guide for the Epiphan Pearl-2 live video production device, covering setup, configuration, features like streaming, recording, mixing, integration with CMS platforms, and troubleshooting. Learn about its advanced video and audio capabilities for professional live production.
	[Epiphan Pearl-2 User Guide: Live Video Production and Streaming] Comprehensive user guide for the Epiphan Pearl-2, Pearl-2 Rackmount, and Pearl-2 Rackmount Twin video production devices. Covers setup, operation, streaming, recording, integrations, and troubleshooting.
	[Epiphan Pearl-2 User Guide: Setup, Operation, and Features] Comprehensive user guide for the Epiphan Pearl-2 live video production device, covering setup, operation, streaming, recording, integration with CMS platforms, and troubleshooting.