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› URayCoder USE265-1-NDI SDI to NDI SRT Video Streaming Encoder User Manual

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Model: USE265-1-NDI

1. INTRODUCTION

The URayCoder USE265-1-NDI is an advanced video streaming encoder designed for professional broadcast and live streaming applications. It converts SDI video signals into various IP streaming protocols, including NDI (NDI|HX, NDI|HX2), SRT, RTSP, and RTMP(S). This device supports H.265 and H.264 encoding at resolutions up to 1080p/1080i, enabling high-quality video transmission to platforms like YouTube, Facebook, Twitch, and more. This manual provides detailed instructions for setting up, operating, and maintaining your encoder.

2. SAFETY INFORMATION

- Ensure the device is powered by the correct voltage (DC 12V).
- Do not expose the device to water or excessive humidity.
- Avoid placing the device in direct sunlight or near heat sources.
- Do not open the casing; refer all servicing to qualified personnel.
- Use only the provided power adapter.

3. PACKAGE CONTENTS

Please check the package for the following items:

- URayCoder USE265-1-NDI Video Encoder
- DC 12V Power Adapter
- Ethernet Cable
- User Manual (this document)

4. PRODUCT OVERVIEW

The URayCoder USE265-1-NDI encoder features a compact design with essential ports for connectivity and a front display for quick status checks.



Figure 4.1: Front view of the URayCoder USE265-1-NDI encoder. The front panel includes a display showing the device's local IP address, which is crucial for initial setup and access to the web interface.

4.1. Interfaces and Indicators

- **DC 12V:** Power input port.
- **SDI IN:** 3G-SDI video input port.
- **RESET:** Button to restore factory default settings.
- **LAN:** Ethernet port for network connection.
- **Front Display:** Shows device status, including the assigned IP address.

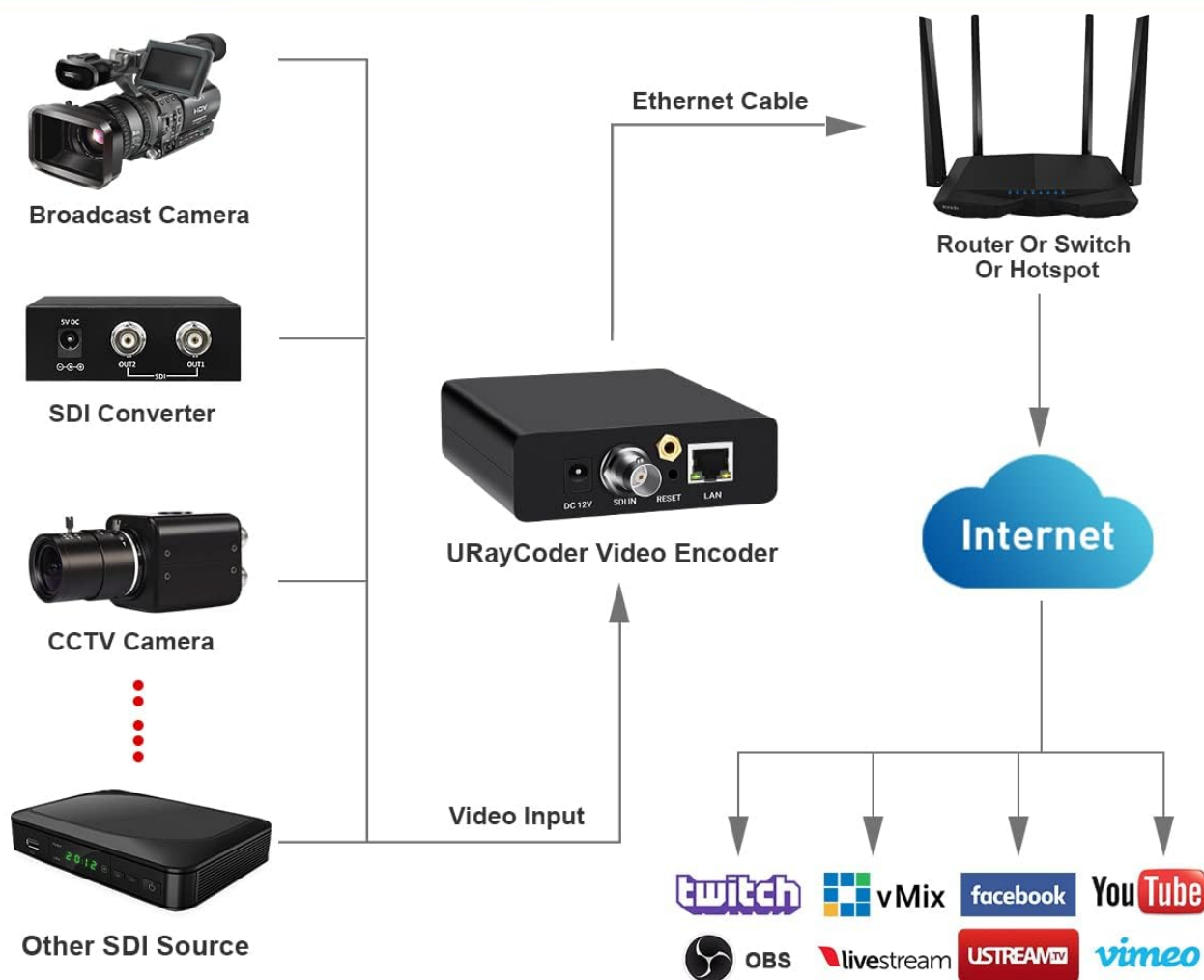
5. SETUP GUIDE

5.1. Connecting for Online Live Broadcast

Follow these steps to connect your encoder for live broadcasting to online platforms:

1. Connect your broadcast camera, SDI converter, CCTV camera, or other SDI source to the **SDI IN** port of the URayCoder Video Encoder.
2. Connect the **LAN** port of the encoder to your router, switch, or hotspot using an Ethernet cable. Ensure the network device has internet access.
3. Connect the DC 12V power adapter to the encoder and plug it into a power outlet.
4. Once powered on and connected to the network, the encoder will obtain an IP address, which will be displayed on the front panel.

1. FOR ONLINE LIVE BROADCAST



SUPPORT:

1. Output video streams to max 2 online platforms simultaneously
2. Insert logo / text / scroll text / time on the output displayed video
3. Stable and effective, support 7×24h working time

Figure 5.1: Connection diagram for online live broadcast. This setup allows the encoder to send video streams to various online platforms via the internet.

5.2. Connecting for Remote Video Transmission

For remote video transmission scenarios, you can integrate a URayCoder Decoder or other compatible devices:

1. Connect your SDI video source to the **SDI IN** port of the URayCoder Video Encoder.
2. Connect the **LAN** port of the encoder to your router, switch, or hotspot.
3. On the receiving end, connect a URayCoder Decoder, STB, NVR, or a phone/display monitor to the same network (LAN or WAN) to receive the encoded stream.
4. Power on all devices.

2. FOR REMOTE VIDEO TRANSMISSION

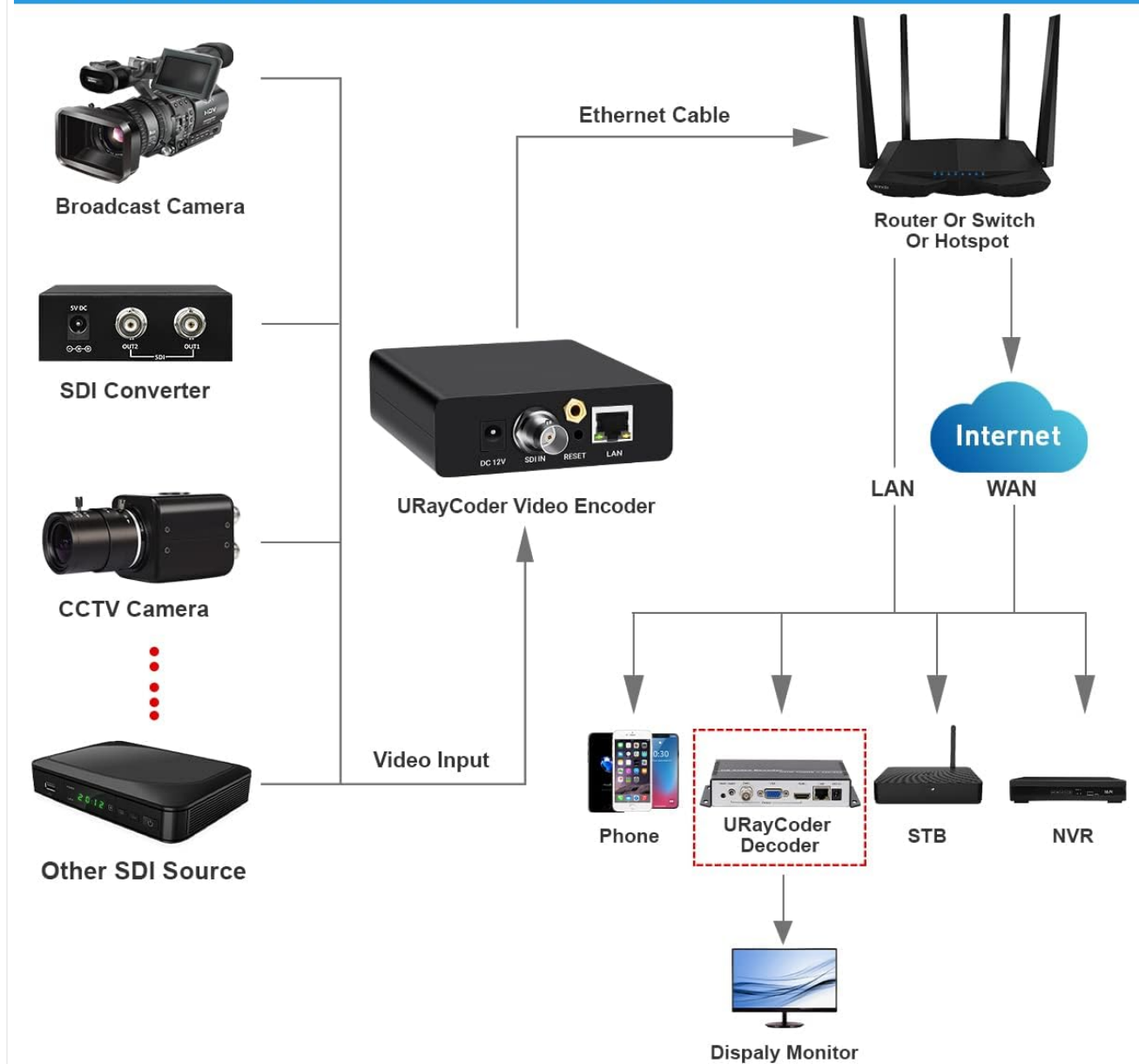


Figure 5.2: Connection diagram for remote video transmission. This setup illustrates how the encoder can send video to a decoder or other receiving devices over a local or wide area network.

5.3. Accessing the Web Interface

The encoder is configured via a web-based interface:

1. Ensure the encoder is connected to your network and powered on.
2. Note the IP address displayed on the encoder's front panel (e.g., 192.168.1.168).
3. Open a web browser on a computer connected to the same network.
4. Enter the encoder's IP address into the browser's address bar and press Enter.
5. You will be prompted for a username and password (default is usually **admin/admin** or similar; refer to the quick start guide for exact defaults).

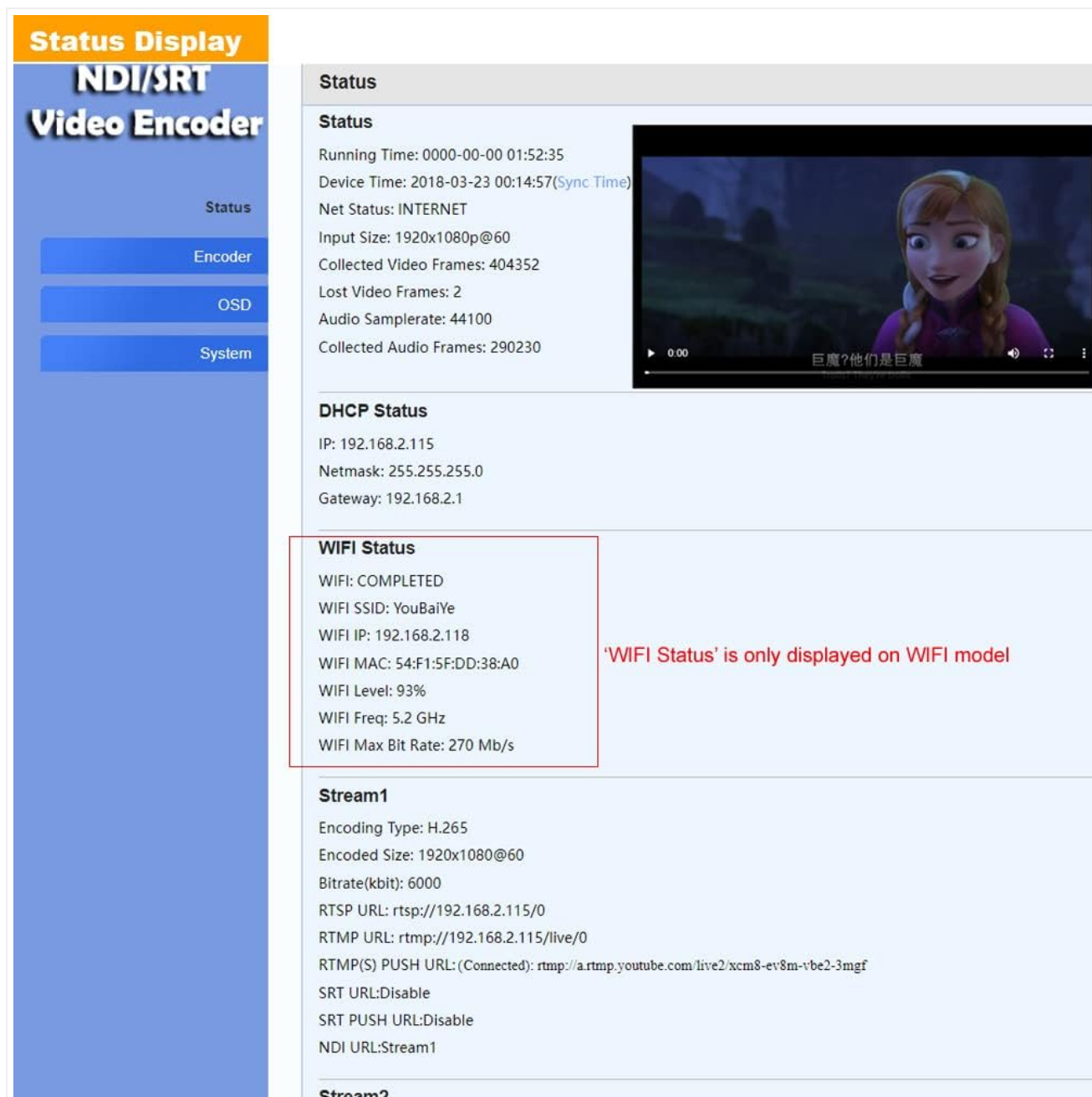


Figure 5.3: Web interface status page. This page provides an overview of the encoder's current operational status, including network information, input video details, and stream statistics.

6. OPERATING INSTRUCTIONS

This section details how to configure various settings through the web interface.

6.1. Video Encoding Settings

Navigate to the 'Encoder' > 'Stream1' or 'Stream2' section to configure video output parameters.

- **Encoding Type:** Select H.264 or H.265.
- **FPS:** Set the frames per second (e.g., 25, 30, 60).
- **GOP:** Configure Group of Pictures interval.
- **Bitrate (kbit):** Adjust the video bitrate for quality and bandwidth control.
- **Encoded Size:** Select the output resolution (e.g., 1920x1080, 1280x720).
- **H.264 Level:** Choose the H.264 profile (baseline, main, high).

- **Bitrate Control:** Select CBR (Constant Bitrate) or VBR (Variable Bitrate).
- **RTSP URL:** Enable and configure the RTSP streaming URL.
- **RTMP(S) PUSH URL:** Enable and enter the RTMP(S) server URL for platforms like YouTube or Twitch.
- **SRT URL/Port:** Configure SRT streaming parameters.
- **NDI URL:** Enable NDI output.

Video Setting

NDI/SRT Video Encoder

Stream1

Encoding Type: H.264 ▼

FPS: 25 [5-60]

GOP: 30 [5-300]

Bitrate(kbit): 6000 [32-32000]

Encoded Size: 1920x1080 ▼

H.264 Level: baseline profile ▼

Bitrate Control: cbr ▼

RTSP URL: /0 [Enable ▼]

RTMP URL: /0 [Enable ▼]

RTMP(S)/RTSP PUSH URL: rtmp://192.168.1.169/live/0 [Disable ▼]

SRT URL Port: 9000 [Disable ▼]

SRT PUSH URL: srt://192.168.1.169:9000 [Disable ▼]

SRT Encryption Password: 0123456789 [Disable ▼]

NDI URL: Stream1 [Enable ▼]

Apply

Encoded Size dropdown options: same as the input, 1920x1080, 1680x1056, 1600x900, 1280x1024, 1280x720, 1024x768, 1024x576, 960x540, 850x480, 800x600, 720x576, 720x540, 720x480, 720x404, 704x576, 640x480, 640x360, 608x448, 544x480.

Figure 6.1: Video encoding settings page. This interface allows detailed configuration of video codecs, resolutions, bitrates, and streaming protocols for Stream 1 and Stream 2.

6.2. OSD (On-Screen Display) Settings

The OSD section allows you to add custom text, scrolling text, or a logo to your output video stream.

- **Zone:** Enable or disable OSD zones.
- **Type:** Select 'txt' for static text, 'scroll text' for scrolling text, or 'time' for a timestamp.
- **X/Y:** Set the position of the OSD element on the screen.
- **Text:** Enter the desired text content.
- **Font Size:** Adjust the size of the text.
- **Background Color:** Choose a background color for the text (e.g., transparent, white, black).
- **Color:** Select the text color.

OSD Setting

NDI/SRT Video Encoder

Status

Encoder

OSD

Stream1

Stream2

LOGO Upload

System

Main stream



Alpha: [0-128]

Zone 1

Zone:

Type:

txt

bmp

scroll text

time

X: [0-1920]

Y: [0-1080]

Text:

Font Size: [8-72]

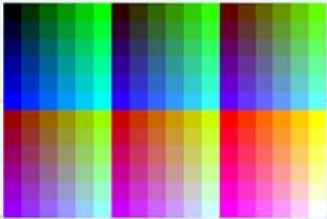
Background Color:

transparent

white

black

Color:



Zone 2

Zone:

Zone 3

Figure 6.2: OSD settings page. This page enables users to customize the output video with static text, scrolling text, or time overlays, with options for position, size, and color.

6.3. Advanced Settings

The 'Advanced' section provides fine-tuning options for video processing and network behavior.

- **EDID:** Configure Extended Display Identification Data.
- **Video Only/Audio Only:** Option to disable video or audio output.
- **Deinterlaced:** Select deinterlacing mode (e.g., Bottom Only, Both).
- **SRT Latency (ms):** Adjust SRT streaming latency.
- **RTSP Password Enable:** Enable password protection for RTSP streams.
- **Vmix Compatible:** Enable for compatibility with vMix software.
- **TS Over RTSP:** Select ES or TS for transport stream over RTSP.
- **Contrast Improve:** Adjust video contrast.
- **Image Enhance:** Apply image enhancement.

6.4. Audio Settings

Configure audio input and encoding parameters in the 'Audio' section.

- **Audio Input:** Select audio source (e.g., HDMI, ANALOG).
- **Sampling Rate:** Set the audio sampling rate (e.g., 44100, 48000).
- **Encoder:** Choose audio encoder (e.g., AAC, AAC+, MP3).
- **Audio Channel:** Select audio channels (e.g., L+R).
- **Bitrate:** Adjust audio bitrate.
- **Digital Volume Gain:** Control digital audio volume.

The figure displays two screenshots of the NDI/SRT Video Encoder interface. The top screenshot shows the 'Advanced' settings page, which includes a sidebar with 'Status', 'Encoder', 'OSD', and 'System' tabs. The 'Encoder' tab is active, showing a list of settings: Stream1, Stream2, Video, Audio, and Advanced. The 'Advanced' sub-tab is selected, revealing various configuration options. The bottom screenshot shows the 'Audio' settings page, which is a sub-section of the 'Advanced' settings. It contains fields for Audio Input, Sampling Rate, Encoder, Audio Channel, Bitrate, and Digital Volume Gain, each with a dropdown menu or input field and a corresponding list of available options.

Advanced Settings:

- EDID: 0.Default(1080P60) [Dropdown]
- Video Only: Disable [Dropdown]
- Audio Only: Disable [Dropdown]
- Deinterlaced: Bottom Only [Dropdown]
- SRT Latency(ms): 150 [Input] [1-10000]
- SRT Bandwidth(KByte, 0=nolimit): 0 [Input] [0-102400]
- Hostname: 192.168.2.115/192 [Input]
- RTSP Password Enable: Disable [Dropdown]
- Vmix Compatible: Disable [Dropdown]
- TS Over RTSP: ES [Dropdown]
- Contrast improve: 8 [Input] [0-63]
- Image enhance: 0 [Input] [0-16]
- Apply [Button]

Audio Settings:

- Audio Input: HDMI [Dropdown]
- Sampling Rate: 44100 [Dropdown]
- Encoder: AAC [Dropdown]
- Audio Channel: L+R [Dropdown]
- Bitrate: 128000 [Input] [48000~320000]
- Digital Volume Gain: 0 [Input] [-50~50]
- Apply [Button]

Figure 6.3: Advanced and Audio settings pages. These sections provide controls for video processing, network streaming options, and detailed audio input/encoding configurations.

6.5. Firmware Upgrade

To ensure optimal performance and access to new features, it is recommended to keep the firmware updated. Navigate to 'System' > 'Upgrade'.

1. Download the latest firmware file (.up.bin or .box.ini) from the official URayCoder website.
2. In the 'Upgrade' section, click 'Select File' and choose the downloaded firmware file.
3. Click 'Upload' to start the upgrade process. **Do not power off the device during the upgrade.**

6.6. Logo Upload

You can upload a custom logo to be displayed on your video stream. Navigate to 'OSD' > 'LOGO Upload'.

- Prepare your logo image. It should be a PNG or 24-bit BMP file, transparent pictures less than 500 KByte.
- Recommended filenames: logo1.bmp, logo2.bmp, logo3.bmp, logo4.bmp, or logo1.png, logo2.png, logo3.png, logo4.png.
- Click 'Select File' and choose your logo image.
- Click 'Upload'.

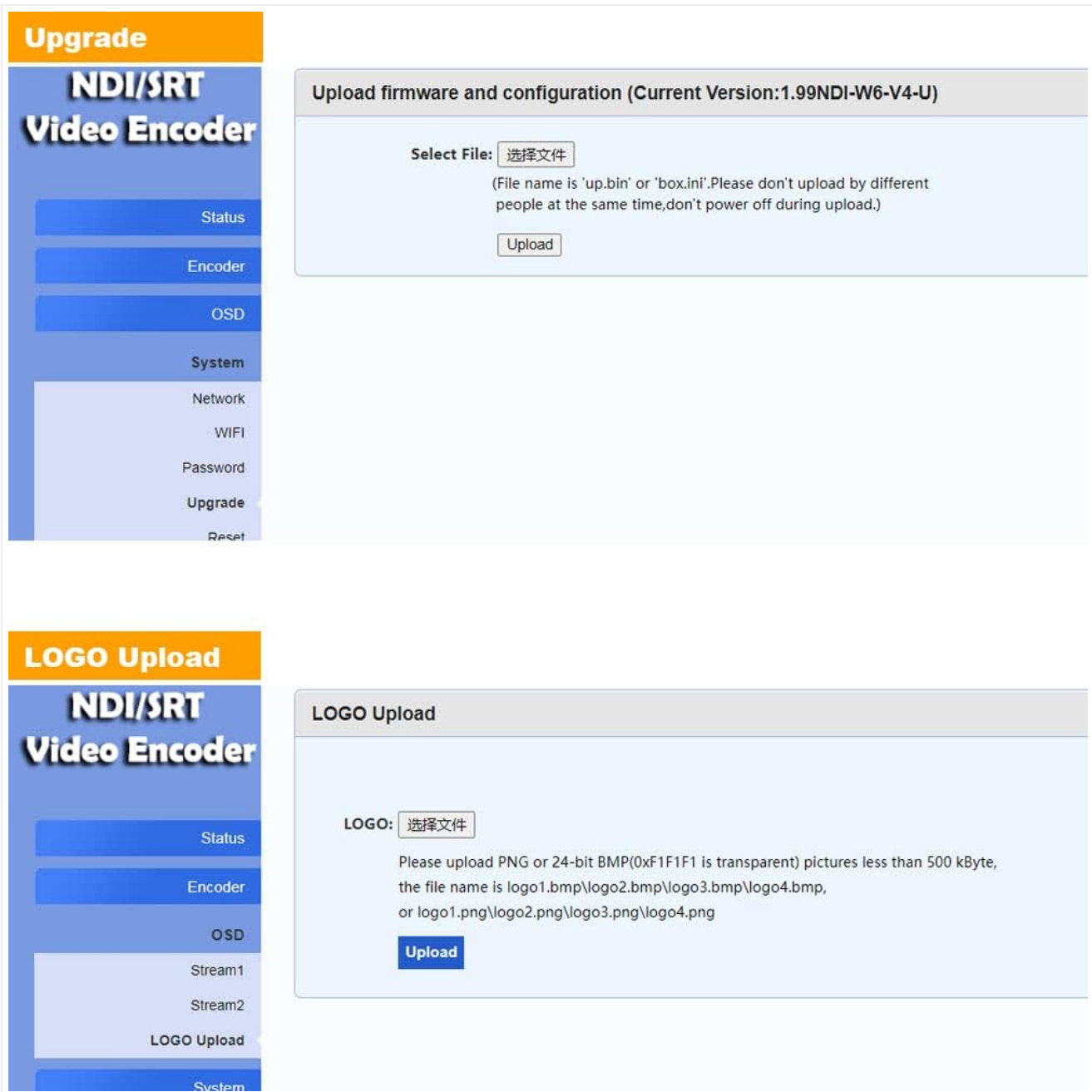


Figure 6.4: Firmware Upgrade and Logo Upload pages. These sections allow users to update the device's firmware and upload custom logos for on-screen display.

7. MAINTENANCE

- Keep the device clean and free from dust.
- Ensure proper ventilation to prevent overheating.
- Regularly check for firmware updates to benefit from improvements and new features.
- If the device is not functioning correctly, try a factory reset using the RESET button. Note that this will erase all custom settings.

8. TROUBLESHOOTING

- **No Power:** Check the power adapter connection and ensure the power outlet is functional.
- **No Video Input:** Verify the SDI cable connection and ensure the source device is outputting a valid SDI signal. Check input resolution compatibility.
- **Cannot Access Web Interface:** Ensure the encoder and your computer are on the same network. Verify the IP address displayed on the encoder's front panel. Try pinging the IP address from your computer.
- **No Stream Output:** Check network connectivity. Verify streaming protocol settings (RTMP URL, SRT parameters, NDI enable). Ensure firewall settings are not blocking the stream.
- **Poor Video Quality:** Adjust video bitrate, resolution, and encoding type in the web interface. Ensure sufficient network bandwidth.

9. SPECIFICATIONS

Brand	URayCoder
Model Number	USE265-1-NDI
Finish Type	Aluminum Shell
Input	3G-SDI
Encoding	H.265, H.264
Resolutions	Up to 1080p/1080i
Streaming Protocols	NDI (NDI HX, NDI HX2), SRT (Listener, Caller), RTSP, RTMP(S)
Multi-streaming Output	Dual video streams simultaneously
OSD Settings	Static text, scroll text, logo, time
Power Supply	DC 12V

10. WARRANTY AND SUPPORT

All URayCoder video encoders include a five-year manufacturer warranty and free lifetime technical support. For assistance, please contact URayCoder customer service. We also provide SDK, API, and CGI control protocols for secondary development and offer customization services such as logo printing and firmware modifications. For further support, visit the [URayCoder Store on Amazon](#).

