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HaiweiTech HSC-S1

HaiweiTech HSC-S1 H.264/H.265 HDMI Encoder and Decoder User Manual

Model: HSC-S1

1. Introduction

The HaiweiTech HSC-S1 (Haiwei SynCodec) is an embedded hardware solution designed for point-to-point interactive transmission and emergency communication. It also functions as an IP transcoder. The HSC-S1 can receive streams and output them via HDMI or a 3.5mm composite jack, while simultaneously sending streams using various IP protocols such as RTSP (over UDP & TCP), RTMP, HTTP, UDP, Unicast, Multicast, and ONVIF. It features SDK decoding for ultra-low latency local network transmission, bypassing the need for a server in P2P solutions.

2. Key Features

- **Input Capabilities:** Supports 1-channel H.264/H.265 IP input (RTMP/RTSP/RTP/HTTP/HLS/UDP/P-P/SDK), 1 Full HD HDMI input (resolutions up to 1920x1080, minimum 320x180), and 1 Line-in audio input.
- **Output Capabilities:** Features RS485 output. For decoding, it provides HDMI, CVBS, and Audio outputs. For encoding, it supports RTMP/RTSP/RTP/HTTP/HLS/UDP/P-P/SDK. In Encode+Decode mode, it offers IP out with Picture-in-Picture (PiP). In Encode+Loop mode, it provides IP out and HDMI loop-through.
- **Advanced Video System:** Built on an advanced encoding and decoding architecture, the HSC-S1 is suitable for video conferencing, interactive communication solutions, and direct stream transmission without requiring a third-party server.
- **Additional Services:** SDK/API availability, IP finder tool, video management platform, and iOS/Android APP (LiveX) support.

3. Product Overview



Figure 3.1: Front-angled view of the HaiweiTech HSC-S1 Encoder/Decoder, showing the LAN port, RST button, LED indicator, AV-OUT, AUDIO-IN, HDMI-IN, and HDMI-OUT ports.



Figure 3.2: Rear view of the HaiweiTech HSC-S1 Encoder/Decoder, showing the DC 12V power input.



Figure 3.3: Diagram illustrating the streaming media encoder workflow, showing video sources (drone, camera, PC) connecting to the HSC-S1 encoder, then to a cloud platform, and finally to end-user devices (phones, web, pads) or digital signage.

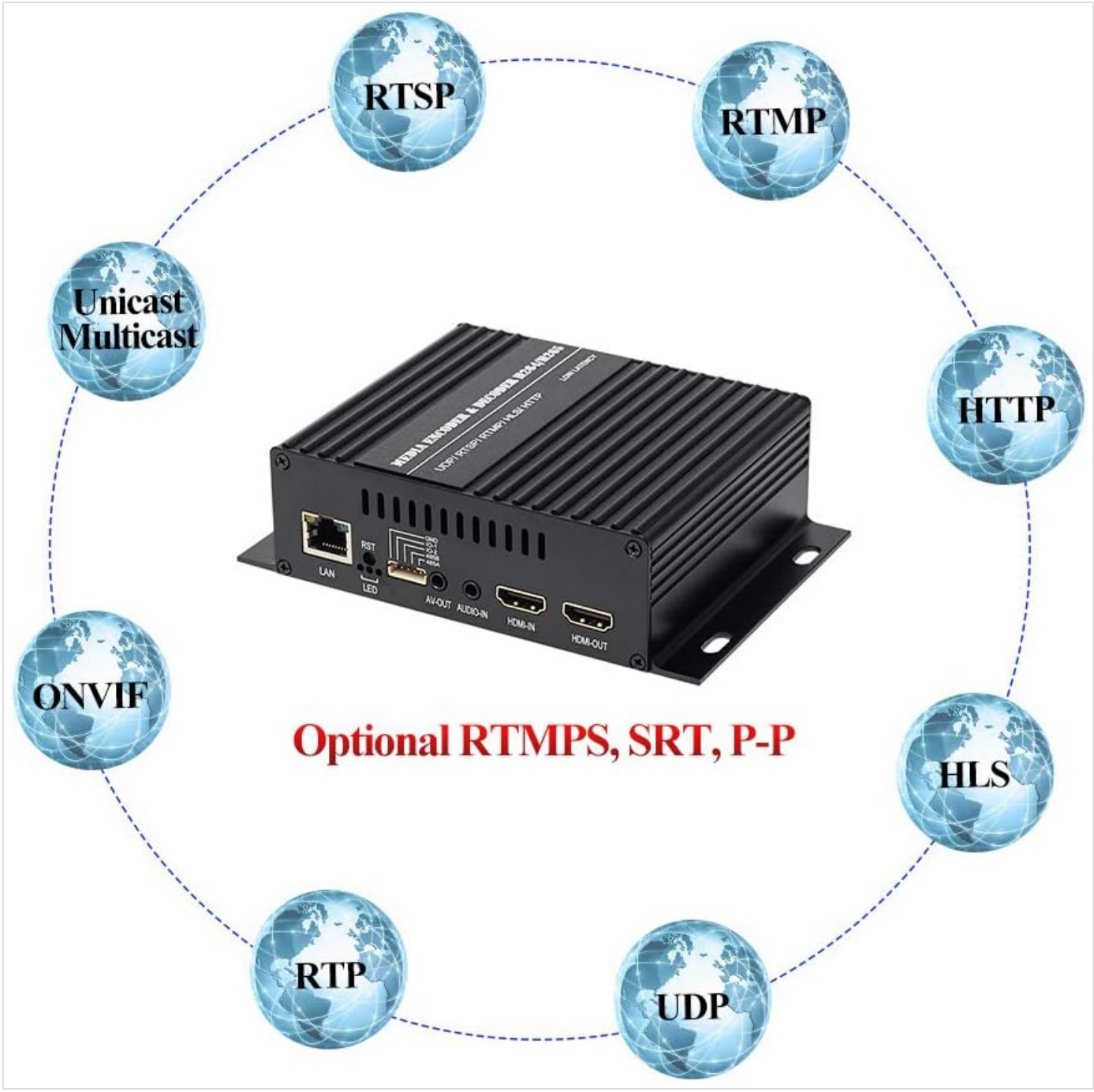


Figure 3.4: Diagram showcasing the various IP protocols supported by the HSC-S1, including RTSP, RTMP, HTTP, HLS, UDP, RTP, ONVIF, Unicast/Multicast, with optional RTMPS, SRT, and P-P.

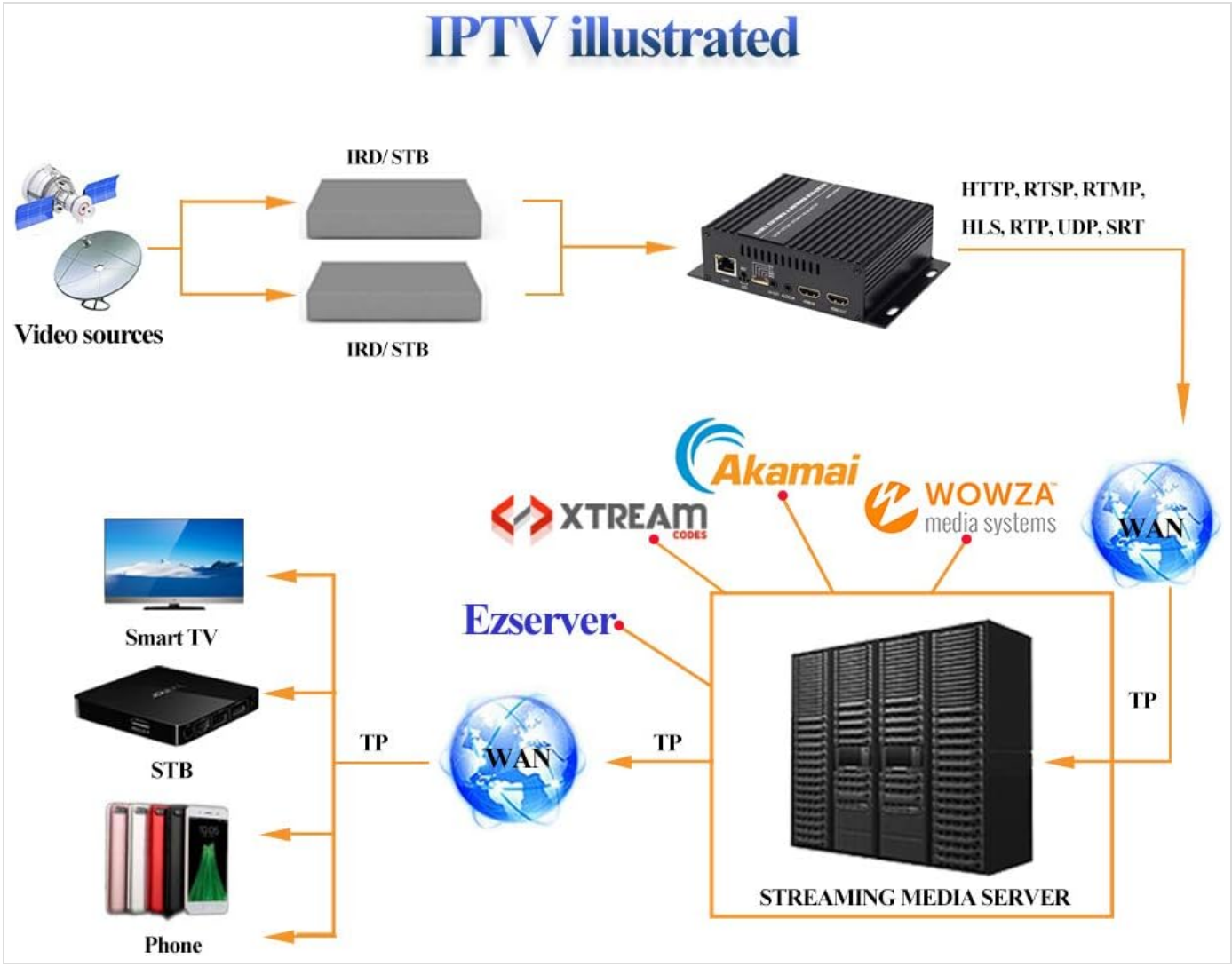


Figure 3.5: IPTV illustration showing video sources connecting to IRD/STB, then to the HSC-S1, which feeds into a streaming media server (Akamai, Wowza, Xtream Codes, Ezserver) for distribution to Smart TVs, STBs, and phones.

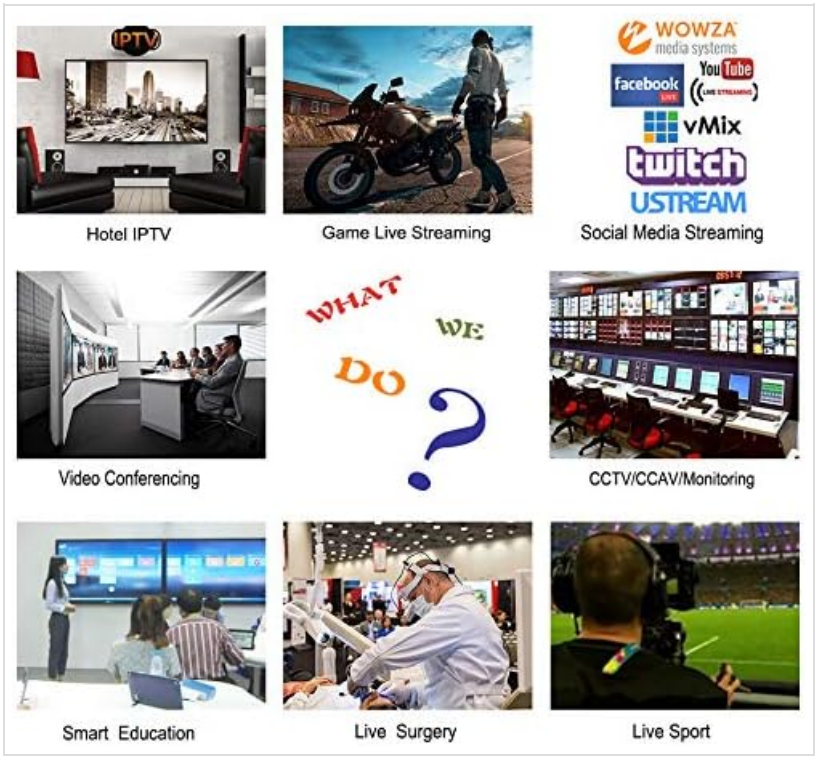


Figure 3.6: Collage of application scenarios for the HSC-S1, including Hotel IPTV, Game Live Streaming, Social Media Streaming, Video Conferencing, CCTV/Monitoring, Smart Education, Live Surgery, and Live Sport.

4. Setup Instructions

1. **Connect Video Source:** Connect your video source (e.g., camera, PC) to the **HDMI-IN** port on the HSC-S1 using a standard HDMI cable.
2. **Connect Display (Optional):** If you intend to use the HDMI loop-out function, connect a display device (e.g., monitor, TV) to the **HDMI-OUT** port.
3. **Connect Audio (Optional):** For audio input, connect your audio source to the **AUDIO-IN** port. For analog audio output, connect to the **AV-OUT** port.
4. **Network Connection:** Connect the HSC-S1 to your local network using an Ethernet cable plugged into the **LAN** port.
5. **Power Connection:** Connect the provided 12V DC power adapter to the **DC 12V** input on the device and then plug the adapter into a power outlet.
6. **Power On:** The device will power on automatically. The **LED** indicator will illuminate, signifying that the device is operational.
7. **Web Interface Access:** Use the provided IP Finder tool or your network's DHCP server to locate the device's IP address. Access the device's web-based configuration interface by entering its IP address into a web browser.

5. Operating Modes

The HSC-S1 supports five distinct operating modes, configurable via the web interface:

1. **Encode Only:** In this mode, the HDMI input signal is encoded and streamed out via IP protocols. The HDMI output port is disabled.
2. **Decode Only:** The device receives an IP stream, decodes it, and outputs the video via HDMI and/or the 3.5mm composite jack. The HDMI input port is disabled.
3. **Encode + Loop:** The HDMI input signal is simultaneously encoded for IP streaming and passed through to the HDMI output port, allowing for local monitoring of the input source.
4. **Encode + Decode:** Both the HDMI input and an IP input stream are active. This mode enables Picture-in-Picture (PiP) functionality, allowing for the combination or overlay of both video sources.
5. **Transcode:** The HSC-S1 receives an incoming IP stream, transcodes it (e.g., changes codec, resolution, bitrate), and outputs it as a new IP stream.

6. Applications

The HaiweiTech HSC-S1 is suitable for a wide range of professional applications, including:

- Broadcasting
- Point-to-point video transmission
- IP/video Transcoding
- Live Streaming events
- Multimedia Screen Splicing
- CCTV/video Surveillance and Monitoring
- Emergency communication systems

7. Specifications

Feature	Detail
Brand	HaiweiTech

Feature	Detail
Model	HSC-S1
Interface Type	HDMI
Number of Channels	1
UPC	653871706863
ASIN	B094WZKNW3
GTIN	653871706863
Unit Count	1 Count

8. Package Contents

The HaiweiTech HSC-S1 package includes the following items:

- 1x HSC-S1 Unit (Encoder and Decoder)
- 1x HDMI Cable
- 1x Power Adapter (DC 12V)
- 1x 3.5mm Audio Cable
- 1x CVBS Cable
- 1x Guarantee Card

9. Troubleshooting

- **No Power:** Ensure the power adapter is securely connected to both the device and a functional power outlet. Check the power LED indicator.
- **No Video Output:** Verify all HDMI cable connections are secure. Confirm that the correct operating mode (e.g., Decode Only, Encode + Loop) is selected in the web interface. Check display input settings.
- **No Network Connection:** Ensure the Ethernet cable is properly connected to the LAN port and your network. Check network settings (IP address, subnet mask) in the web interface. Use the IP Finder tool to locate the device on your network.
- **Audio Issues:** Verify all audio cable connections (AUDIO-IN, AV-OUT). Check audio input/output settings and volume levels within the device's web interface.
- **High Latency:** Ensure your network is stable and has sufficient bandwidth. For point-to-point solutions, utilizing SDK decoding can help achieve ultra-low latency.
- **Web Interface Unresponsive:** Try restarting the device. Ensure your computer is on the same network segment as the HSC-S1.

10. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Do not use liquid cleaners, solvents, or abrasive materials, as these can damage the unit.
- **Firmware Updates:** Periodically check the official HaiweiTech website for available firmware updates. Firmware updates can improve performance, add new features, and resolve potential issues. Updates are typically performed via the device's web GUI.
- **Ventilation:** Ensure the device is placed in a location with adequate ventilation to prevent overheating. Do not block the ventilation slots.

11. Warranty

The HaiweiTech HSC-S1 comes with a **1-year manufacturer's warranty**. Please refer to the included Guarantee Card for detailed terms, conditions, and warranty claim procedures. Keep your proof of purchase for warranty service.

12. Support

For technical assistance, SDK/API documentation, software downloads (such as the IP finder tool, video management platform, or the LiveX iOS/Android application), or any other inquiries, please visit the official HaiweiTech website or contact their customer support department. Refer to the product packaging or the Guarantee Card for specific contact information.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question