TVU Networks®

TVU RPS Link Encoder

TVU RPS Link encoder

Model TE5700

Hardware Setup User Guide

Document Part Number:
TVU RPS Link Model TE5700 Hardware Setup Guide Rev D EN 05-2025

Legal notices

Specifications in this publication are subject to change. Contact TVU Networks Corporation for specifications that are critical to your application. Go to www.tvunetworks.com for the latest product information.

Related literature and media

The following list contains related literature and media:

Product data sheets

- TVU RPS Link encoder

Hardware Setup and Operating manuals

- TVU RPS Link Model TE5700 Hardware Setup Guide Rev D EN 05-2025 (this document)

Software Setup and User manuals

- TVU RPS Link Software Setup Guide Rev D EN 05-2025

Regulatory Documentation

- TVU Battery Safety and Travel Guidelines

FCC/CE/IC Compliance

Federal Communications Commission (FCC) Regulation of Electronic News Gathering (ENG) Mobile Systems

The FCC provides specific policies and procedures related to radio frequency (RF) emissions in mobile and portable devices. The FCC outlines test requirements and specific test procedures based on the type of device. These test requirements and procedures can also cover Specific Absorption Rates (SAR) for RF.

TVU transmitter devices have always conformed to all applicable FCC regulations covering mobile systems for electronic news gathering. All required tests for TVU transmitter devices as outlined in the regulations were performed by a third-party testing lab, which issued a certificate of compliance for TVU transmitters. The certificate is applicable to the FCC, CE, and IC. Additionally, the data modems used in TVU transmitters are commercially available off-the-shelf brands and have been FCC and carrier certified.

Contact us

Supporting documentation demonstrating TVU transmitters' compliance with the applicable FCC regulations is available upon request. Contact TVU Networks at +1.650.440.4812 for assistance and questions regarding approved modem cards for use with TVU transmitters.

Safety notices and statements

The safety notices and statements that may appear in this document are as follows:

NOTE: These notices provide important tips, guidance, or advice.

IMPORTANT: These notices provide information or advice that might help you avoid inconvenient or problem situations.

ATTENTION: These notices indicate potential damage to programs, devices, or data. An attention notice is placed just before the instruction or situation in which damage could occur.

CAUTION: These statements indicate situations that can be potentially hazardous to you. A caution statement is placed just before the description of a potentially hazardous procedure step or situation.

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1 Introduction, set up, and base operation

Introduction

TVU RPS Link is the complete and versatile IP video solution designed specifically for REMI production.

IMPORTANT: The RPS Link TE5700 supports the 10th, 11th, and 12th generation CPU platforms. Refer to the units label for the RPS Link version and use the appropriate documentation.

TVU RPS Link combines the TVU RPS encoder and TVU Rack Router into a single package for REMI production over aggregated wired or wireless connections. The RPS Link is an IS+ encoder in a 2RU rack-mount form factor. The RPS Link offers the same primary performance and features as the standard 4 or 6-channel RPS encoder, and also includes onboard Wi-Fi and a Hotspot with external antennas. The RPS Link functional status can be viewed from the front panel LCD, and you can access the six SIM card slots from the front panel. The RPS Link works seamlessly with the standard RPS decoder and is fully compatible with the TVU Cloud ecosystem.

Product overview

The RPS Link encodes up to six synchronized SDI sources. It transmits high-quality, low-latency IP video from the remote location to a studio-based TVU RPS receiver, which decodes six accurately synchronized SDI outputs. The user-friendly RPS Link interface grants control over all aspects of transmission, including bitrate and latency, and provides previews of all four channels with the Duo 2 card and all six channels with the Quad 2 card.

TVU RPS Link provides up to two low-latency return video feeds from the studio to the field. VLAN tunnels on RPS decoders enable communication between the studio and the field over a private network.

Features

- Supports up to six fully synchronized multi-channel transmissions. Supports the 6-channel Quad 2 and 4-channel Duo 2 cards.
- Super low-latency transmission over commodity internet. Glass-to-glass latency as low as 500ms over cellular networks and Ethernet.
- It includes multiple encode behaviors to suit virtually any network environment.
- The RPS sends metadata and control from the studio to the field using the VLAN Tunnel.
- Supports up to 16-channels of SDI embedded audio or 8-channels of HDMI embedded audio.
- High-quality, low latency video feed of the live program from the station via HDMI. Up to two low-latency return video feeds sent from the studio back out to the field.
- Connect to virtually any live professional or consumer video device via 6G-SDI or HDMI 2.0a input including cameras, video routers, pool-feeds, video switchers, video players and more.
- Aggregates any mix of cellular, Ethernet, and WiFi.
- It supports up to six embedded LTE or 5G modems. Ships standard with external IP67-rated external LTE antennas (3m cables included) or optional 5G antennas.
- It can support a mix of 5G (optional) /LTE/4G and 3G modems (internal to the chassis) with external SMA antenna connections (4x SMA per 5G Modem, 2x SMA per LTE modem). The RPS Link allows modem antennas to be connected directly to the chassis itself, simplifying cabling.
- It Auto-senses and supports virtually all video formats including 4K (25/30P), 1080p, 1080i, 720p, and NTSC/PAL transmission using HEVC or H.264 VBR or CBR encoding (300K-50Mb/s).
- File upload management: Upload files from the field using a connected USB device (thumb drive or HDD/SSD) with file management capability (package dependent).
- Web-based ConfigT interface for local or remote monitoring and control.
- Easily accessible front panel SIM card slots for easy configuration.
- Front panel LCD interface for easy configuration, control and monitoring.
- Embedded outbound WiFi module with external antenna support (MIMO) for use with IS+ transmissions.
- Embedded Hotspot WiFi module with external antenna support (MIMO) for access point use (Internet connectivity).

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- Support for TVU Return Video Feed via SDI Din port 7 and 8 on the DeckLink Quad2 card and SDI port 3 and 4 on the DeckLink Duo2 card port.
- Talkback support using either TVU Voice (2-way voice) or traditional IFB (package dependent).
- Supported as a source when used with TVU Partyline for collaboration.
- Optional dual power supply
- Works seamlessly with the standard TVU RPS decoder.
- The RPS Link encoder has an easy-to-use browser interface accessible using the TVU RPS Web interface or your TVU Command Center account.
- Directly compatible with the TVU Cloud production tools including TVU Command Center, TVU Producer, TVU Partyline, TVU CloudR, and TVU Channel.
- Closed Caption (CC) support.
- The Disable all cellular function allows users to enable or disable all six cellular slots using a single checkbox.
- The Connection Priority feature allows the user to set the priority of transmission bandwidth network data traffic over Ethernet, Cellular, WiFi, and USB slots accordingly, where each of them can be set as priority 1, 2, or 3.

About this guide

This user guide will enable you to:

- Set up the RPS Link encoder and RPS decoder hardware.
- Operate the faceplate controls and operations panel.
- Configure the RPS Link encoder IP address.
- Configure the RPS Link encoder and decoder ports.
- Log into the RPS Web interface.

Contents

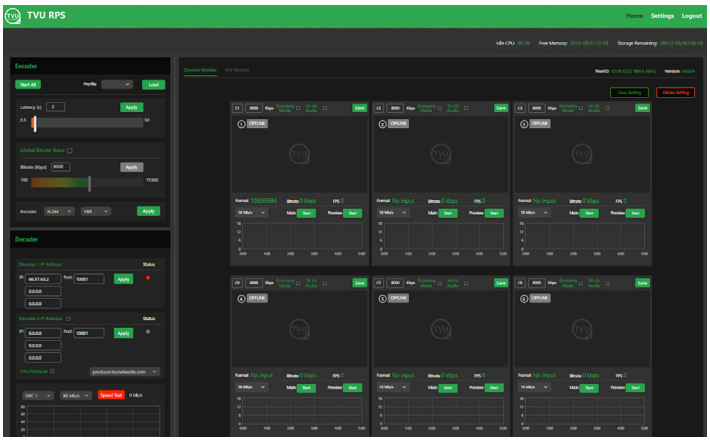
TVU RPS Link includes the following:

- TVU MLink transmitter (encoder)
- Two WiFi MIMO antennas
- LTE dome antenna
- 5G modem antenna
- 18x 2.3 DIN to BNC male adapter cables, BB or Tri-level (BNC adapter)

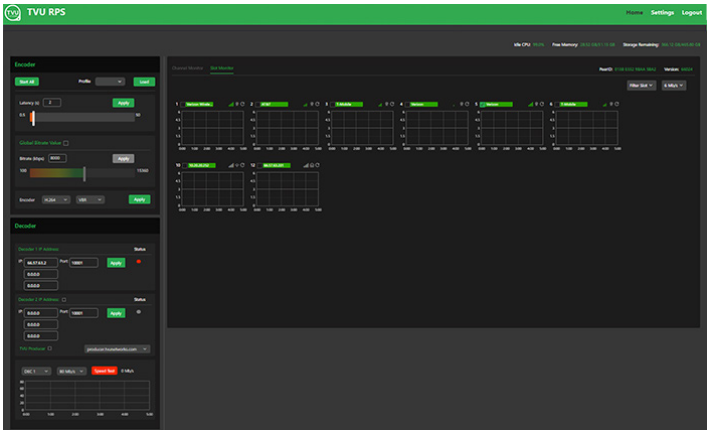
TVU RPS Web interface

After the unit is set up and powered on, monitoring and control of the system is performed with the TVU RPS Link Web interface ,which is hosted on the encoder. This interface is also accessible through the Command Center user interface.

You will use the TVU RPS Link Web interface to monitor and control all aspects of transmission, including real-time previews of all four channels with the Duo 2 card and all six channels with the Quad 2 card, current bitrate, and latency.



TVU RPS Link Web interface, 6 channel monitor



TVU RPS Link Web interface, slot monitor

For more information about setting up the RPS Link with the 4-channel Duo 2 card, refer to "Hardware configuration options" on page 11.

Network requirements

TVU Networks® recommends that you assign a static IP address to the RPS decoder to ensure the network configuration remains stable.

Contact TVU Networks support if you want to use a configuration other than the one specified in the this hardware set up guide.

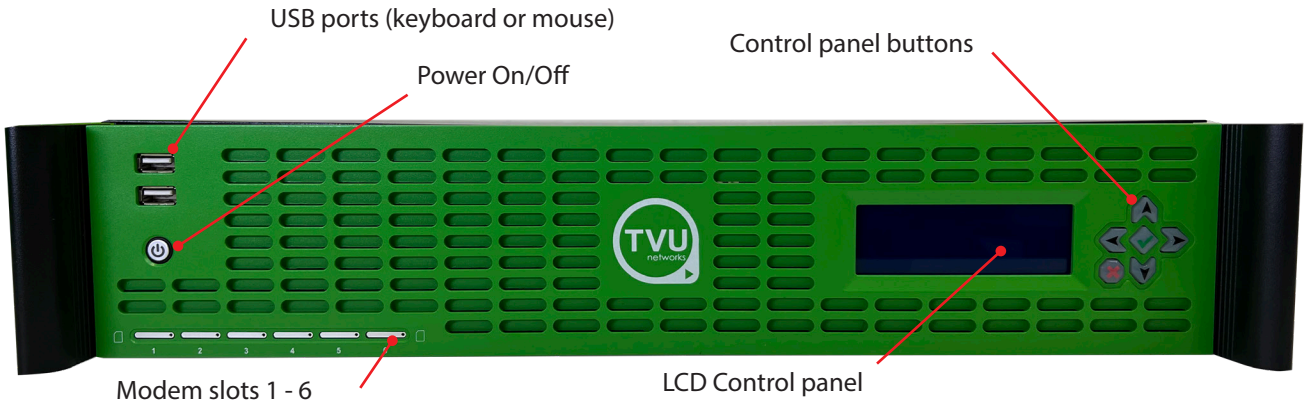
Router and firewall configuration

Complete the following steps to configure your router or firewall:

1. Permit all UDP incoming traffic for port 10001 at the receiver (video).
2. Permit both TCP and UDP incoming traffic for port 10010.
3. Permit TCP incoming traffic for port 10009.
4. Permit all UDP incoming traffic for port 6532 at the receiver (VLAN Tunnel).
5. For VoIP services, permit outbound traffic to ports 9001, 9091.
6. TVU recommends using a public IP address for the encoder. If a public IP address is not possible on the encoder side, you will need to open and forward port 80 (TCP) to access the web GUI remotely.
7. Encoding streams may require as much as 15 Mbps for each stream depending on the bitrate that is selected. TVU recommends having at least 100 Mbps of bandwidth when using 6 streams. If less bandwidth is available, lower the encoding bitrate (using the encoder web GUI) or reduce the number of channels. TVU Networks also has solutions to aggregate multiple IP connections to provide increased throughput. Please contact TVU for further information.

Front panel overview

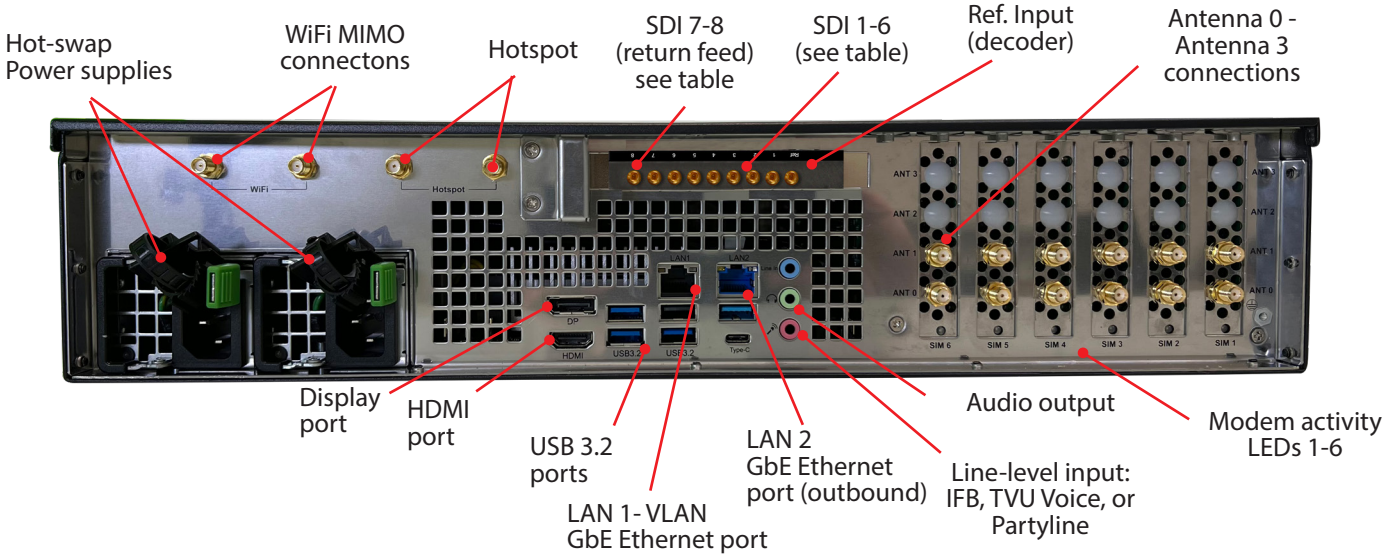
The TVU RPS Link encoder and decoder front panel feature two USB 2.0 ports and the power on/off button.



TVU RPS Link front panel

Rear panel overview - Quad 2 card configuration

The TVU RPS Link encoder and decoder rear panel features the following connections:



TVU RPS Link rear panel connections

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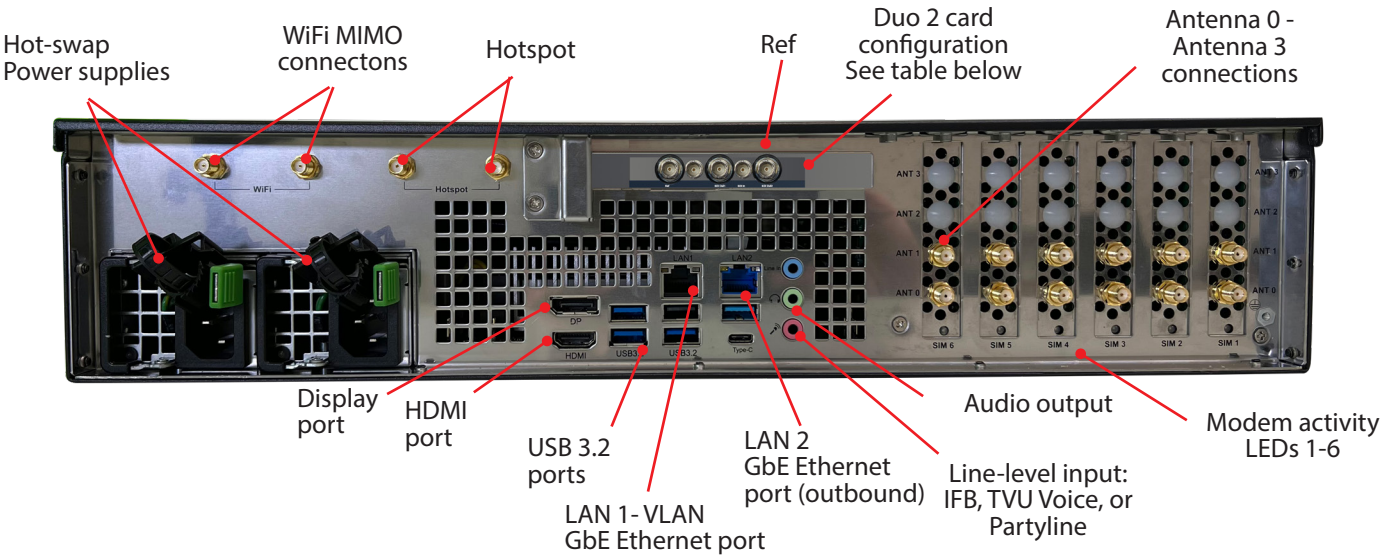
Rear panel overview - 4-channel Duo 2 card configuration

The TVU RPS Link encoder and decoder rear panel features the following connections:



** For SDI port mapping (refer to "Hardware configuration options" on page 11.)

TVU RPS Link rear panel connections

Encoder and decoder SDI port configuration table

RPS encoder	Ports 1 to 6 (Input)	Ports 7 and 8 (Output)
RPS decoder	Ports 1 to 6 (Output)	Ports 7 and 8 (Input)

Quad 2 card configuration
6 main + 2 return + 2 preview up to 1080i
5 main + 1 return + 5 preview
6 main + 0 return + 6 preview

Duo 2 card 4-channel configuration
4 main + 4 preview
3 main + 1 return + 3 preview
2 main + 2 return + 2 preview

Supports WebRTC low-latency preview in the encoder web GUI.

Setup guide

This setup guide provides instructions to complete the following procedures:

- Setting up the TVU RPS Link encoder and RPS decoder
- Setting up the RPS Link encoder IP address
- Configuring the RPS Link encoder and RPS decoder ports
- Connecting WiFi and dome antennas.
- Front panel controls and operations
- Logging in to the RPS Link Web interface
- Configuring the RPS Link encoder and RPS decoder using the RPS Web interface.

Setting up the RPS Link encoder

Complete the following instructions to set up the RPS Link encoder and RPS decoder hardware.

Note: Refer to the port numbers printed on the adapter card when attaching the BNC cables, as the adapter may be oriented differently in the TE5700 chassis.

RPS Link (encoder) identification and setup procedure

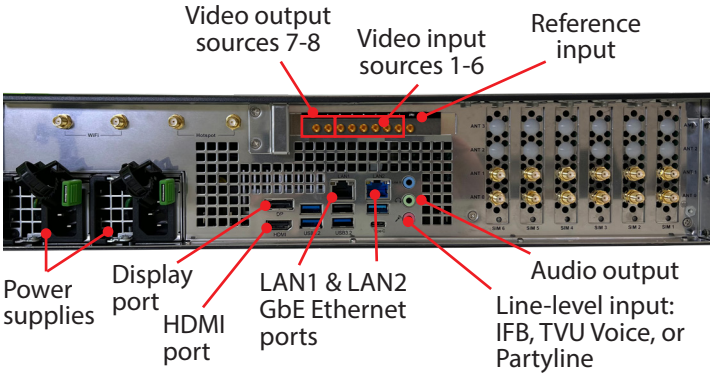
The following procedure provides the steps necessary to identify and perform the initial setup for the RPS Link encoder with the 6 channel Quad 2 card.

If your RPS Link is using the 4-channel Duo 2 card refer to "Hardware configuration options" on page 11 for set up information.

Complete the following steps to set up the TVU RPS Link transmitter (encoder):

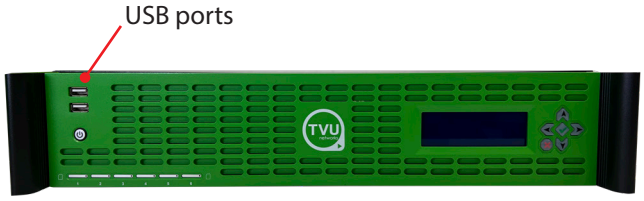
All input sources must be the same video format and frame rate.

1. Connect the factory-supplied AC power cable(s) to the RPS Link hot-swap power supplies and AC power source.
2. Connect a computer display connector to the rear panel display or HDMI output port to view real-time system status.
3. Connect a VLAN cable to the LAN1 GbE Ethernet port for VLAN connectivity on the rear panel.
4. Connect an Ethernet cable to the LAN2 GbE Ethernet port for outbound connectivity on the rear panel.
5. TVU IFB and VoIP service are provided using the USB audio box connected to the receiver. Connect your audio equipment as appropriate.



TVU RPS Link encoder setup

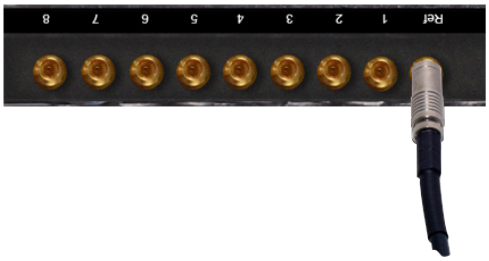
6. Connect a keyboard and mouse to the encoder using the two front or rear panel USB ports.



TVU RPS Link encoder front panel

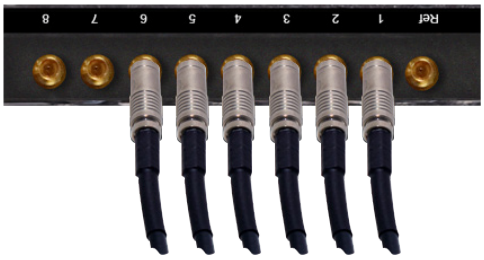
7. Connect a factory-supplied 2.3 DIN to BNC male adapter cable to the decoder reference (Ref) input port.

Note: The RPS Link Quad2 card is installed in the upside down position starting with port 8 on the left side of the card.



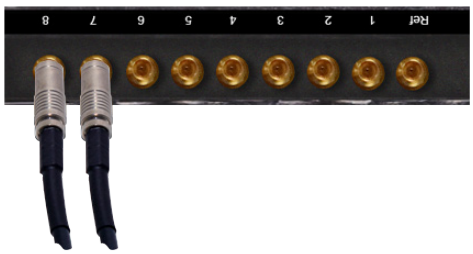
TVU RPS Link encoder reference input port

8. Starting with port 6, connect 6 to 1 SD/HD-SDI video output sources to ports 1 to 6. Use the factory-supplied 2.3 DIN to BNC male adapter cables.



TVU RPS Link encoder video input ports 1-6

9. Connect SD/HD-SDI return video sources to ports 7 and 8, starting with port 8 for the return video. Use the factory-supplied 2.3 DIN to BNC male adapter cables.



TVU RPS Link encoder output ports 7-8

10. If required, connect WiFi MIMO antennas into the top left WiFi connectors to support the MIMO mode configuration for LTE downloading (does not support uploading.)
11. Connect the antenna connector to the modem connection on the rear panel:

- 3 LTE dome antennas that use two modem ports each. One antenna supports 2 modems and should be installed at least 20 centimeters apart.
- 5G modem antennas (one per modem) with four connectors. Each 5G antenna connects to a single modem port. The 5G antenna should be installed at least 20 centimeters apart.

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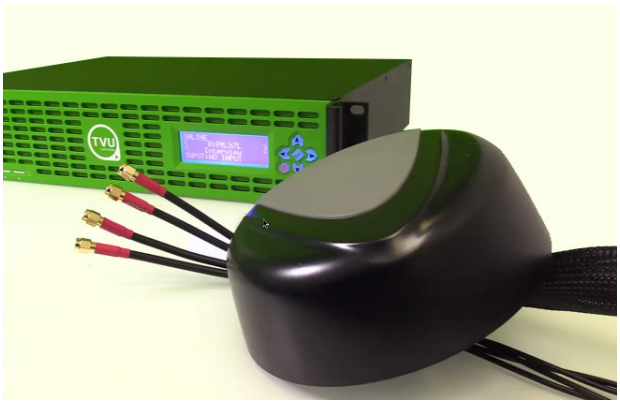
WiFi MIMO antennas

LTE dome antenna



5G modem antenna

Powering the RPS Link on and off

Complete the following steps to power on/off and restart the RPS Link:

1. To power on the RPS Link, press the power button in the front panel's left lower section.

   The name and PID number of the unit displays on the RPS Link LCD screen during boot-up.

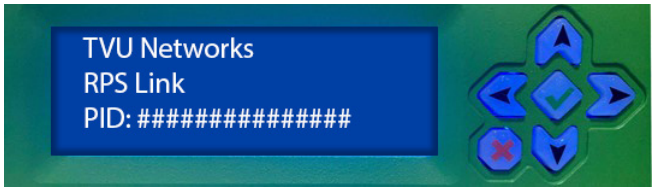
2. To power off the RPS Link, press and hold the power button down for more than four seconds.

Note: The RPS Link will automatically restart if the power button is pressed and held in for less than four seconds.

RPS Link front LCD panel

The front panel's LCD and button functionality is not currently supported.

The LCD panel displays the system PID and product information.

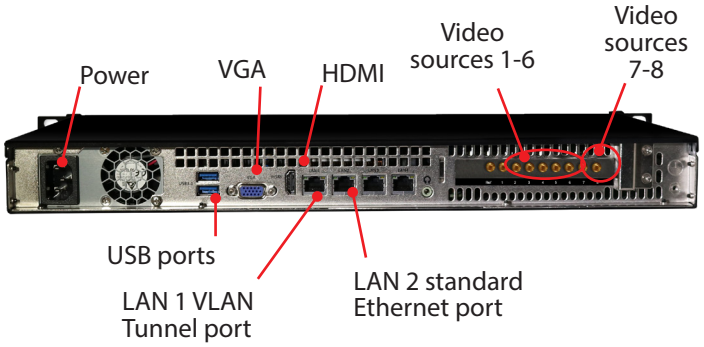


Front LCD panel

RPS receiver (decoder) and setup procedure

Complete the following steps to set up the TVU RPS VS3500 receiver (decoder):

1. Connect the factory-supplied power cable to the decoder.
2. Connect a monitor to the encoder using the HDMI or VGA connections.
3. Connect the VLAN cable to the VLAN 1 port for VLAN tunnel support. Ports marked "LAN1" (the left port) are later encoder models.
4. Connect an Ethernet cable to the following Ethernet port:
   - LAN2 (second from left) is for a standard Ethernet connection.

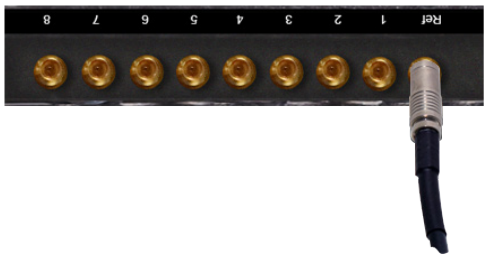


TVU RPS decoder setup

5. Connect a keyboard and mouse to the decoder using the two front or rear panel USB ports.

TVU RPS decoder front panel

6. Connect a factory-supplied 2.3 DIN to BNC male adapter cable to the decoder reference input (if required).

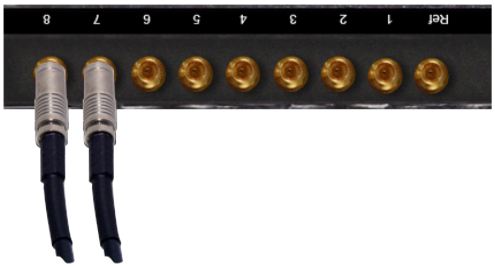


TVU RPS decoder reference input port

7. Starting with port 1, connect 1 to 6 SD/HD-SDI video output sources to ports 1 to 6. Use the factory-supplied 2.3 DIN to BNC male adapter cables.

TVU RPS decoder video output ports1-6

8. Connect the SD/HD-SDI return video sources to ports 7 and 8 for the return video. Use the factory-supplied 2.3 DIN to BNC male adapter cables.

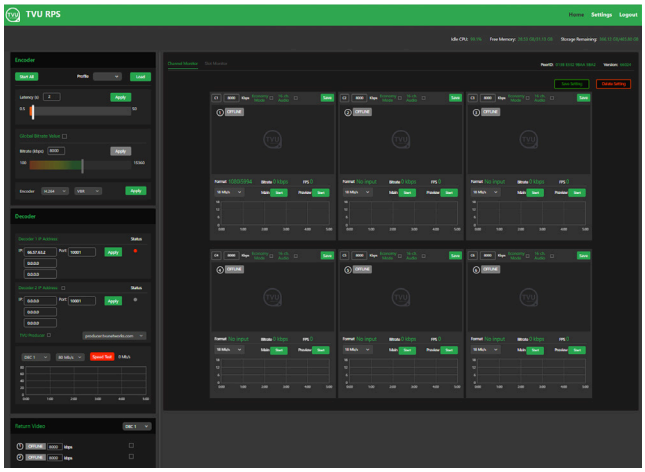


TVU RPS decoder input ports 7-8

9. Verify that the encoder and decoder are connected as described in the encoder and decoder setup procedures. Then, power on both units.

TVU RPS decoder front panel

During boot-up, the "RPS Decoder" and "RPS Link Encoder" Web interfaces display on their respective monitors.



TVU RPS Link encoder Web interface

TVU RPS decoder splash screen

TVU RPS Link encoder settings

The encoder and decoder setup pages display slightly different information. However, they accomplish the same goals and are accessible using an HDMI out connection, VGA connection, or a web browser. After the encoder is powered on and the splash screen briefly appears, the encoder server settings screen displays.

You will use the TVU RPS Web interface to monitor and control all aspects of transmission, including real-time previews of all six channels, current bitrate, and latency. The RPS Web interface includes three tabs in the top navigation to access the **Encoder** settings, **Network** settings, and **Firmware Upgrade** screens.

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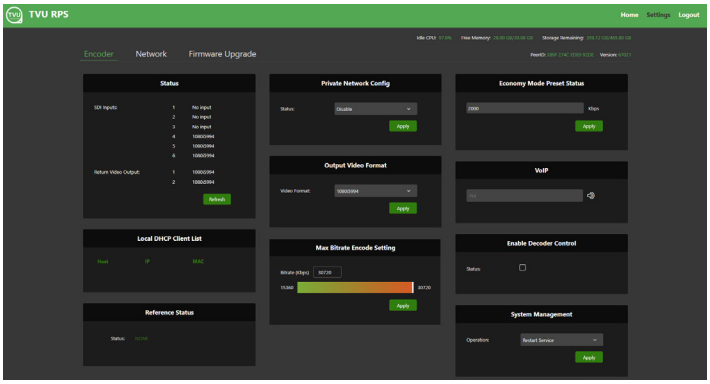
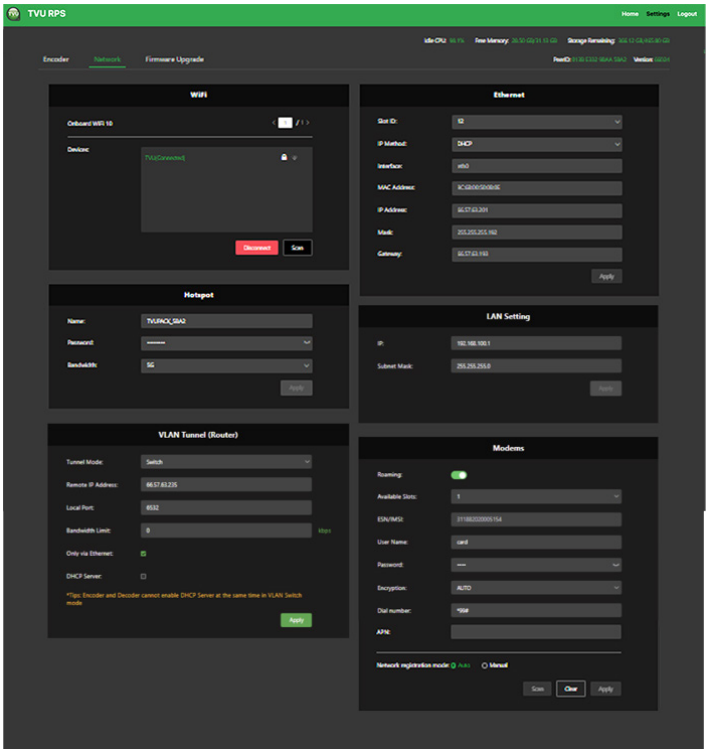
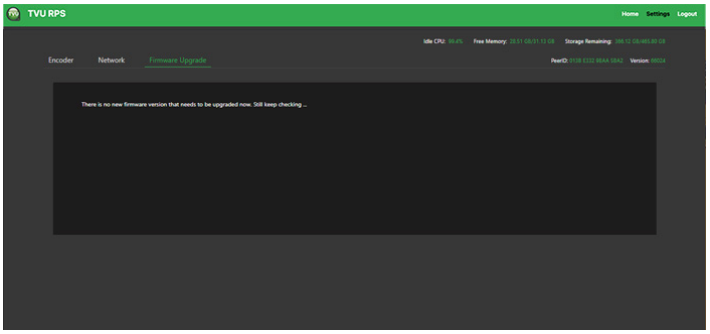


TVU RPS Link encoder settings screen



TVU RPS Link encoder Network settings screen



TVU RPS Link encoder Firmware Upgrade screen

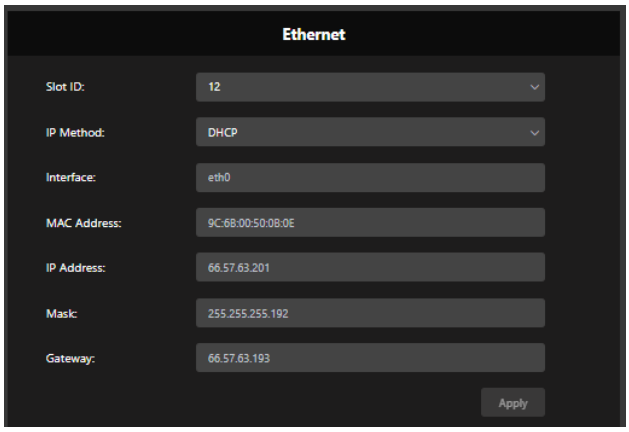
Establishing an internet connection

Notes:

1. **IP Addresses can be static or DHCP and assigned to interface eth0, which is used for primary RPS functionality, or assigned to eth1, which is used for the VLAN tunnel.**
2. **The physical ports Lan1 / Lan2 and logical designations Eth0 and Eth1, are reversed:**
   LAN2 = Eth0. Primary communications
   LAN1=Eth1. VLAN tunnel functionality

To set up an internet connection for the encoder using a DHCP or static IP method, complete the following steps:

1. Click **Settings** > **Network** tab. In the **Ethernet** panel, use the default slot ID 'Eth0' in the Interface field.
2. IP Method dropdown options are Static or DHCP. If DHCP is selected, the IP Address, Mask, and Gateway fields should automatically populate.
3. The **IP address**, **Mask**, and **Gateway** fields should automatically populate. Click the **Apply** button to save your settings.



Ethernet panel

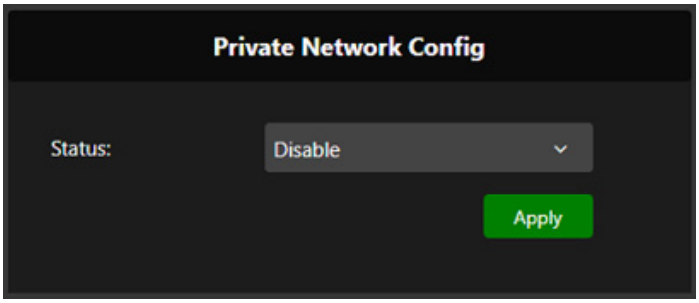
4. If you use a static IP address, click the **IP Method** drop-down menu and select **Static**. Enter your desired **IP address**, **Mask,** and **Gateway**.
5. Click **Apply** to save your settings.

Private Network configuration

The Private Network configuration panel allows the user to enable the encoder and decoder as a private network.

To configure a private network, complete the following steps:

1. Click **Settings** > **Encoder** tab.
2. Click the **Status** drop-down menu in the Private Network Config panel and select **Enable**.
3. Point the server to the Decoder by replacing 127.0.0.1 with the Decoder IP address.



Private Network Config panel

4. Click **Apply** to save your settings.

VLAN Tunnel (Router) configuration overview

By default, VLAN configuration automatically populates. In addition, the VLAN tunnel is designed to be a "set it and forget it" network between the encoder and decoder and distributes IP addresses accordingly using DHCP.

If the user would like to perform an advanced VLAN configuration, the VLAN tunnel settings can be used to network several devices that are connected to an encoder by using a local switch, or to view the encoder Web UI from the decoder network. The VLAN Tunnel supports IP Intercom, IP Tally, or CCU.

Subnet rules:

The IP addresses assigned to eth1 for each side of the VLAN tunnel must be on different subnets. The VLAN tunnel routes between networks.

For example:

For the encoder, use: 192.168.100.1/255.255.255.0

For the decoder, use: 192.168.101.1/255.255.255.0

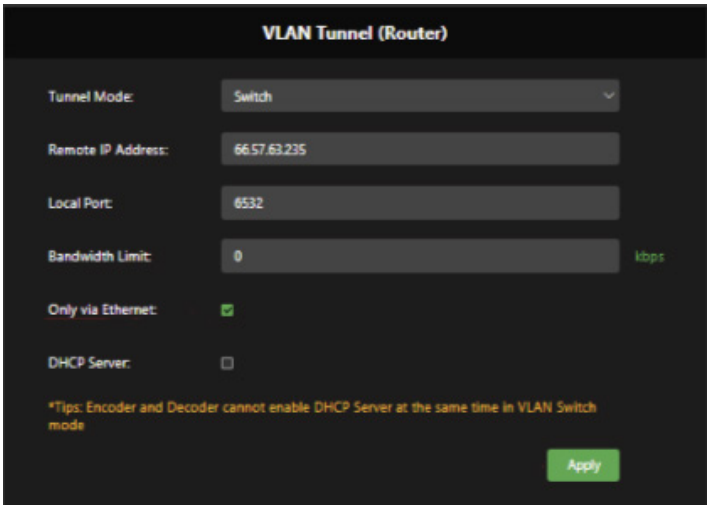
VLAN Tunnel (Router) configuration

The VLAN Tunnel setting panel in the **Network** tab configures the VLAN tunnel functionality by inputting the IP address of the decoder, port and bandwidth limit (optional). The port is associated with 6532 by default and can be changed if desired. Refer to the *TVU port forwarding guidelines* for more information.

When the VLAN Tunnel "Only via Ethernet" checkbox is enabled, it allows the user to select the Ethernet only path for VLAN Tunnel including Switch mode instead of the default bonded path of Ethernet plus Cellular. It can lower the RTT latency between the VLAN clients much lower i.e., within 30ms and eliminate any jitter if present, which is ideal for certain VLAN Tunnel Switch mode application workflows for example, an audio talkback intercom system, etc.

Note: Enabling the VLAN Tunnel Only via Ethernet feature will use the Ethernet path for VLAN Tunneling only, but will not affect primary live video transmission, which will continue to use both Ethernet and Cellular, as per the user's requirements.

To change the VLAN tunnel (Router) settings, enter your change(s) in the VLAN tunnel panel and click **Apply**.



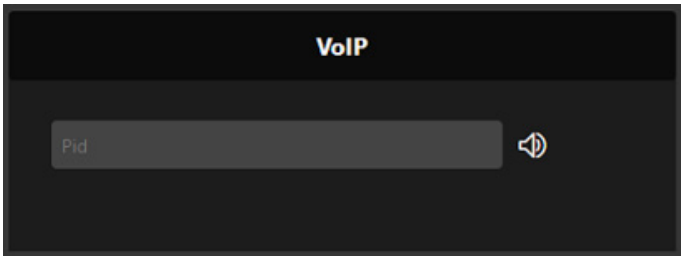
VLAN Tunnel (Router)

VoIP configuration

The VoIP settings panel allows the user to enter the PID of the decoder into the encoder's VoIP settings panel to establish communication between the encoder and decoder.

To configure VoIP complete the following steps:

1. Click **Settings** > **Encoder** tab. In the VoIP panel, Enter the encoder's full **PID number** in the **PID** field.
2. Click the **speaker** icon to initiate the call.

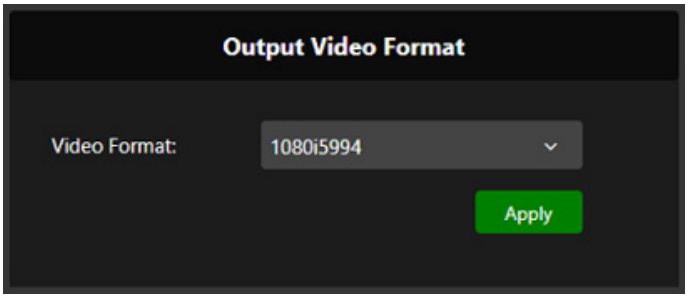


VoIP panel

Output video format

The Output video setting panel allows a user to select the output resolution and framerate of all channels coming from the encoder.

Click **Settings** > **Encoder** tab. In the Output Video format panel, select a **Video format** from the drop-down menu and click **Apply**.

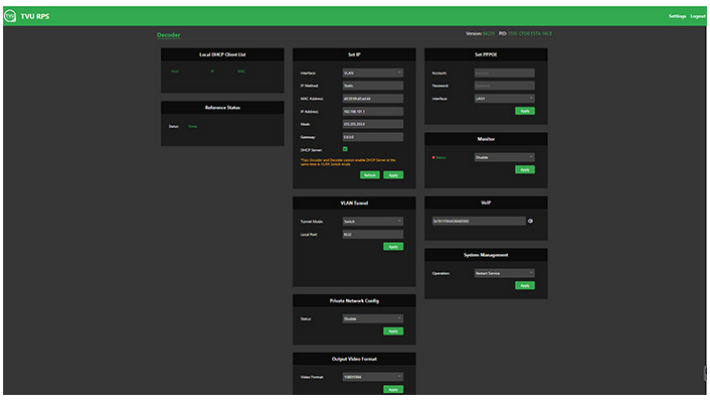


Output Video format panel

TVU RPS decoder server settings

The encoder and decoder setup pages display slightly different information. However, they accomplish the same goals and are accessible using an HDMI out connection, VGA connection, or a web browser.

After the decoder is powered on and the splash screen briefly appears, the decoder server settings screen displays.



TVU RPS decoder server settings screen

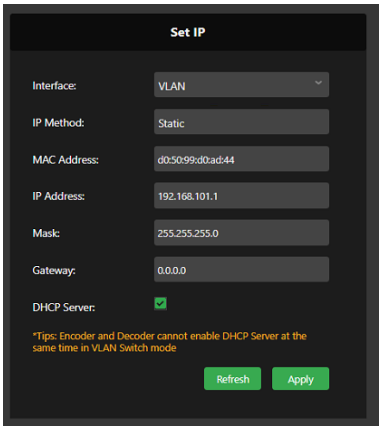
Establishing an internet connection

Notes:
IP Addresses can be static or DHCP and assigned to interface eth0 which is used for primary RPS functionality, or assigned to eth1, which is used for the VLAN tunnel.

The decoder IP address cannot be changed when VFB is enabled.

To set up an internet connection for the decoder, complete the following steps:

1. If you use DHCP, click the **Refresh** button in the Set IP panel. The **IP address**, **Mask**, and **Gateway** fields should automatically populate.



Set IP panel

2. If you use a static IP address, click the **IP Method** drop-down menu and select **Static**. Then, enter your desired IP address, Mask and Gateway.
3. Click **Apply** to save your settings.

Logging in to the TVU RPS Link Web interface

To log in to the TVU RPS Link Web interface, have your encoder static IP address available and complete the following steps:

Log in to the RPS Link Web interface

1. Open a Web browser window and enter:

   `http://IP_Address/rps/index.html`

   (Where *IP_Address* is your Encoder static IP address)
2. Click **Enter**. The Log in pop-up displays.

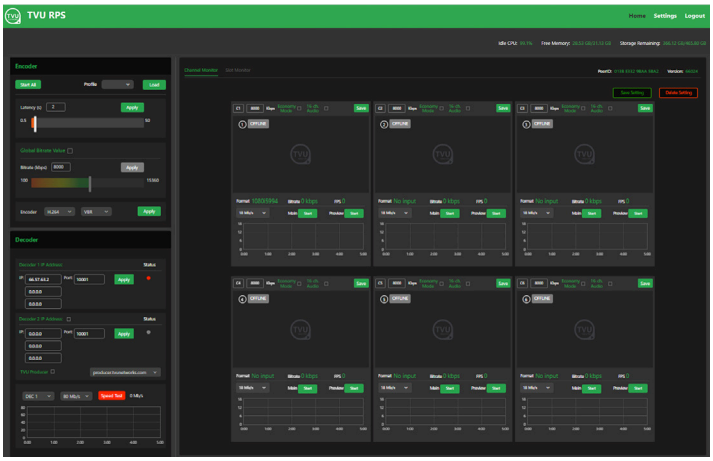
TVU RPS Link web interface Login

3. To Log in to the RPS Link Web interface, Enter the following using all lowercase letters:

User ID: **tvurps**

Password: Enter the last **8-digits of the PID** using all caps

4. Click **Login**. The TVU RPS Link Web interface displays.



TVU RPS Link Web interface

Hardware configuration options

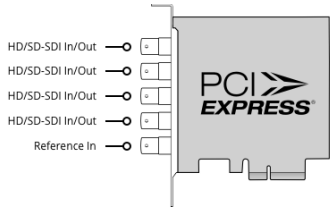
There are two hardware configurations for the RPS Link encoder:

RPS 4-channel Duo 2 PCI Express card

The Duo 2 PCI Express capture and playback card features 4 independent 3G-SDI connections. The card supports SDI formats in SD and HD up to 1080p60 with the flexibility of 4 separate capture or playback cards in one.

Connections:

- SDI Video Inputs - 4 x bidirectional 12-bit SD/HD independently configurable as either Input or Output.
- SDI Video Outputs - 4 x bidirectional 12-bit SD/HD independently configurable as either Input or Output.
- SDI Audio Inputs - 16 channels embedded in SD and HD.
- SDI Audio Outputs - 16 channels embedded in SD and HD.
- Sync Input - Tri-Sync or Black Burst.
- Server Interface - PCI Express 4 lane generation 2, compatible with 4, 8, and 16 lane PCI Express slots.

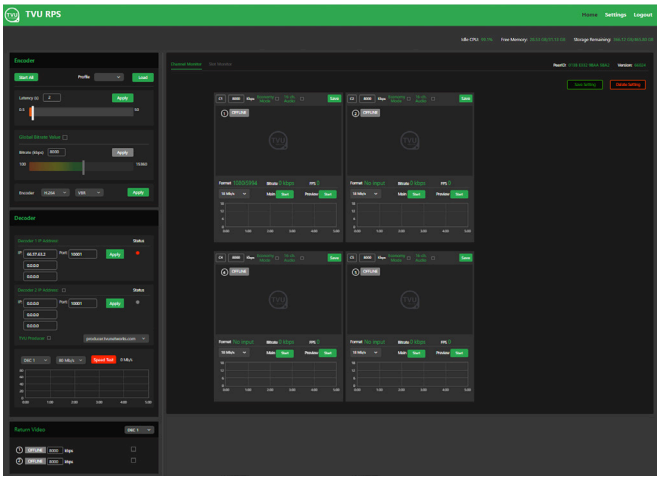


RPS 4-channel PCI Express card

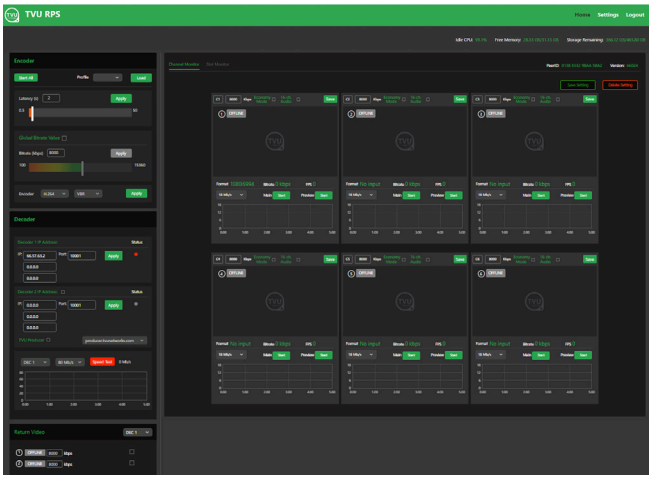
RPS Link 4-channel Web interface overview

The RPS Link encoder 4-channel configuration uses the same Duo 2 card instead of the standard Quad 2 card described in "TVU RPS Link rear panel connections" on page 3.

When a Duo 2 card is detected on the system, the main Web interface shows 4 previews instead of the standard 6 previews. The previews for the 4-channel configuration are much larger than the standard 6-channel version, as shown in the following figures.



TVU RPS Link 4-channel preview

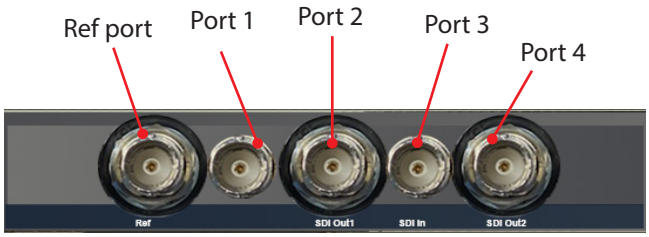


TVU RPS Link 6-channel preview

Port mapping 4-channel Duo 2 card

The port mapping for the RPS Link 4-channel configuration is from left to right. The leftmost port is the reference port, and to its right are port 1, port 2, port 3, and port 4. The reference port is used for Genlock. Port 1 is for primary channel 1, port 2 is for primary channel 2, port 3 is for primary channel 3 or return video feed 1, and port 4 is for primary channel 4 or return video feed 2.

Port 3 and port 4 can either be used as the primary channel or return feed. You cannot use the primary and return feed simultaneously as there is no separate dedicated port for the return feed as with the 6-channel version for the Quad 2 card (where ports 7 and 8 are for the return feed).



4-Channel Duo 2 ports

Encoder and decoder SDI port configuration table

RPS Link encoder	Ports 1-4 (Input) or Ports 1-3 (Input) and Port 4 (Output) or Port 1-2 (Input) and Port 3-4 (Output)
RPS decoder	Ports 1-4 (Output) or Ports 1-3 (Output) and Port 4 (Input) or Port 1-2 (Output) and Port 3-4 (Input)

4 main + 4 preview
3 main + 3 preview + 1 return
2 main + 2 preview + 2 return

Port configuration options

For information about port configurations, refer to the TVU Server Port-forwarding guidelines.

2 Product specifications

RPS Link Model TE5700 with dual power supply

	Model TE5700
Form factor	2RU Rack mount chassis
TVU Software version	Ubuntu 20.04.2 LTS and RPS Link s/w version: v6.7 (Build 67021)
Encoder	6-channel version: 6 primary (H264 or HEVC), 4:2:0 CBR/VBR, Return video feeds with 16 channel embedded audio support per channel and preview. 4-channel version: 4 primary (H264 or HEVC), 4:2:0 CBR/VBR, Return video feeds with 16 channel embedded audio support per channel and preview.
Video resolutions	SD/HD - SDI (1080-50i/59.94i, 1080p50/59.94 support*, 720-50p/59.94p, NTSC/PAL) * can only support 4-channels live with no preview on the 6 channel version
Video input **Genlock Input (Decoder)**	6-ch version SD/HD-SDI 1.0/2.3 DIN connectors: Ports 1-6 utilized for primary transmission and Ports 7-8 used for return video. 4-ch version SD/HD-SDI BNC connectors: Ports 1-4 utilized for primary transmission and Ports 3-4 used for return video(if applicable). Ref: 1.0/2.3 DIN, BB or Tri level (BNC adapter included)
Network interface	2 Ethernet ports (1x GigE and 1x 2.5GigE) two for LAN (link aggregation and one for VLAN tunnel connectivity), at least 12 channels of bandwidth can be bundled simultaneously, including 2 channels of GigE Ethernet and 6 channels of 3G/4G/5G/LTE cellular modems with external SMA antenna ports. System ships standard with high-gain external antennas.
Transmission protocol	Inverse StatMux Plus (IS+)
WiFi/Hotspot	2x Built in 2.4/5GHz Wifi connections for WAN connectivity and internal Hotspot use. Ships standard with external antennas.
USB	4x USB 2.0, 3x USB 3.0 ports
Display output	1 x HDMI 2.0 and 1 x DP
Local control and monitoring	Front panel LCD or Embedded web interface
Cloud control and monitoring	Yes, TVU Command Center
Compatible TVU Cloud solutions	TVU Command Center, Grid, Producer, Partyline, Remote Commentator, MediaSource, MediaMind
IFB (TVU Voice)	3.5mm TRS Mini Jack (1 x headphone/1 x mic)
Power configuration	Standard dual P/S
Power source	100-240V ~/3.5A 47Hz-63Hz
Dimensions	19 in. (482.6 mm) W x 10.1 in. (257.05 mm) D x 1.75 in. (44.4 mm) H
Weight	18.5 lbs (8.3 kg)
Operating temperature	32°F to 89.6°F (0°C to 32°C)

Specifications are subject to change without notice.

Document part number TVU RPS Link Model TE5700 Hardware Setup Guide Rev D EN 05-2025

TVU Server Model VS3500 with single power supply

	Specification
Model	VS3500
Form factor	1RU Rack-mount chassis
TVU Software version	Linux
Encoder	6-channel version: 6 primary (H264 or HEVC), 4:2:0 CBR/VBR, 2x return video feeds with 16-channel embedded ausio support per channel and preview. 4-channel version: 4 primary (H264 or HEVC), 4:2:0 CBR/VBR, up to 2 return video feeds with 16-channel embedded audio support per channel and preview. But at the expense of the primary. E.g., with the 4-ch version, you can only run 4 primary or 3 primary with 1 return feed or 2 primary with 2 return feeds.
Video resolutions	SD/HD - SDI (1080-50i/59.94i, 1080p50/59.94 support*, 720-50p/59.94p, NTSC/PAL) *can only support 4-channels live with no preview on the 6-channel version.
Video inputs **Genlock input (decoder)**	6-channel version SD/HD-SDI 1.0/2.3 DIN connectors: Ports 1-6 utilized for promary transmission and ports 7-8 used for return video. 4-chanel version SD/HD-SDI BNC connectoers: Ports 1-4 utilized for primary transmission and ports3-4 used for return video (if applicable). Ref: 1.0/2.3 DIN, BB or Tri level (BNC adapter included)
Transmission protocol	Inverse StatMux Plus (IS+)
Network interface	3 independent 10/100/1000 BASE-T RJ-45 Ethernet interfaces, 1 VLAN tunnel connectivity and 1 WAN, 2X USB 2.0, 2x USB 3.0
Display output	HDMI and VGA ports
USB ports	2x USB 3.0 and 2x USB 2.0
Ethernet	2X 1GigE (WAN and VLAN tunnel)
Power source	100-240V ~/3.5A 47 Hz to 63 Hz
Dimensions	16.92 in. (430 mm) W x 10.39 in. (264 mm) D x 1.77 in. (45 mm) H
Weight	9.56 lbs (4.34 kg)
Operating temperature	32°F to 89.6°F (0°C to 32°C)
Power supply	Single or optional dual

Specifications are subject to change without notice.

3 Applications overview

TVU RPS Link provides the production solutions and applications

- TVU RPS Link supports 1080p/1080i/720p HD, NTSC, and PAL formats.
- The system uses TVU's Inverse Statmux Plus (IS+) transmission algorithm for stable, high-quality, low-latency transmissions. The system's simple web interface gives real-time previews of all six channels. It allows users to monitor and control all aspects of the transmission, including current bit rate and latency.
- TVU RPS Link provides multi-camera remote production for live coverage without the costs associated with expensive dedicated fiber or satellite links, extensive dedicated transmission equipment, and large on-site production crews.
- TVU RPS Link features a VLAN tunnel to allow IP devices in the field to virtually connect to the LAN in the studio, making it ideal for teleprompters, tally, remote cameras, and more.
- TVU's VoIP solution, TVU Voice, is also compatible with TVU RPS Link, making communication between the field and headquarters easier.

Applications

- 6-Channel Remote Multi-cam or Remote Studio Application
- 4-Channel Remote Multi-cam or Remote Studio Application with - Channel Return Video
- Remote Production System VLAN Tunnel Application – IP Intercom
- Remote Production System VLAN Tunnel Application – IP Tally
- Remote Production System VLAN Tunnel Application – CCU

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