TVU Transceiver

Advantages

- Compatible with all major social media platforms via API
- Ultra-low latency - as little as 0.3 seconds
- Ensures best picture quality – even in extreme environments with bandwidth fluctuations

Features

- Decodes multiple types of feeds including TVU®, SDI, and web streams
- Controls all aspects of live transmission, including bit-rate and latency
- Provides complete management of TVU transmitters and modem cards
- Supports SDI, SMPTE 2110 or IP as inputs and outputs
- Supports multiple outputs for SDI including 1080p23.98, 1080p24, 4Kp23.98 and 4Kp24
- Allows the creation of a VLAN between the Transceiver and a field device
- Allows any device that supports RTMP to stream directly to the transceiver
- Supports data pass-through including TC, SCTE, and closed captioning
- Offers multiple monitor and control options including local web UI, HDMI monitor output, cloud UI via TVU Command Center, or smartphone
- Fully edge-device compatible with all TVU Cloud applications
- Built-in Return Video Encoder for TVU transmitter devices
- Ability to decode streams from Panasonic P2 Streaming and JVC Connected Cams directly. Panasonic cameras support the TVU back end service for simple connectivity
- Optional ability to seamlessly switch from one stream to another with single frame accuracy
- Optional AI-based closed captioning encoding using TVU Transcriber

Monitor, control, manage and distribute all your video content.

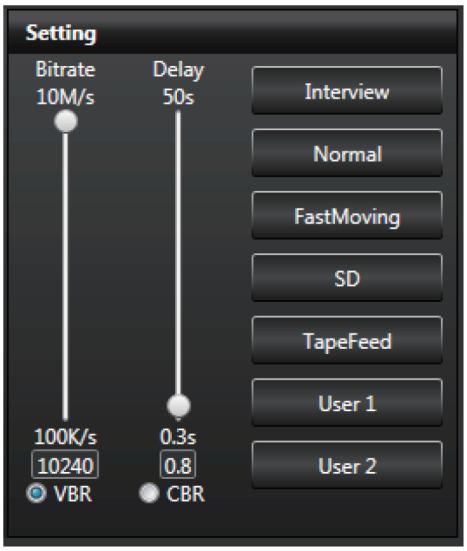
The TVU Transceiver is the primary edge-device for TVU, IP and Cloud workflows. The TVU Server is designed to host multiple TVU applications that can accomplish multiple tasks simultaneously including SDI/IP encode and decode, frame accurate IP video switching, graphics overlay, AI based closed captioning, store and forward file transfers and more. TVU Server is also the gateway to TVU Grid®, allowing IP content to easily be routed and distributed within your network or with partner networks.

TVU Transceiver

Complete Control Over Every Transmission

User-friendly Layout – The TVU Transceiver interface allows you to monitor all TVU transmitters, TVU Grid® or external IP transmissions. Easily view error rate, line quality and battery reserve in a simple but informative status bar. Survey the real-time status of multiple transmitters that are out in the field in order to easily switch between multiple live shots.

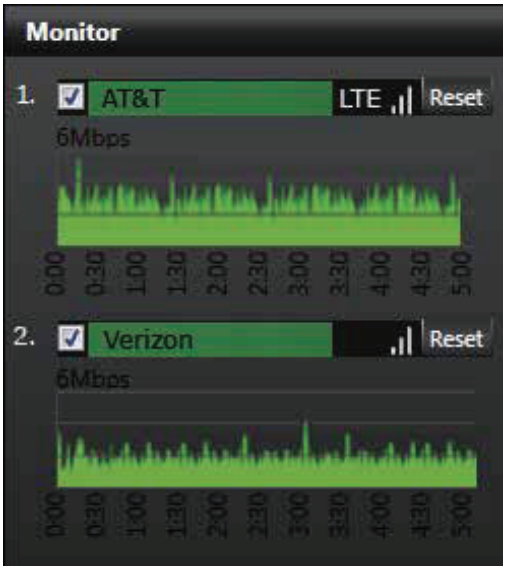
Control the Live Video Feed – Go live with just the click of a button or switch between live transmissions on the fly. Easily change the bite-rate and latency for your desired picture quality or select the Smart VBR option and let the system automatically optimize the picture for you.



Smart VBR Technology – TVU's Smart VBR functionality enables TVU transmitter devices to adapt quickly and efficiently to extreme fluctuations in bandwidth during live transmissions. The operator only has to set the desired latency for the live shot, and Smart VBR will automatically adjust picture quality based on the available bandwidth.

Adjustable Mode Selection – Switch with ease between five pre-set and two user configurable modes for bite-rate and latency, enabling you to choose the setting for each individual broadcast depending on the conditions of the transmission. Choose from Interview, Normal, Fast Moving, SD, and Tape Feed to set the most optimal bite-rate and latency. Users can also create their own pre-set transmission mode for the locations where broadcasts are frequently transmitted.

Monitor Signal Strength for Each Connection – Monitor every connection in each of your TVU transmitters through an easy to read status panel. The Receiver interface provides all the necessary information about the current status of all connected 3G/4G/LTE modem cards, WiFi and Ethernet connections, or satellite or microwave links for each TVU transmitter including carrier name, connectivity strength and IP address. Once the live transmission is complete, users can recall a histogram of the entire transmission in order to review the overall performance of the live shot.

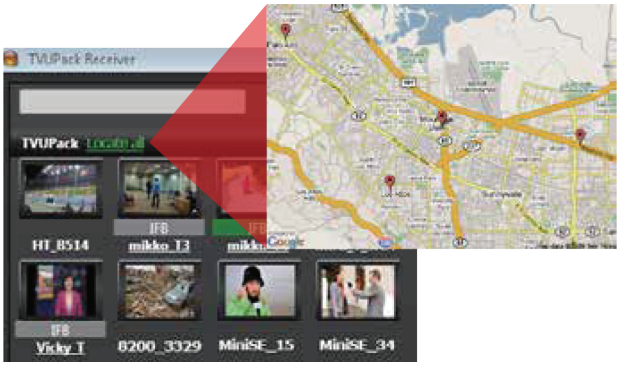


Communicate With Each TVU Transmitter

Easily Manage the Configuration of Every Modem – Users can enable or disable each connection, remotely configure the modem cards through a web based interface, and complete a full reboot reset of individual modem cards all from the transceiver interface. When roaming, users have the ability to select which carrier a particular modem will roam on in order to utilize all of the cellular providers available.

Go Live with External IP Video Sources – The TVU Transceiver supports the decoding of external IP video sources such as YouTube so that users can go live with these sources straight from the transceiver interface.

TVU Voice – Add the optional TVU Voice functionality for two-way VoIP and directly speak with a remote camera operator through a TVU transmitter in the field before, during, and after the live transmission. With one click of the mouse, switch between multiple sources or talk to all of your in-field transmitter operators at once. The broadcaster in the field is notified when the TVU Voice function is live by a status bar on the TVU transmitter screen.



GPS Tracking – Pinpoint exactly where one or all of your TVU transmitters are located when you have multiple transmitters in the field. With a single click, the TVU Transceiver connects to an online map and pinpoints precisely where a TVU Transmitter is located anywhere in the world. This feature also tracks the path of the TVU Transmitter out in the field. Users have the ability to mouse over a particular part of the route on the map to reveal a thumbnail image of the transmission that was recorded at that exact location.

TVU GRID® ENCODER/DECODER

Distribute Live Video Everywhere

Take advantage of the TVU Grid® Ecosystem – Adding the optional TVU Grid® switching, routing and distribution solution instantly makes video content available to all Grid-enabled locations globally. Currently, over 2500 broadcast stations are on the TVU Grid® ecosystem for live video sharing and distribution.

ARCHIVED VIDEO CONTENT

Retrieve, View & Archive From Any TVU Transmitter – With the TVU Server, the recorded video from a TVU transmitter live shot is automatically uploaded to the device, providing a pristine transfer of the captured video segment. It also allows for the clipping of any desired video frames from a TVU transmitter, and downloading directly to the TVU Server device for editing.

OPTIONAL ADD-ON MODULES

IP Streaming Output – It's easy to take a live TVU transmission and output it to a third party website or social media platform with the IP Streaming Output feature. The live video is encoded into an IP format and can be sent to up to six different remote locations at once, including Facebook Live, Periscope and YouTube Live. TVU Transceiver supports RTMP and RTMPS and 256 audio bitrate. Users also have the ability to add logos in the live stream.

TVU Command Center – TVU Command Center offers cloud-based centralized remote management and control of all TVU products and services. Command Center provides full control of TVU transmitters, TVU Receiver functions such as Geo-locate and TVU Grid®. It also supports the TVU Analytics, TVU Booking and TVU Alert services. TVU Command Center allows IP video sources to be added or deleted, transmit and output to a third party website or CDNs.

TVU Transcriber – TVU Transcriber is a context-based real-time speech to text transcribing service. Using voice recognition AI technology, the service provides the option to output text to a file format from an audio input source or embed text into a video stream for closed or open captioning. TVU Transcriber is highly accurate and capable of recognizing multiple languages.

Panasonic P2 Streaming - TVU Server fully supports direct streaming from select Panasonic P2 cameras including all of the following models: PX270, PX5100, PX5000, PX800, PX380, and PG50.

TVU Timelock - TVU Timelock easily turns multiple TVU One mobile transmitters into a versatile At-home/REMI solution. Broadcasters aren't tethered to camera crews or on-location production trucks when using Timelock, allowing for more cost-effective and flexible remote production. TVU Server supports live streams from Timelock.

TVU Remote Commentator - TVU Remote Commentator provides real-time and synchronized broadcast quality audio commentary from anywhere for live productions using a public Internet connection. Requires TVU Partyline and Audio Mixing.

TVU Transceiver Technical Specifications

Model

VS3500

Form Factor

1RU Rack-Mount Chassis

Software

TVU 7

Video Decode

H.264 or HEVC/H.265

Video Resolutions

525i59.94 NTSC, 625i50 PAL, 720p50, 720p59.94, 1080i50, 1080i60, 1080i59.94, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60

Audio Output

Embedded SDI - up to 8-channel

Video I/O

3G-SDI BNC x 4

Optional

SMPTE 2110* - (Up to One TVU Receive Channel and one TVU Grid/RVF Encode Channel only, up to 1080p only) 2 x SFP Cages

Optional IP Output Formats

SMPTE 2110, NDI, SRT, RTMP, RTMPS, UDP, HLS, RTSP, Zixi (Coming Soon)

Optional Input Formats*

SMPTE 2110/2022, SRT, RTMP, RTMPS, UDP, HLS, RTSP, YouTube VOD, Panasonic P2 Camcorders, JVC Connected Cam

Network Interface

2 Ethernet Ports (1xGigE and 1x2.5GigE) - RJ45

Display Output

1x HDMI

IFB

External USB audio input with level control (mix/line), 1/4" & XLR

USB Ports

8 x USB 3.2 Gen2 (7xUSB Type A, 1x USB-C)

Ethernet

2x 1 GigE

Video Input Formats*

720p50, 720p59.94, 1080i50, 1080i60, 1080i59.94

Optional Social Media API Support* **

Facebook Live, YouTube Live, Periscope, Twitch, Yi Live, KuaiShou

Optional Transceiver Configurations

- Up to Four TVU Receive Channels (up to 1080p)*
- Two TVU Receive Channels and two TVU Grid/RVF Encode Channels*
- One TVU Receive Channel and one TVU Grid/RVF Encode Channel*
- One TVU Receive Channel and one RVF Encode

Power Source

100-240V AC, 3.5A, 47-63Hz

Dimensions

15.5in (395mm)L x 16.92in (430mm)W x 1.75in (44.5mm)H

Weight

14.7lbs (6.7kg)

Operating Temperatures

32–89.6 °F, 0–32 °C

Power Supply

Single

Platform

Linux

Genlock

1 x BNC, Tri-Sync or Black Burst

Closed Captioning Pass Through Enabled

Optional Closed Captioning Encode*

TVU Transcriber, CC708 & OP47

SCTE Pass Through Enabled

Local Control and Monitoring

Local web interface or HDMI output

Cloud Control and Monitoring*

Via TVU Command Center

Model

VS3550

Form Factor

1RU Rack-Mount Chassis

Software

TVU 7

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Optional Closed Captioning Encode*

TVU Transcriber, CC708 & OP47

SCTE Pass Through Enabled

Local Control and Monitoring

Local web interface or HDMI output

Cloud Control and Monitoring*

Via TVU Command Center

www.tvunetworks.com
857 Maude Avenue, Mountain View, CA, 94043
+ 1.650.969.6732

*Optional Configurations: Additional fees may apply
**Requires active Command Center account
Specifications and features subject to change without notice