# RACK Series



HEVC

# PREMIUM HEVC ENCODER FOR CONTRIBUTION & REMOTE PRODUCTION OVER UNMANAGED NETWORKS



The RACK Series is a range of video encoders designed for space-constrained live production, including contribution applications and multi-camera remote/at-home productions.

The RACK Series is designed to be deployed in fixed locations, directly connected on wired IP networks, offering a real cost-effective alternative to satellite or fiber. The RACK Series is also designed to be used on vans or trucks, connected to a roof-mounted AVIWEST QUAD CellLink (active 3G/4G multi-antennas) and/or Ka satellite transmitter, enabling video broadcast from any location around the world, even in the midst of unpredictable and unmanaged network conditions.

Equipped with a user-friendly, intuitive touchscreen, the unit supports multiple operational modes including live, record, live and record, file forward, and data hot spot for high-speed internet connectivity.

The RACK Series embeds a best-in-class full HD hardware H.265/HEVC encoder, as well as an H.264/AVC encoder to reach low bitrates at sub-second latency without comprising on video quality. Powered by the double award-winning SST technology (Safe Streams Transport), the RACK encoder offers ultra-reliable transmission on any network, thanks to an intelligent IP-bonding stack that aggregates all available bandwidth without needing to stop a live transmission, even as connections are added or dropped.

## SIMPLE

The RACK Series has been designed with ease-of-use in mind, the user-friendly intuitive interface allows broadcasting live videos in two touch screen taps.

## VERSATILE

With its 1U half rack form factor, the product reduces costs and space requirements.
Delivered in a "as-a-box" design, it can also be rack mounted thanks to dedicated kits hosting one or two units in 1U.

## HIGH PERFORMANCE

By implementing the best state-of-the art H.265 / HEVC hardware encoder in a compact design enclosure, the RACK Series enables video professionals to provide seamless high quality live video contribution, and event coverage.

## ANY NETWORKS

Leveraging Emmy® award winning AVIWEST's SST protocol, RACK Series ensures the delivery of live video even in the midst of unpredictable and unmanaged network conditions by aggregating simultaneously multiple network connections dynamically adapting the video bitrate, protecting stream content and supporting retransmission of lost data.

## PRODUCTS COMPARISON CHART

| | RACK300 | RACK200 |
|---|---|---|
| H.265/HEVC encoder | ● | |
| H.264/AVC encoder | ● | ● |

**AVIWEST**
SHAPING TOMORROW'S LIVE VIDEO

# MAIN FUNCTIONS

### LIVE & AUTO-RECORD

Broadcast premium quality video live over bonded IP networks : 3G/4G/5G, Ethernet, Wi-Fi, and satellite networks such as BGAN, GX and Ka Band. Combined with the automatic record feature, you can simultaneously record this live on the pluggable SD card with different resolution and bitrate to ensure an optimal and constant video quality.

### REC & PROGRESSIVE FWD

Record broadcast-grade quality video on the SD card, and optimize your time by forwarding the file progressively whereas the record is still in progress. This forward approach enables fast and error-free video delivery.

### DATA HOTSPOT

By leveraging the transmitter's aggregated networks connections, switch the unit to behave as a mobile router in order to benefit a high speed internet connection from anywhere.

### IFB & VIDEO RETURN

Ensure two-ways audio communication between the producer, production crews & on-air talent thanks to a seamless and robust intercom. Receive and watch high quality HD feed from the Studio during live sessions or when the device is idled. With sub second latency delivery, it is especially designed for receiving on-air program, teleprompting information or ensuring confidence monitoring from the field.

# MAIN SPECIFICATIONS

## VIDEO

| STANDARDS | HD: 1080p25/29.97/30/50/59.94/60, 1080i50/59.94/60, 720p50/59.94/60 SD: PAL, NTSC |
|---|---|
| ENCODING | H.265/HEVC 4:2:0, 8-bit H.264/AVC 4:2:0, 8-bit Dynamic resolution adjustment |
| BITRATES | 200 Kbps to 20 Mbps Constant Bitrate (CBR) Variable Bitrate (VBR) |
| INPUTS | SDI, HDMI |

## AUDIO

| ENCODING | AAC-LC |
|---|---|
| BITRATES | 32 Kbps to 256 Kbps |
| MODE | Mono, Dual Mono or Stereo 2.0 |
| DENSITY | Up to 4 channels |
| INPUTS | Embedded (SDI, HDMI), Analog (L/R) |

## NETWORK CONNECTIONS

| ETHERNET | Gigabit Ethernet port - LAN, WAN - portable satellite (BGAN, GX, Ka & Ku Band) |
|---|---|
| CELLULAR | AVIWEST QUAD CellLink - 4 x 3G/4G-LTE world-wide compliant modems - 4 SIM slots - Internal high efficiency antennas |

## ADVANCED FEATURES

Dual encoding for simultaneous Live & Record
Sub second glass-to-glass latency (down to 500ms)
Video and Audio level preview
Network links priorities user-configurable
Data hotspot mode for switching the device as mobile router
Hot Folder mode for enabling smart & automatic files Forward
Intercom / IFB
AES scrambling

## INTERFACES

1 x 3G-SDI input (BNC), 1 x 3G-SDI output (BNC)
1 x HDMI 1.4 input, 1 x HDMI 1.4 output
2 x RJ-45 Ethernet
1 x USB 3.0 (type-A)
1 x mini XLR (for IFB / intercom headset)
2 x mini XLR balanced (for analog audio)
1 x SD card slot

## CONTROL & MONITORING

On screen display
Web GUI (through laptop, smartphone, etc.)
From AVIWEST MANAGER Management System
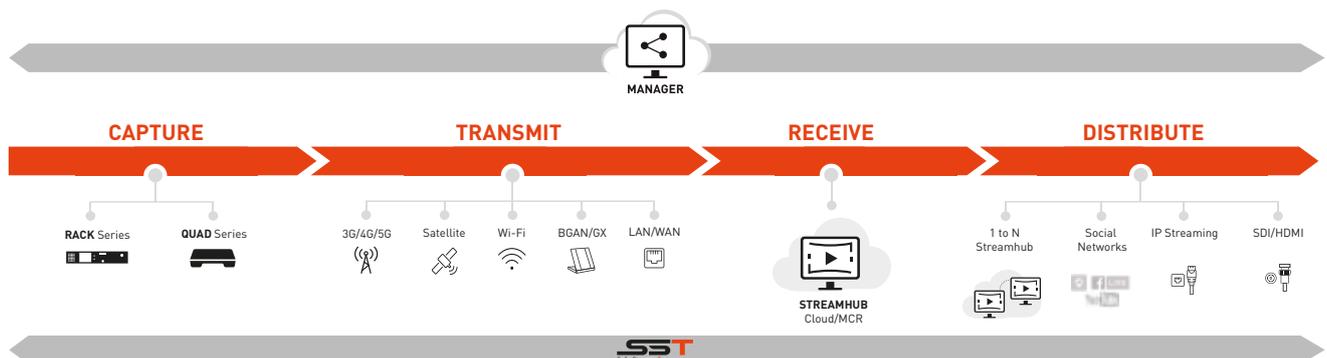From AVIWEST STREAMHUB Transceiver

## POWER

| POWER SUPPLY | Dual DC input 18V (XLR input hot swap) |
|---|---|
| CONSUMPTION | 30W max (24W to 28W typical) |

## PHYSICAL

| DIMENSIONS (W x H x D) | 22.2 cm x 4.4 cm x 12.5 cm (8.66" x 1.57" x 4.72") |
|---|---|
| WEIGHT | RACK200: 1.22 Kg (2.69 lbs) RACK300: 1.32 Kg (2.91 lbs) |
| OPERATION TEMPERATURE | -5°C to 45°C (23°F to 113 °F) |

# SYSTEM OVERVIEW

MANAGER

**CAPTURE**

RACK Series    QUAD Series

**TRANSMIT**

3G/4G/5G    Satellite    Wi-Fi    BGAN/GX    LAN/WAN

**RECEIVE**

STREAMHUB
Cloud/MCR

**DISTRIBUTE**

1 to N Streamhub    Social Networks    IP Streaming    SDI/HDMI

SST
Safe Streams Transport