

# RACK1 Series



**SafeStreams®**  
technology

## ADVANCED HYBRID CONTRIBUTION VIDEO ENCODER



The RACK1 Series is a range of advanced hybrid contribution video encoders designed for installation in newsgathering vehicles or remote live video production facilities. Housed in a compact 1RU chassis, it embeds 1 x Wi-Fi modem and up to 8 x 3G/4G modems with SMA antenna ports on its rear panel.

These SMA antenna ports connect with two AVIWEST's QUAD wideband external cellular antenna arrays that can be easily mounted on the roof of any vehicle. The AVIWEST's QUAD antennas are designed to strengthen signal delivery in critical environments such as live reporting from crowded areas.

Thanks to AVIWEST's SafeStreams® technology and its intelligent bonding stack, the RACK1 Series expands the capabilities of newsgathering vehicles by taking advantage of both satellite and cellular networks in various scenarios:

- Broadcast live video or recorded files over bonded cellular networks
- Ensure the transmission resiliency by using bonded cellular connections as a seamless back-up to satellite when weather conditions or congested networks make the satellite bandwidth fluctuate
- Increase the overall transmission capacity by bonding all together satellite and cellular network connections

## PRODUCTS COMPARISON CHART

|                                  | RACK180 | RACK100 |
|----------------------------------|---------|---------|
| Internal 3G/4G modems            | 8       |         |
| External Antennas SMA connectors | 8       |         |
| USB Ports                        | 2       | 2       |
| Internal Wi-Fi Modem             | ●       | ●       |
| Dual Ethernet Ports              | ●       | ●       |

# MAIN FUNCTIONS

## LIVE & AUTO-RECORD

Send a live broadcast-quality video over bonded IP networks: Ethernet, Wi-Fi, 3G/4G, and satellite networks, such as BGAN, GX and Ka band. The Auto-record function allows recording a high quality video file while streaming live at lower resolution and bitrate.

## STORE & FORWARD

Record a high quality video file on the SD card. Forward any type of file from a mass-storage device (SD card or USB key) to the STREAMHUB transceiver.

## PROGRESSIVE STORE & FORWARD

Record a high quality video file and forward it progressively to the remote receiver while recording.

# MAIN SPECIFICATIONS

## VIDEO

|                  |  |
|------------------|--|
| <b>STANDARDS</b> | HD: 1080p50/59.94/60 fps,<br>1080i50/59.94/60 fps,<br>720p50/59.94/60 fps<br>SD: PAL, NTSC |
| <b>ENCODING</b>  | H.264/AVC Main/High Profile level 4<br>Dynamic resolution adjustment                       |
| <b>BITRATES</b>  | 100 Kbps to 20 Mbps<br>Constant Bitrate (CBR)<br>Variable Bitrate (VBR) & Capped VBR       |
| <b>INPUTS</b>    | SDI, HDMI  |

## AUDIO

|                 |                                    |
|-----------------|------------------------------------|
| <b>ENCODING</b> | AAC-LC/HE-AAC<br>MPEG-1 Layer II   |
| <b>BITRATES</b> | 32 Kbps to 384 Kbps                |
| <b>MODE</b>     | Dual Mono or Stereo                |
| <b>DENSITY</b>  | Up to 8 channels                   |
| <b>INPUTS</b>   | Embedded (SDI, HDMI), Analog (L/R) |

## NETWORK CONNECTIONS

|                         |  |
|-------------------------|--|
| <b>INTEGRATED MODEM</b> | 8 x 3G/4G-LTE modems with high gain custom antennas                                  |
| <b>ETHERNET</b>         | Dual Gigabit Ethernet port<br>- LAN, WAN<br>- portable satellite (BGAN, GX, Ka Band) |
| <b>WI-FI</b>            | Built-in Wi-Fi modem<br>- Client & Hot Spot modes<br>- High-efficiency antenna       |

## ADVANCED FEATURES

|  |   |
|--|---|
| AVIWEST SafeStreams technology<br>Sub second glass-to-glass latency (down to 1s)<br>Dual encoding for simultaneous Live & Record | MPEG-2 TS recording<br>Geolocation (GPS, Glonass, Galileo and Beidou)<br>Intercom / IFB<br>Tally light<br>IP bridge |
|--|---|

## INTERFACES

|   |  |
|---|--|
| 1 x HD/SD SDI input (BNC)<br>1 x HDMI 1.3<br>2 x RJ-45 Ethernet<br>2 x USB 2.0 (type-A)<br>ASI-TS out (BNC)<br>8 MCX connectors (for AVIWEST QUAD antennas) | 3 x 3.5 mm audio jack in & out (for IFB / intercom)<br>Line in R / Line in L<br>1 x SD card slot<br>1 x expansion port (RS232, RS485)<br>8 x SIM slots |
|---|--|

## CONTROL & MONITORING

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

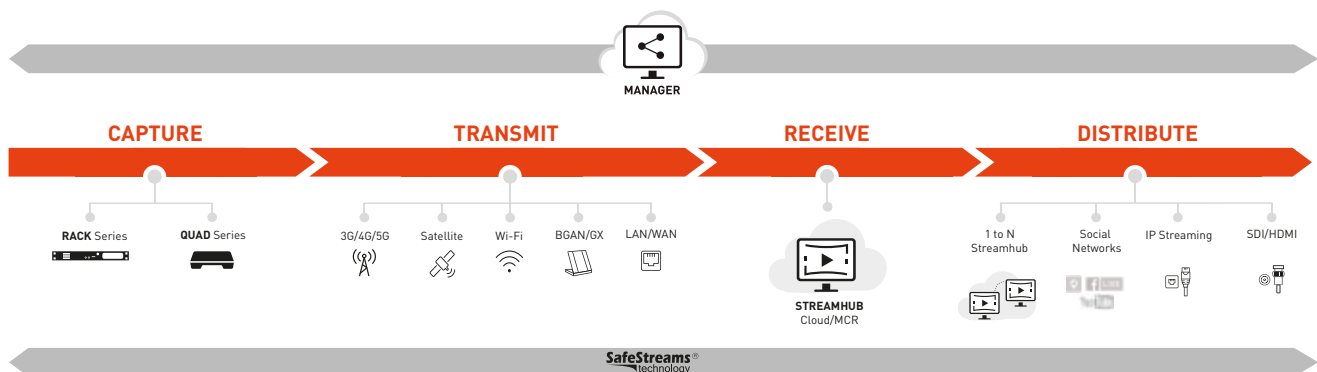
## POWER

|                     |                                       |
|---------------------|---------------------------------------|
| <b>POWER SUPPLY</b> | DC input 12V-24V (XLR input hot swap) |
| <b>CONSUMPTION</b>  | up to 30W (RACK180) - 42W max.        |

## PHYSICAL

|                              |                                 |
|------------------------------|---------------------------------|
| <b>DIMENSIONS</b>            | 1RU - W: 19", D: 11,2 cm (4.4") |
| <b>WEIGHT</b>                | up to 2 Kg / 4.4 lbs            |
| <b>OPERATION TEMPERATURE</b> | 0°C to 45°C (32°F to 113°F)     |

# SYSTEM OVERVIEW



AVIWEST continuously improves its products portfolio and reserves the right to modify the specifications without prior notice.