

RACK1 Series



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 SST (Safe Streams Transport) protocol 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

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

AUDIO

ENCODING	AAC-LC/HE-AAC MPEG-1 Layer II
BITRATES	32 Kbps to 384 Kbps
MODE	Dual Mono or Stereo
DENSITY	Up to 2 channels
INPUTS	Embedded (SDI, HDMI), Analog (L/R)

NETWORK CONNECTIONS

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

ADVANCED FEATURES

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

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

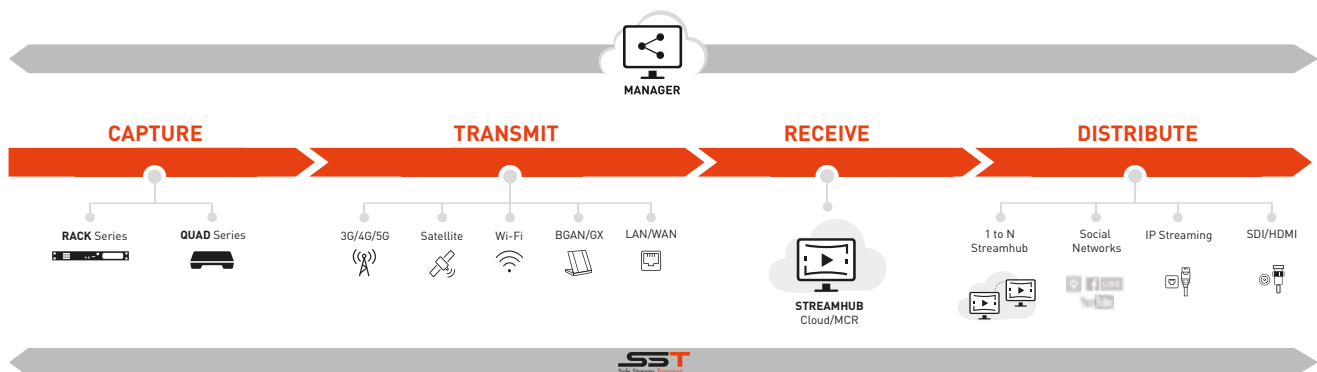
POWER

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

PHYSICAL

DIMENSIONS	1RU - W: 19", D: 11,2 cm (4.4")
WEIGHT	up to 2 Kg / 4.4 lbs
OPERATION TEMPERATURE	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.