



TVU networks®

# TVUPack® TM8100

## The Choice for Leading Broadcasters Worldwide



*“The TVUPack lets us broadcast from isolated locations around the country that we wouldn't normally be able to reach or afford with a live truck. With TVU's cellular redundancy and user friendly design, we were able to cover the record breaking snow storms in Connecticut unlike anyone else. We were able to stream live mobile video for hours at a time both on-air and on the Web. The TVU system never let me down. It's extremely cost effective and worked like a champ!” - Keith Porter, Chief Photographer/ News Operations Manager - WTNH News 8 & WCTX MyTV9, USA*

TVUPack® is winning over broadcasters around the world with its portable lightweight design, support for multiple 3G/4G/LTE wireless uplink connections, ease-of-use, and low latency transmission. With TVUPack, you can capture and transmit a broadcast quality picture from locations your ENG or OB van cannot reach.

### Multiple 3G/4G/LTE Connections

TVUPack supports up to eight 3G/4G/LTE, WiMax, and satellite connections and includes dedicated WiFi and Hotspot ports. The TVUPack system aggregates all available transmission connections to broadcast live in SD or HD up to 1080i.

### Simple One Button Set Up

TVU pioneered the single button start on a backpack style transmitter. No manual in-field configuration is required. Just plug in your camera and push the green button to go live.

### Fast Start Up

TVUPack starts up in 20 seconds from a cold start. The pack automatically establishes all available wireless connections, giving you the ability to broadcast live in no time.

### Resilient Video Quality

TVUPack features TVU's proprietary Inverse StatMux+ technology, which combines advanced Forward Error Correction and enhanced H.264 encoding for a stable, reliable and resilient live transmission - even at low and rapidly changing bandwidths, resulting in superior picture quality.

### Low Transmission Latency

TVUPack can transmit with as low as sub-one second delay. More importantly, TVUPack gives you the flexibility to use optimized preset latency and bit-rate options or to adjust them yourself based on network conditions and the shooting setting.

### Store and Forward Functionality

TVUPack offers store and forward functionality for on-demand video retrieval. With an on-board SSD hard drive capable of capturing up to 12 hours of continuous video footage in HD, TVUPack ensures that your footage is safe and easily retrievable when you need it.

# Features You Need



## > External Hot Swap Battery Mounts

TVUPack features dual external battery mounts with a standard Gold Mount or optional V-Mount configuration. TVUPack operates on one or two batteries and supports hot swap for continuous running time. You can charge one battery while the other powers the pack.

## > Encrypted Transmission

All transmission between the TVUPack and the TVUPack Receiver is securely encrypted using TVU's proprietary protocol. Each TVUPack is configured to communicate only with a specific TVUPack Receiver.

## > Wireless Hotspot

Take advantage of the optional hotspot feature to wirelessly access the Internet using a PC or smart mobile device. With multiple wireless connections at your disposal, your camera crew will have ample bandwidth to work remotely.

## > Sony XMPilot Metadata Integration

TVUPack supports Sony XMPilot Metadata when connected to a supported Sony camera. TVUPack wirelessly receives the Metadata from the camera and transmits it with the video footage to the TVUPack Receiver. The Metadata information is displayed with the accompanying video footage on the Receiver interface.

## > FCC and CE Compliance

TVUPack has completed testing outlined for ENG mobile systems and holds a certificate of compliance. Additionally, the data modems used in TVUPack are commercially available brands that have been FCC and carrier certified.

## > Field Monitoring and Control

With a PC or mobile smart device and Web access, TVUPack provides an option for the wireless monitoring of the transmission, line quality, battery level and other statuses in the field. Operators in the field can also use TVUPack's Auto Sync feature which aggregates multiple connections to quickly and easily transfer files to and from the studio.

## > Supports TVU Social

Easily post a snapshot of your live transmission to social media from a PC or mobile smart device.

# Broadcast Quality Picture You Want

## Proprietary Inverse StatMux Technology

TVU's Inverse StatMux technology dynamically segments a live video signal and transmits the segments through multiple independent 3G/4G/LTE, WiFi, WiMax, Ethernet and satellite connections. Its intelligent control system monitors the bandwidth and performance of each connection in real time to ensure that each connection is fully utilized. This technology ensures that TVUPack delivers stable, professional quality picture regardless of the network conditions.

## Dual Transmission Encoding

TVUPack is the original mobile backpack to offer unique dual transmission encoding. With this feature, users can take advantage of simultaneous live streaming transmission over IP and also HD SSD video recording for future retrieval and transmission.

## Advanced Forward Error Correction (FEC)

TVUPack incorporates an advanced FEC algorithm, protecting against packet loss by efficiently recovering missing data packets with only minimal amounts of additional repair data, effectively providing reliability in data networks. As a result, TVUPack delivers low latency and the flexibility to dynamically send video over multiple paths.

## Enhanced H.264 Encoding Engine

TVUPack features TVU264, an advanced proprietary video encoding engine to ensure that the best picture quality is delivered in the 3G/4G/LTE environment. With TVU264, TVUPack is capable of delivering a vivid broadcast-quality video with low latency, even in conditions with limited bandwidth.

## Variable Bit-rate Encoding Technology

With TVU's Variable Bit-rate (VBR) encoding technology, a camera operator does not need to manually adjust the bandwidth under changing conditions. VBR adjusts the bit-rate automatically and always uses the full available bandwidth to assist in delivering the best possible picture under the given conditions.



# TVUPack TM8100 Technical Specifications\*

Video Input Resolution	HD/SD-SDI or HDMI component or composite <b>1080i</b> 59.94/50, <b>720p</b> 59.94/50, <b>576i</b> 50, <b>480i</b> 59.94
Audio Input	Embedded 2 channel, AES/EBU digital audio or analog audio HD/SD-SDI Loop Out
Audio/Video Encoding	TVU 264 purpose-built enhanced H.264 encoder
Video Output Resolution	HD/SD-SDI loop thru 1080i 59.94/50, 720p 59.94/50, 576i 50, 480i 59.94
Start-up Time	Less than 20 seconds
Supported Data Connections	Simultaneously aggregates up to 10 data connections. System supports cellular 3G/4G/LTE, Wi-Fi, WiMax, Microwave and KaBand, KuBand, BGAN Satellite connections.
Glass-to-Glass Latency	As low as sub-one second
On-pack Video Storage	160 GB embedded SSD (Up to 12 hours continual recording)
External Interface Connectors	SDI, HDMI, Analog, Ethernet, IFB
Power Source	Dual hot swappable Gold Mount Anton Bauer batteries or optional V Mount batteries External Power Adapter: 100V to 240V AC
Battery Run Time	Can run up to four hours in two battery configuration
Transmitter Controls	One button start On-pack monitoring and management Remote monitoring and management using mobile smart device or laptop
Backpack Dimensions	14" (D) x 8" (W) x 19" (H)/ 35 cm (D) x 20 cm (W) x 48 cm (H)
Weight	16.0 lb/7.25 kg without batteries
Operating Temperatures	0°C to 40°C (32°F to 104°F)

\*Specifications and features are subject to change.

6/5/14