



TVU networks®

TVUPack® TM8200

Flexible, versatile and lightweight 3G/4G/LTE uplink backpack



"As a global news organization, the ability to deliver live video from any location at any time is essential. TVUPack enables our correspondents to not only report on breaking stories, no matter where they happen, but to report on them in interesting and innovative ways." - Mr. Naoki Yazawa, Nippon Television Network Corporation.

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

TM8200 features an easily accessible and removable external modem module that 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. The TVUPack boots in less than 20 seconds and automatically establishes all wireless connections, giving you the ability to go live in no time.

Flexible Modular Design

TM8200 features a flexible modular design with a removable transmitter, giving broadcasters the flexibility to use the pack in studios, fly-packs, vans and helicopters. With TVUPack's detachable modem tray, users can optimally station the modems in different spots, including the exterior of moving vehicles.

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 5.5 hours of continuous video footage in HD, TVUPack ensures that your footage is safe and easily retrievable when you need it.

Features You Need



Modular Design with Removable Components

TM8200 features a one piece modular mount frame that holds the encoder, two batteries and a detachable modem tray. The mount frame can be easily removed from the backpack for use in studios, fly-packs, vans and helicopters. TM8200 also features a removable modem module that connects to the encoder via a USB interconnect cable, providing users the flexibility to station the modems for optimal wireless signal strength. TVU also offers a custom-built modem module that can be attached to the exterior of moving vehicles.

Encrypted Transmission

TVUPack features a proprietary protocol that delivers a secure and encrypted transmission between the TVUPack and the TVUPack Receiving terminal. Each TVUPack Transmitter is paired with a specific Receiving Terminal, ensuring that there is no way to receive the video signal without authorization.

Hotspot Functionality

TVUPack not only delivers live HD signal back to the broadcast facility, it can also act as a gateway to the Internet. With the optional hotspot feature, any laptop computer or wireless device can access the Internet through TVUPack's wireless connections. The Hotspot feature enables video crews to edit a finish story on a laptop in the field and send the finished story back to the broadcast facility over the pack's wireless Internet connections.

Dual Hot Swappable Batteries

TVUPack uses a dual battery system. Batteries can be hot-swapped while the unit is operating, allowing for continuous operation and effectively providing TVUPack users with unlimited running time.

IFB (Interruptible Feedback)

TM8200 has IFB capabilities, enabling news operations centers to speak directly to a headphone equipped cameraman or talent in the field and avoid the disruption of using a cell phone.

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.

Field Monitoring and Control

TVUPack provides an option for wireless monitoring and control from a variety of wireless mobile smart devices, including Android, iPod, and iPhone. This enables camera operators to monitor the transmission, line quality, battery level, and other pack statuses from the field in real time. 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.

"SONY", "XDCAM", and "XMPilot" are trademarks of Sony Corporation.



TM8200 Encoder

TVUPack TM8200 encoder weighs just 1.5kg and is only 21.5cm long.



Standard 9" Tablet

Broadcast Quality Picture You Want

Proprietary Inverse StatMux Technology

To address the limited bandwidth and instability of the 3G/4G/LTE environment, TVU engineers developed Inverse StatMux technology, which dynamically segments a live video signal and transmits the segments through multiple independent 3G/4G/LTE connections. This technology ensures that TVUPack delivers stable, professional quality picture regardless of 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 H.264 Video 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 TVUPack's enhanced Variable Bit-Rate (VBR) encoding technology, camera operators do not need to manually adjust the pack's settings under changing bandwidth conditions. TVUPack's VBR automatically adjusts the bit-rate according to the total available bandwidth. With enhanced VBR, TVUPack always uses the full available bandwidth to deliver the best possible picture under the given conditions.

Advanced Performance and Stability

TVUPack TM8200 features advanced hardware to ensure the success of transmissions even in the most challenging network environments. Built with a high-performance processor, the TVUPack TM8200 reacts quickly to changes in network conditions, managing encoder and transmission performance in real time and making necessary adjustments when conditions change. Additionally, TVUPack 8200 is designed with an enhanced and optimized modem interface that provides better stability for all modems. The result is a more stable, resilient transmission that translates to superior picture quality.

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 modems that have been FCC and carrier certified.



TVUPack TM8200 Technical Specifications*

Video Input Resolution	HD/SD-SDI or HDMI 1080i 59.94/50, 720p 59.94/50, 576i 50, 480i 59.94
Audio Input	Embedded 2 channel HD/SD-SDI Loop Out
Audio/Video Encoding	TVU 264 purpose-built enhanced H.264 encoder
Video Output Resolution (HD)	HD/SD-SDI or HDMI 1080i 59.94/50, 720p 59.94/50, 576i 50, 480i 59.94
Video Output Resolution (Standard)	576i 50, 480i 59.94
Start-up Time	Less than 20 seconds
Supported Data Connections	Simultaneously aggregates up to 8 data connections. System supports cellular 3G/4G/LTE, Wi-Fi, 5GHz Wi-Fi, WiMax, Microwave and KaBand, KuBand, BGAN Satellite connections.
Glass-to-Glass Latency	As low as sub-one second
On-pack Video Storage	80 GB embedded SSD (Up to 5.5 hours continual recording)
External Interface Connectors	SDI, HDMI, 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
Encoder Hardware Dimensions	2 1/4" (D) x 7.25" (W) x 8.5" (H) / 5.5 cm (D) x 18.4 cm (W) x 21.5 cm (H)
Backpack Dimensions	7 3/4" (D) x 11" (W) x 13.5" (H)/ 19.6 cm (D) x 27.9 cm (W) x 34.2 cm (H)
Weight	13.5 lb/6.12 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