



## Introducing the World's First Mobile HD News Gathering Backpack

It's your SNG truck, your microwave ENG van.  
It's everything you need for an on-site live newscast.  
It keeps you one step ahead of the rest...



### A Backpack for Live Broadcast-Quality Mobile News-Gathering

The broadcast news market demands high quality live coverage of breaking news. It's time for a revolutionary new tool: the **TVUPack**. TVU's Inverse StatMux technology uses new techniques for mobile broadband wireless circuit aggregation - new techniques which change the game.

#### Go anywhere

The **TVUPack** is the perfect tool for un-tethered broadcasting - no van required. It's light, weighing only 13 pounds. It's a fully self-contained content capture and broadcast solution with its own on-board power and data transmission capability. Capturing news in locations not previously accessible to reporting teams, such as from within crowds of people and even from a moving vehicle in the "canyons" of New York City, the TVUPack is dramatically expanding news-gathering capabilities.

#### Stay one step ahead

With the **TVUPack**, you get to the news first, especially in places no van can reach. Setup is simple - plug in the camera and turn the unit on. No configuration is required. Then, get the footage back to the newsroom, live over wireless Internet, while the event is still happening. The TVUPack delivers broadcast quality signals by leveraging multiple 3G/WiFi connections. Its flexible external

modem connections allow it to advance to 4G/WiMAX without replacing any hardware. The TVUPack lets you cover more news events, better and faster.

#### Get a better in-field experience

The **TVUPack** captures dependable video quality at all times while a camera team is operating in the field. The picture resolution is controlled regardless of environmental variables that are present in real world conditions. Easy to use and operate, the TVUPack sets itself apart from other broadcast solutions in the market. The TVUPack is being widely deployed by many major media companies and news organizations in countries including the United States, China, Hong Kong, South Africa, Brazil, Philippines, Indonesia, Pakistan, and the United Kingdom.

#### Save money

The **TVUPack** saves you money every step of the way. Acquisition costs are lower than competing solutions, and only a fraction of a fully-equipped SNG van. Operations costs are low due to simple, easy-to-operate zero-configuration design. Finally, transmission over wireless Internet lessens your dependence on expensive satellite links.

# Features You Want



## > Mobility and Light Weight

The TVUPack uses wireless infrastructure, backed up by solid-state storage that captures high quality footage when no data connection is available. Weighing less than 13 pounds and constructed of rugged materials, the TVUPack enables your field team to go anywhere and get breaking news fast.

## > Designed for Ease of Use

Operating the TVUPack is simple: plug in the camera (SDI, Firewire, or optional composite connection) and turn on the power. That's it – no complicated on-site setup and configuration for your field news crews to deal with.

## > Dual Battery, Hot Swap

The TVUPack uses a dual-battery system with an industry standard Gold Mount design. Batteries can be hot-swapped while the unit is operating. You can operate the unit with one battery, while the other is charging. This effectively provides you with unlimited running time.

## > On-Board Storage

Video is auto-recorded in the TVUPack and can be remote-browsed, marked and retrieved from the TVUPack Receiving Terminal in the broadcast studio. This substantially speeds up evaluation and retrieval of field footage. If all the network connections are lost, the footage will be automatically stored for later retrieval.

## > Wireless Hotspot

The TVUPack not only delivers a live HD signal back to your broadcast facility - it's also your gateway to the Internet. With the Hotspot feature, your laptop computer can access the Internet wirelessly. The Hotspot allows you to access your footage; you can edit on your laptop, and send the finished story back to your broadcast facility through the TVUPack.

## > Wireless Monitoring

The TVUPack allows for wireless monitoring and control from an iPod Touch. This enables the cameraman to monitor the transmission, line quality, battery status, etc., without the need to take the backpack off and look at the built-in monitor. TM8000 (SDI) models are shipped with a complimentary iPod Touch.



# Technology You Need

## Inverse Statmux Technology <

To address the limited bandwidth and instability of the 3G environment, TVU engineers developed Inverse Statmux technology, which dynamically segments a live video signal and transmits the segments through multiple independent 3G connections. Its intelligent control system monitors the bandwidth and performance of each connection in real-time to ensure that each 3G connection is fully utilized. This technology ensures that the TVUPack can deliver a stable broadcast-quality live signal in a 3G environment.

## Advanced Low-Delay Video Encoding Engine <

To ensure that the best picture quality is delivered in a 3G environment, the TVUPack comes with a very powerful encoding engine, packaged in a compact size. It's capable of delivering a vivid broadcast-quality signal with very low latency, even with limited bandwidth.

## Variable Bit-rate Encoding Technology <

Instead of requiring that an operator manually adjust to the appropriate bandwidth under changing conditions, TVU's VBR technology automatically adjusts the bit-rate according to the total available bandwidth. With VBR, the TVUPack will always use the full available bandwidth and deliver the best possible picture.

## Forward Error Correction <

The TVUPack uses a patent-pending FEC algorithm to ensure that most of the packet errors in wireless Internet connections are corrected. This ensures a stable video signal, even when broadcasting live from a fast-moving vehicle.

## Security <

Each TVUPack will only communicate with your specific TVUPack Receiving Terminal. There is no way to receive the video signal without authorization. Traffic between the TVUPack and the TVUPack Receiving Terminal is encrypted.



# TVUPack Specifications

- Weight: 13 pounds
- Format: NTSC, PAL, HD
- Storage: up to 12 hours continuous full quality recording on a solid-state hard disk
- Video/Audio Input: TM2000 - Firewire
- Video/Audio Input: TM8000 - SDI, HDMI, Composite
- I/O connection: up to 10 USB-based wireless data cards
- Network: 1 Gigabit RJ-45 connector
- Maximum continuous power: 120W
- AC Power: 100-240V
- Battery: hot-swappable dual battery packs with industry-standard Gold Mounts
- Usage time: 1.2 hours per battery pack

## TVUPack Receiving Terminal Specifications

The TVUPack Receiving Terminal is a compact 1U rack-mount server that receives broadcast signals from up to ten TVUPacks. It can store this content in its on-board storage, and output it over SDI audio/video connections. The Receiving Terminal was built with the professional broadcaster in mind. Its intuitive user interface provides complete control over the TVUPack, freeing the cameraman in the field from worries about configuration. With multiple Receiving Terminals, each one can act as a hot standby for all the others. With the TVUPack Receiving Terminal, the newsroom will always have a reliable source for instant news coverage.



### Electrical Requirement

- Line voltage: universal input (100V to 240V AC)
- Frequency: 50Hz to 60Hz, single phase

### Rack Support

- Mounting in standard 19-inch rack

### Operating Environment

- Operating temperature: 50° to 95° F (10° to 35° C)
- Relative humidity: 5% to 90% non-condensing

### Dimensions

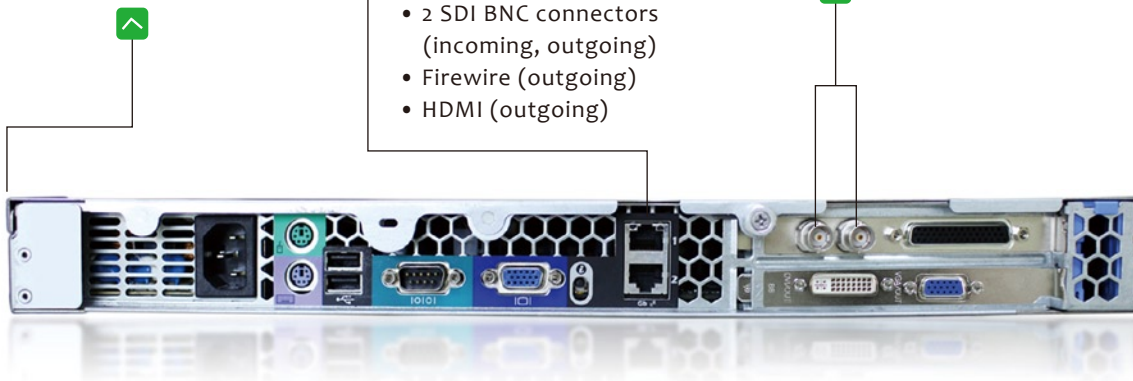
- Width: 17.6 inches
- Depth: 30 inches
- Height: 1.73 inches

### I/O Connections

- 2 independent 10/100/1000 BASE-T RJ-45 Ethernet interfaces
- 2 SDI BNC connectors (incoming, outgoing)
- Firewire (outgoing)
- HDMI (outgoing)

### Source Output

- Video: SDI
- Audio: SDI



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