

## **Travado IBUS™**

### **Automatic Video Direct from the School Bus to your Desk**

#### **No More Going Out to the Bus to Get Video**

Travado IBUS™ is a sophisticated mobile computer that can combine digital video recording, GPS, Wi-Fi and biometric technologies into a cost-effective solution for school bus fleets.

The base system records digital video with GPS location information and automatically downloads these events, over a Wi-Fi network, directly to your desktop computer without having to go out to the bus.

The system can be easily expanded to add student rider authentication at a later date.

With Travado IBUS™ school districts can easily customize the system to meet their current and future bus security requirements.

As the bus travels along its route the Travado IBUS™ video camera continuously records the passenger compartment and the passengers entering and exiting the bus. This video stream is concatenated with GPS location, date, and time. With the addition of the optional rider authentication module students are authenticated as they enter and leave the bus. This data and video, including bus speed and direction, is captured and downloaded, giving the transportation department easy access to the video and a visual map of the actual bus route including stops and how long the bus stayed at a stop and who got on and off.

With Wi-Fi as the communications medium there are no monthly recurring charges.

#### **Standard Features**

##### **Rugged Mobile System**

Engineered to meet the security needs of school bus operators

##### **Digital Video Recorder (DVR)**

- Automotive rated hard drive
- MPEG 4 video compression
- Full 30 FPS over EVERY channel

##### **GPS**

- Know where and how fast the bus travels
- Embeds speed, time and location into the video stream
- Integrates into mapping and route optimizing applications

##### **Wireless Communications**

- Uses Wi-Fi Hotspots
- High speed video down-load direct from the bus to your desk
- Do not need to find the bus to get video
- Provides system diagnostics

#### **Optional Features**

##### **Rider Authentication**

- Know who is on the bus
- Details when and where they got on and off
- Auto generates bus rider-ship reports
- Can embed passenger names on to the video
- Visual record of passengers entering and leaving

##### **Vehicle Information Sensor Pack**

- On-screen display of up to 8 bus signals
- Event Button / Marker

# Travado IBUS™

## Specifications

### DVR Specification

Recording Medium:	Automotive rated 80 GB HD
Recording Channels:	Up to 8 Channels
Video Resolution:	Selectable, up to D1 (720 x 480) / channel
Video Compression:	MPEG 4 with bit rate to 3Mbps / channel
Frame Rates:	Variable up to 30 fps / channel
Recording Modes:	Endless loop
Audio:	Single stereo channel per camera
Recording Time:	Over 10 days @ 10hours / day
Delayed Recording:	User selectable, default is 15 minutes
Digital Camera:	From 1 to 8

### GPS Module

GPS Chipset	SiRF Star III
Frequency	L1, 1575.42 MHz
Channels	20 channel all-in-view tracking
Sensitivity	-159 dBm
Antenna	Active patch antenna
Accuracy Position	10 meters, 2D RMS 5 meters, 2D RMS, WAAS enabled

### Communication Module

802.11b WiFi communications module with high gain bus mounted antenna  
*GSM/GPRS option available for real-time communication*

### Casing

Rugged custom design with shock mounting

### Antenna

GPS and 2.4 GHz Wi-Fi antenna  
*GSM antenna available for real-time voice and data*

### Environmental

Recording:	-30 deg C to +50 deg C
Standby:	-50 deg C to + 60 deg C

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### Operating System

Linux (*onboard bus system*)  
Web based browser (*school system*)

### Student ID Reader (Optional)

Barcode reader  
*Proximity RFID card reader with LED and Buzzer notification optional*  
*Thumbprint reader optional*  
*Keypad optional*

### Power Input

125 Watts (150 Watt peak) PSU  
6-24V input range  
Intelligent shutdown controller  
Survives vehicle engine cranks  
Battery deep discharge prevention

### Safety & Mounting

Designed for mounting on any school bus  
Screw-mounted main bus unit & card reader unit  
Designed to meet all current bus standards  
Rugged, shock-isolated mounting

### Application Tools

Easily integrated into existing transportation and logistics management solutions

### Transportation Department Software Application

Web-based, secure user application  
Easy to use interface  
Integrates into school district network  
Archive video to DVD  
Email video to authorized personnel

### Bus Depot & Hot Spot Requirement

Standard 802.11b WiFi access point with network connection and high gain antenna (*not required with GSM / GPRS option*)

