

# R DRIVEVISION MINI

## DRIVEVISION R-MINI: SOLUTIONS FOR NATURALISTIC DRIVING RESEARCH

Some driver behavior monitoring applications do not require a full-featured instrumentation system. To support these less stringent research programs, Transecurity has developed a miniature version of its industry leading vehicle instrumentation system for those who need advanced data collection capabilities but at a lower cost and complexity than the full size DriveVision R system. The DriveVision R-Mini is designed for a rapid 15 minute installation without the need for skilled technicians or specialized tools. The DriveVision R-Mini is perfect for event-based driver behavior monitoring of large groups of drivers in their own vehicles.

With the DriveVision R-Mini it is not necessary to sacrifice many features to arrive at a cost effective system that can be quickly installed and de-installed in a wide variety of vehicles. The Mini is a single hardware unit system that is designed to mount on the vehicle windshield or dash at the center of the vehicle and uses a single combined power and network cable to interface with the vehicle's OBDII connector. It includes 2 built-in video cameras with one view oriented towards the forward roadway and the other towards the drivers face.

### What is DriveVision R-Mini?

The Mini system can be configured to capture data in either event-triggered or continuous data collection modes. In the event-triggered mode, real time sensor algorithms assess the vehicle and driver state and when an event of interest occurs, an epoch of video and sensor data is captured. In event mode, there is adequate storage for up to 200 events of 20 second duration. In continuous data collection mode, the Mini will collect data from the time the vehicle is started until it is turned off. An optional hard drive is required to provide adequate storage capacity due to the large quantity of data generated in continuous mode.

Several options are available on the Mini allowing you to tailor the system specification to the needs of your driver behavior monitoring and data collection needs. Independent machine vision processing modules may be added to the system to perform real time lane tracking and eyes forward monitor functions. An optional cellular data communications module may also be added to provide more options for communicating with the system in real time.



## SENSORS AND COMPONENTS

- ◆ GPS
- ◆ 3 Axis Accelerometer
- ◆ Yaw Rate Sensor
- ◆ Passive Alcohol Sensor
- ◆ Vehicle Network Interface
- ◆ Driver Incident Push Button
- ◆ WiFi and Optional Cellular Communication
- ◆ Machine Vision Lane Tracking (optional)
- ◆ Machine Vision Eyes Forward Monitor (optional)
- ◆ Hard Drive Storage Expansion Unit (optional)

# IMPROVING EFFICIENCY AND QUALITY THROUGH DATA COLLECTION AND ANALYSIS

## Data Collection and Storage:

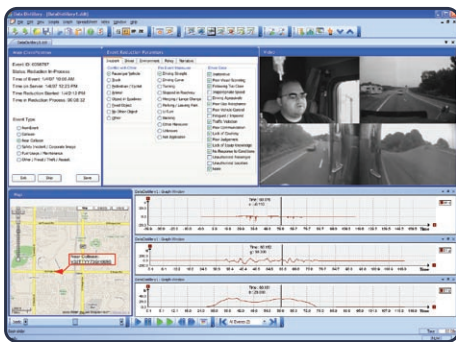
The DriveVision R unit captures, compresses, and encrypts all sensor data to the local drive in real time. Local storage capacity supports data collection for periods of up to 6 months with typical driver utilization. Data can be transferred from the system via USB, Ethernet, or hard drive exchange.

## Communication Capabilities:

The DriveVision R system includes both 802.11 WiFi and optional cellular communication capabilities. Collision notification, system health check, status updates, and vehicle location messages may be sent to and from the system giving the researcher the ability to monitor the health and progress of systems deployed in the field. In addition, software update packages and configuration data may be sent to DriveVision R making system maintenance and update simple.

## Explore the Collected Data

Data collected with the DriveVision R may be reviewed, reduced, and analyzed with the DataDistillery software tool. DataDistillery allows users to manually review files, create event classifications, code data streams and generate event listings. Its focus is on human observation and classification – in particular – improving the efficiency and quality of driver behavior classification from naturalistic driving datasets. This tool allows the user to explore collected data in fine detail to better understand the nature of behavior or the system being observed. Tools include video viewer, navigation controls, location mapping, data spreadsheets, scripted analysis, data stripcharts and more. DriveVision R systems can be installed on your vehicle fleet to support your a variety of research operations and needs. Transecuity has the expertise to assist you with system installations, configuration, data management and data reduction tools, and recommend a system that fits specific requirements.



## Research for Your Specific Needs

Contact Transecuity online or by phone at [www.Transecuity.com](http://www.Transecuity.com) or 540.443.8231 with your specific research needs and we'll be happy to help you identify how the DriveVision R can be applied to your specific needs.



## THE DRIVEVISION R PACKAGE OFFERS:

- ◆ Off-the-shelf, commercially supported naturalistic data acquisition system
- ◆ Extensive sensor suite captures measures required for comprehensive drive behavior analysis
- ◆ Large capacity for compressed and encrypted video and data files
- ◆ Field communications allow real time tracking of system health and performance
- ◆ Advanced machine vision video functions provide real time capture of lane tracking, head pose, and glance estimation
- ◆ Exceptional data review tools and capabilities that drill down to the details of human driving behavior
- ◆ Reliable systems developed based on years of driving research experience

**R**  
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