

DRIVEVISION R: SOLUTIONS FOR NATURALISTIC DRIVING RESEARCH

Transecurity has a rich history of driving safety and driver behavior research experience. We have recently completed development of a research-oriented data acquisition system that is well suited for data collection on naturalist driving research studies and field operational tests. Our latest version of this technology is now available through Transecurity as a commercially-supported product called DriveVision R. DriveVision R empowers researchers to capture multi-channel video and sensor data that can be used to study driver behavior, improve in-vehicle technologies, and improve driving safety.

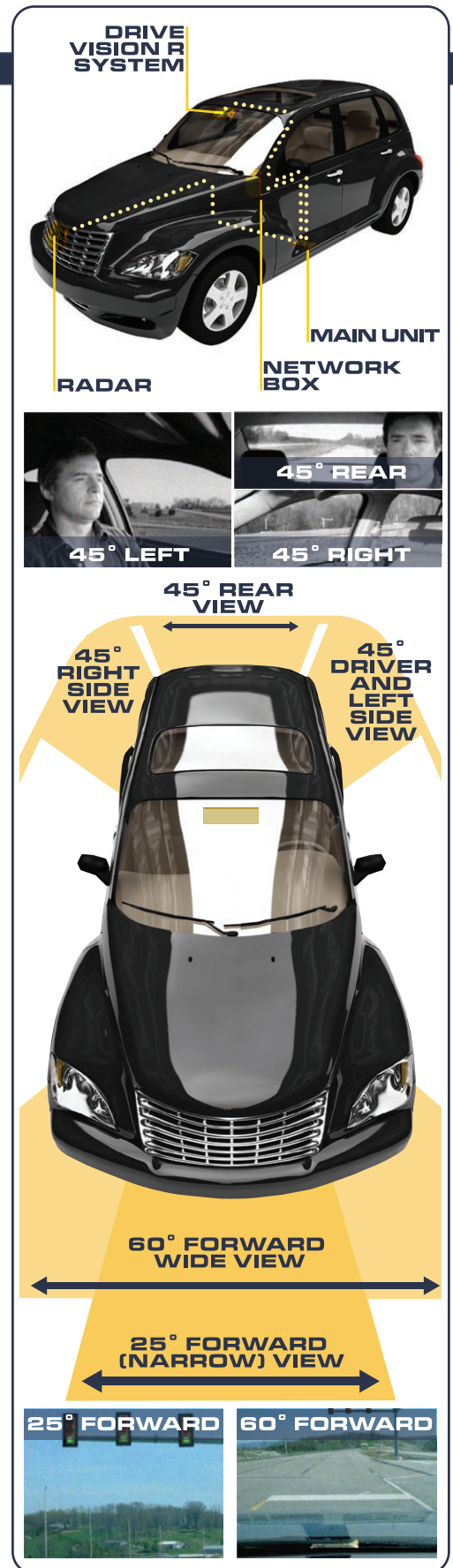
What is DriveVision R?

DriveVision R is a state-of-the-art, full-feature, instrumented vehicle system. The system will begin capturing data upon vehicle startup and continue capturing until shutdown. A smart power management structure and internal battery system provides rapid startup, uninterrupted data collection during power loss in a collision, and the processing of executive functions after vehicle shutdown.

The optional Internal Camera Cluster is a single component that houses up to 6 cameras, includes IR illumination (night-time video capture), and can be mounted inconspicuously on the windshield behind the rear-view mirror. Video is captured from the driver's left and right side, rear and forward views to maximize coverage. All camera views are combined into a single, configurable, 720 X 480 video image. Alternatively, custom vehicle camera configurations can also be created to meet your special requirements.

DATA CAPTURE SOURCES

- ◆ Video – up to 6 channels of video at 30 Hz compressed H.264
- ◆ 3-axis accelerometer – up to 640 Hz
- ◆ Yaw rate sensor
- ◆ GPS position and speed
- ◆ Vehicle CAN bus measures
- ◆ Passive alcohol sensor
- ◆ Forward illumination sensor
- ◆ Lane position data from video based lane tracker
- ◆ Head pose and glance estimation from video based head tracker
- ◆ Headway and Time to Collision from forward radar (optional)



IMPROVING EFFICIENCY AND QUALITY THROUGH DATA COLLECTION AND ANALYSIS

Data Collection and Storage:

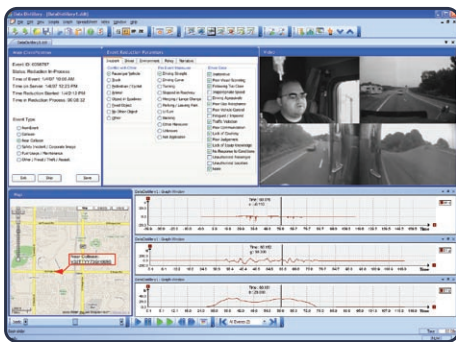
The DriveVision R unit captures, compresses, and encrypts all sensor data to the local drive in real time. Local storage capacity supports data collection for periods of up to 6 months with typical driver utilization. Data can be transferred from the system via USB, Ethernet, or hard drive exchange.

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 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

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