

## Autoscope® RackVision™ Terra™ Machine Vision Processor (MVP)

A cost-effective video detector card with exceptional performance, easy installation, and minimal maintenance

### Description

The *Autoscope RackVision Terra MVP* is a video detection solution that features simple setup, robust color or black and white processing, and MPEG-4 video compression to a laptop at the cabinet or back at the office. *RackVision Terra* provides timely, high-quality traffic information required for today's sophisticated transportation systems.

The *Autoscope RackVision Terra MVP's* single-camera video detector card is sized for a standard detector card rack. *Autoscope Terra* Technology combines state-of-the-art advances in digital image signal processing, and System-on-Chip (SoC) processors to add versatility and boost performance.

EasyLink connectivity means simple installation into the traffic cabinet and integration into an agency's IP-based communications network. A standard CAT-5 cable connects Terra Technology products into a network providing access to video, traffic data, and the *Autoscope Solo® Terra* system.

For the *Autoscope Terra* family of products, EasyLink connectivity offers:

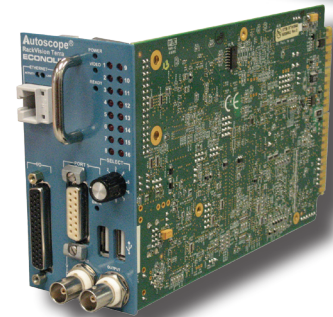
- Simple integration into an IP-based communications system
- Simple integration with any traffic control cabinet configuration
- Simple setup and maintenance for the traffic equipment manager

The *RackVision Terra* detector card streams digital MPEG-4 video to view locally at the Traffic Management Center (TMC), or over the internet. Terra Technology displays the MPEG-4 streaming video via the *Autoscope Video Player* or any standard digital video player such as QuickTime, at rates varying from 5 fps to 30 fps. In the traffic cabinet, the *RackVision Terra* detector card also provides standard National Television Standards Committee (NTSC) or Phase Alternating Line (PAL) full-motion video output to an analog video monitor. In addition, Terra Technology simply interfaces with common Internet browsers and imple-

ments safe and secure password-protected access over the internet.

Terra Technology employs an *Autoscope Terra* dual-core processor with sophisticated image processing and Advanced RISC Machine (ARM) general-purpose processing in a small SoC package for low power consumption.

Multi-threaded software processes video images in real-time to detect traffic, extract data, identify incidents, and transmit detector outputs while simultaneously streaming full-motion MPEG-4 video.



### Features

- EasyLink connectivity for IP-addressable broadband communications
- Mouse & Monitor capability
- Streaming digital MPEG-4 video output
- Password protection
- Vehicle detection, traffic data measurement, speed, and incident detection
- Dual-core processor for advanced image processing
- Fail-safe detector outputs
- Non-volatile memory data storage
- High-energy transient protection
- Local language support
- Connects to existing color or B&W *Autoscope* Image Sensor (AIS) cameras or other approved CCTV cameras
- Single-camera video processor channel (PAL, CCIR, NTSC, or RS-170)
- Web server for easy set up using Internet browser
- Self-test on power-up
- LED indicators for power, data processing, video, and communications link/activities status
- Low power consumption

## Setup & Operation

The *RackVision Terra* detector card is easy to set up and adapts to a user's detection objectives. The *Autoscope Configuration Wizard*® quickly sets up intersection or highway incident detection applications. Simple mouse and keyboard operations allow custom positioning for up to 99 virtual detectors per field-of-view. Detection zones provide traffic count, presence, speed, and incident detection alarms. Incident types include freeway congestion, stopped vehicles, wrong direction vehicles, slow-moving vehicles, debris, pedestrians, or other customized alarms. Real-time polling or stored data include volume, occupancy, five vehicle classes by length, density, and other traffic data for selected periods or by phase.

The *RackVision Terra* detector card interfaces detector outputs directly to NEMA TS1/TS2, Type 170/179, or 2070 ATC controllers. The optional Terra Access Point (TAP) can also assign detector outputs. For central systems, the optional Software Developer's Kit (SDK) can quickly integrate traffic data into a proprietary database.

With the *RackVision Terra* you can also use *SmartMouse*™. *SmartMouse* allows the traffic engineer or signal technician

to connect a mouse and monitor to the video output of the *RackVision*, without having to use a laptop. By using *SmartMouse*, you can configure stop-line and advance extension video detection zones in moments, without extensive training.

## Benefits

- Cost-effective solution for traffic management
- Field-proven accuracy and reliability
- Easy to install and configure
- Superior to other detector system in value and performance

## Applications

- Traffic incident management for highways, tunnels, and bridges
- Junction control
- Traffic data collection
- Work-zone safety and traffic control
- Traveler information systems
- Journey time (travel time)
- Remote video surveillance
- Central office processing

## Power

- 12 to 24 VDC, 11W maximum
- Consumption, current
  - @12VDC: 6W, 500mA
  - @24VDC: 7W, 290mA

## Video

- Input
  - PAL, CCIR, NTSC or RS170
  - 75Ω 1 Vpp, BNC connector on front of unit
- Output
  - PAL or NTSC
  - 75Ω 1 Vpp, BNC connector on front
  - MPEG-4 digital streaming video via EasyLink

## Detector I/O

- Outputs (open collector, selectable active low or high)
  - 4 Rear edge connectors (jumper selectable)
  - 24 Front connectors
- Inputs
  - 16 Front connectors
- Status output indicates card is processing and detector I/O is valid (open collector, active low)

## Indicators

- 16 LEDs show status of local and external inputs, outputs, and phase colors (switch selectable)

- 3 LEDs show power, video sync, and readiness status
- 2 LEDs show Port 1 transmit and valid data status

## Communications

- RJ45 connector for EasyLink Ethernet 10/100 MB/s communications on front of unit
- USB 2.0 connector for USB mouse

## Environmental

- -29°F to +165°F (-34°C to +74°C)
- 0 to 95% relative humidity

## Dimensions & Weight

- 4.5 in H x 2.25 in W x 7 in L (114 mm x 57 mm x 178 mm)
- 0.5 lb (0.2 kg)

## Warranty

- Two-year warranty
- Extended warranty package to five years

## Regulatory

- NEMA TS2 compliant
- CE EN 55011
- EN 61000-6-2
- CE EN 60950
- FCC art 15, Class A

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