

PYRAMIDS[®]

Description

PYRAMIDS provides a truly integrated traffic control system combining many functions, all of which are available to each user on the system. The use of open standards, the internationally accepted Windows 2000 platform, and the competitive personal computers furnish the user with a cost-effective solution for managing systems of Type-170 and 2070 controllers.

The system is made up of PC-based servers and workstations interconnected via a local area network. All efforts have been made to develop a fault-tolerant, redundant system to maximize Mean Time Between Failures (MTBF). The redundancy of the system allows for minimum disruption of the system due to failures.

The *PYRAMIDS* system can accommodate multiple users simultaneously. Each user is granted security features that provide access to the system, as well as multiple levels of operations and interfaces.

PYRAMIDS employs the standard Graphical User Interface (GUI) made popular by Microsoft. Terminology familiar to the transportation industry is used extensively in the system. A mouse can be used to select various operations simply by point-and-click actions. Multiple operations can be initiated and run unassisted.

The *PYRAMIDS* system uses the fully distributed, multi-tasking functions of the Windows 2000 Professional operating system. The system architecture is designed to support many users without any degradation in speed or storage efficiency, while providing real-time responsiveness.



One of the most important features is that the system has been developed to be modular. Features or functions can be economically added as desired.

System Maps

The *PYRAMIDS* system supports maps based on a vector geo-coordinate technology that supplies the means to display interstate highways, major arterials, railroads,

jurisdictional boundaries, bodies of water, signs, pavement markings, facility assets, intersections, and roadway links that change dynamically, based on user-defined status functions.

The system map allows the user to zoom in or out to any specified area of the map using a mouse. The system map can be segmented into zones and circuits. Multiple asset types are represented by unique icons and are assigned to different map layers. The map also allows the user to add any standard ESRI shape file as a layer.

Features

- PC-based client/server scalable design
- Full support for 2070s running Econolite's OASIS[™] software and 170s running Wapiti W4IKS
- Map-based GUI, using an ESRI map engine allowing flexible system and intersection graphics
- Extensive reporting capabilities, including custom report generation
- Plan-based control providing Time-of-Day (TOD), Traffic Responsive (TR), or Manual Plan selection
- Flexible communications architecture supports Twisted-Pair, Fiber-Optic, or Radio communications
- Synchro interface allows export/import of timing data

Optimization

To facilitate system optimization, *PYRAMIDS* includes the capability of importing or exporting timing data into the Trafficware[®] Synchro optimization program. This feature allows the export of timing and coordination data from *PYRAMIDS* into Synchro and the importing of the resulting optimized data back into *PYRAMIDS*.

Optional Features

Through the optional camera control module, *PYRAMIDS* can provide Pan/Tilt/Zoom (PTZ) and display control of CCTV cameras connected to the system. This includes the ability to route the real-time video from selected cameras to local or remote video monitors via a compatible video switch. Through the use of a video capture card, *PYRA-MIDS* can also take a snap shot of the video from a camera

and route that video to any *PYRAMIDS* workstation over the system's local area network.

The *PYRAMIDS* system also includes an optional communications module, called V-Link, which allows operators to utilize the existing *PYRAMIDS* communications infrastructure to communicate to other devices in the controller cabinets, external to the *OASIS* 2070 controllers. Such devices include *Autoscope*[®] cameras, 3M Opticom, and Canoga detectors. The operator has the ability to re-program units, retrieve logs and data, and in the case of *Autoscope*, view video snapshots from the cameras. The V-Link module utilizes existing interconnect to channel data from the device application software to the device in the field.



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3360 E. La Palma, Anaheim, CA 92806-2856 Tel: (714) 630-3700 • Fax: (714) 630-6349 E-mail: sales@econolite.com 38304E0607-6

