



OASIS™

Description

OASIS software operates controllers that meet the Caltrans TEES Specification for the 2070 controller. The OASIS software is designed to facilitate and expedite the movement of pedestrian and vehicle traffic. An On-Street Master (OSM) feature has been integrated within the OASIS software program to provide simultaneous or individual master-local operations. OASIS provides a user-friendly, menu-driven interface, utilizing NEMA-defined nomenclature familiar to traffic engineers and technicians.

OASIS has been developed in ANSI C to maintain compliance with the OS-9 operating system, as mandated by the Advanced Transportation Controller (ATC) specification. Windows applications (Centrac[®], PYRAMIDS[®] and TransLink 32™) are available, providing an interface and real-time intersection information, as well as other advanced traffic management operations, such as database management, log reporting, and event scheduling. Many of the advanced features incorporated in OASIS take full advantage of the higher performance processor and significantly increased memory that 2070 Controllers provide.

Maintenance of Data Logs

- Failure logs
- Special events log
- Front panel entries log
- Detector data log
- Plans log
- Split monitor log
- Alarm log
- Function log

Features

- Operates as a local and/or master
- 16 vehicle phases
- 16 pedestrian phases
- 16 vehicle overlaps
- 12 unique & flexible phase sequences
- 38 individually controlled functions and features for each phase
- 17 individual timing elements for each phase
- Programmable exclusive lead/lag pedestrian phases and vehicle phases
- Concurrent service of 1 to 4 compatible phase rings
- Sequences containing phases 1 to 8 compatibility barriers
- Simultaneous quad/dual-ring operation wherein any of the 16 phases can be combined to operate together or independently
- 64 assignable vehicle detectors and 16 assignable pedestrian detectors
- Detector count station capabilities include: Occupancy, Volume, Input, Gap, and Length classification
- Input and output redirection by Time-of-Day (TOD), internal logic, external inputs, or key-board
- Internal custom programmable logic
- 3 flasher outputs: 2 alternating outputs and 1 fast flasher output

Coordination Features

- 64 Time-Based Coordination (TBC) plans, each with the following:
 - 4-phase control data sets
 - 4-phase timing sets
 - 12-phase sequence sets
 - Selectable coordinated phases and cycle lengths
 - 4 selectable offsets per plan
 - 16 selectable dynamic omit plans and recall plans
 - Programmable split times for each phase in seconds or percentage
- Selectable minimum cycle times during transition
- Green Band maximization through force-off optimization
- Automatic calculation of permissive times
- Coordination correction utilizing 3 dynamic cycle length optimization methods
- Pedestrian force-off adjustment
- Global Positioning Satellite (GPS) synchronized TBC
- Field master coordination via telemetry

Scheduler Features

- 200 events scheduled by Time-of-Year (TOY), TOD, and/or Day-of-Week (DOW)
- 3 event priority levels
- Selectable event disabling upon completion
- Each event can implement any one of over 72 functions some of which are:
 - Coordination plans 1 through 64
 - Flash or free operation
- Selectable function set

- Phase recall
- Red/yellow lock
- Minimum/maximum recall
- Soft/pedestrian recall
- MAX 2
- Lead/lag operation
- Enable/disable detector monitoring, detector count recording and split monitoring
- Activate/deactivate outputs
- Enable/disable logic macros

Assignable Input Functions

- Assignable to any and all input connector pins
- Vehicle, PED, and/or system detectors
- Maximum inhibit
- Force off A and B
- Call to Non-Actuated (CNA)
- NEMA Hold
- Minimum/maximum recall
- TBC plan selection
- DOW and TOD reset/sync
- Stop time
- Cabinet flash
- Manual control enable and advance
- External alarms
- Phase timing table select
- Flash/free select
- Exclusive pedestrian omit
- Door open
- 10 linkable preemption sequences

Assignable Output Functions

- Assignable to any or all output connector pins
- 8 TOD special function outputs
- 4 advance warning beacons
- 3 flasher outputs

- TBC plan status
- 10 preemption sequence status
- 2 special event preemption sequence status
- Free/flash select/status
- Watchdog
- Cabinet flash

On-Street Master Features

The OAS/S software has an integrated On-Street Master program that can simultaneously operate within one controller as a local intersection and master programs, or can be user defined to operate as a stand-alone master. The OAS/S On-Street Master provides the following operations:

- Control and monitoring of up to 64 local controllers
- Plan selection via:
 - Manual control
 - TOD/Day-of-Year (DOY)
 - Traffic Responsive
- The OAS/S/OSM can provide up to 4 zones of independent plan selection.
- Traffic responsive operation is based upon the FHWA-recommended V+KO algorithm.
- 64 system detectors are managed and included in the Traffic Responsive process.
- Logs of events, detector counts and other features are maintained in the OAS/S/OSM for retrieval by PYRAMIDS, TransLink 32, or direct connection.
- The OAS/S/OSM interfaces with the PYRAMIDS advanced traffic control system and the TransLink 32 closed-loop software package.