

# Omni eX<sup>®</sup>

## Intersection Control Software for ATC Controllers

Version 1.8



Cabinets  
Controllers  
Signals  
Signs  
**Software**  
Specialty

### Overview

McCain's Omni eX<sup>®</sup> intersection control software is a modern, standards-compliant program for ATC traffic controllers. Capable of operating Model 2070 and NEMA-based ATC platforms and interfacing with any style cabinet – Caltrans, NEMA TS 2 Type 1 and Type 2, ITS, and ATC cabinets – the revolutionary software provides a single solution for any infrastructure. It also easily integrates with McCain's Transparency<sup>®</sup> Traffic Management System, enabling complete ITS functionality by controlling all NTCIP-compliant devices through a single system and user interface.

### Benefits

- Provides a single solution for any controller/cabinet configuration
- Complies with national industry standards including NEMA, ATC, and NTCIP
- Assigns inputs and outputs, programmable logic and available custom NEMA D connectors without cumbersome external wiring or relays
- Supports a 16-line screen with simultaneous display of status and menus
- Ensures data accuracy and consistency with built-in data validation

### Product Description

*Omni eX* intersection control software provides comprehensive, signalized intersection control for ATC standard traffic controllers, including Model 2070 and NEMA-based configurations.

Capable of handling any intersection, from simple to complex, the NTCIP-compliant software accommodates up to 16 vehicle and 16 pedestrian phases, each with an equal number of overlaps, 250 coordination patterns and 128 local detectors. In accordance with the latest MUTCD standards, it can also accommodate protected/permitted left turns with a flashing yellow arrow (PPLT FYA).

Powerful logging and data collection, including measures of effectiveness (MOE), are uploadable locally via USB or to a central management system.

## Standard Features

### Phases

- 16 volume/density vehicle phases
- 16 pedestrian phases
- 4 rings
- Automatic barrier calculation based on compatible phases
- Variable phase sequence
- Exclusive pedestrian-phase operation
- Alternate timing for special vehicles, bicycles or pedestrians
- Advanced and delayed walk
- Texas diamond operation
- 32 output channels
- 4 unique sets of phase timing and options selectable by pattern

### Overlaps

- 16 vehicle overlaps
- 16 pedestrian overlaps
- Negative (excluded) vehicle and pedestrian phases
- Delayed start of green
- Flashing yellow or red arrow overlaps
- Detector call phases and locking
- 4 unique sets of overlap configurations selectable by pattern

### Coordination

- 250 free or coordinated patterns
- Automatic or manual permissive
- Fixed or floating force off
- Reference beginning or end of green
- Change virtually all operational parameters by pattern
- 16 phase sequence selection by pattern

### Cabinet Inputs and Outputs

- Supports all cabinet types
- Individually assignable input and output functions (I/O mapping)
- Internal multi-input Boolean logic gates with delay, extend and latch, and flashing output features
- 16 generic alarm inputs
- 16 special functions
- External pattern selection
- Pulsing preempt and transit priority input discrimination

### Detection

- 128 local/system detectors
- Single or dual detector speed calculation
- Phase assignments configurable per detector, multiple phases per detector
- Direct detector actuation for vehicle and pedestrian overlaps
- All NTCIP detector options
- Delay and extend timing
- Alternate passage, minimum green and pedestrian timing detection
- Vol/Occ configurable per detector
- Detector failure monitoring configurable by time-of-day
- Connect directly to video detection

### Communications

- Supports all industry standard comms
- Fully NTCIP 1201 and 1202 compliant (mandatory and optional objects)
- NTCIP MIB and block objects for all vendor-specific parameters
- Data validation during download
- Network time client and/or server
- GPS, WWV, NMEA, and NTP time synchronization
- California AB3418E with master function for time and pattern broadcast
- USB for database upload/download, firmware upgrades, log retrieval
- Peer to peer sharing of I/O between intersections
- Web browser support

### Preemption

- 8 preemption sequences
- Each sequence configurable for railroad or emergency vehicle operation
- Definable priority and linking
- User configurable overlap enable/disable during all preempt intervals
- Flashing and limited service options
- User assignable status options

### Transit Priority

- Estimated time of arrival
- 16 priority strategies in 4 sets, selectable by pattern
- Options to support any type of vehicle detection
- Configurable headway and preempt lockout times
- Queue jump
- Intelligent phase time adjustment based on expected vehicle arrival
- Remotely actuation or enable/disable of priority strategies
- Support for user configurable special logic and advanced operations

### Time-of-Day Scheduler

- 64 schedules
- 64 day plans
- 48 events
- 128 actions
- Operational parameters changeable by time-of-day

### Logs

- High resolution logging
- Extensive event log for management and diagnostic purposes
- Cycle-based measures of effectiveness
- Detector volume, occupancy and speed
- Speed trap data
- NTCIP global reporting conformance group for user-defined event logging
- User access logs

To learn more about  
McCain's Integrated Traffic  
Solutions, please contact  
[info@mccain-inc.com](mailto:info@mccain-inc.com) or  
call (760) 727-8100

