



# ASC/3-2070 Controller Software

## Description

The ASC/3-2070 software is the latest in a series of Advanced System Controller Software packages offered by Econolite. The software builds on the proven design flexibility and unique feature set of the popular ASC/2 and ASC/3 families of NEMA controllers.

The ASC/3-2070 has been developed to fully comply with NEMA TS2 functional requirements. In addition, the design, development, and testing of the ASC/3-2070 software included processes controlled by the latest ISO quality standards.

The ASC/3-2070 software provides an updated design that allows it to serve as the traffic control platform for present and future traffic management environments. The software is compliant with NEMA TS2 and National Transportation Communications for ITS Protocols (NTCIP) standards, and is compatible with all existing Econolite systems.

The ASC/3-2070 software was designed using the latest software development technologies, which offer the user a controller software package that is affordable, reliable, flexible, and is compatible with any 2070 controller (2002 Transportation Electrical Equipment Specifications (TEES)).

The ASC/3-2070 controller software fully supports the model 2070's open architecture, as well as its standard OS-9 multitasking real-time operating system. Using a standard Personal Computer (PC) or laptop, the software is easily loaded onto a model 2070 Controller via a serial or Ethernet port, and automatically configures to the model 2070 hardware on which it is installed. A user-friendly mapping utility application also provides I/O flexibility for customized cabinets.

All software for the ASC/3-2070 is stored in flash memory. This allows for quick and easy software updates in the field without changing hardware. Once updated, the controller only needs to be power cycled to allow the new firmware to take control.

## Controller Models

The ASC/3-2070 software is configurable to provide interface to the following cabinet types:

- TS2 Type 1 environment
- TS1/TS2 Type 1 and TS2 Type 2 environments
- Caltrans 332 and 336 environments (other cabinets can be configured through fully mappable I/O functionality)

## Features

- Supports the model 2070 open architecture and OS-9 operating system
- Exceeds NEMA TS2 functional requirements
- Designed, developed, and tested in an ISO-certified environment
- Windows-based remote user interface (optional)
- Advanced controller, coordinator, and preemptor features
- Supports 2070 Data Key (2002 TEES version):
  - Back up and restore data
  - Transfer data between controllers
- Optional Transit Signal Priority (TSP) software module
- Protocol support for ECPIP, NTCIP, and AB3418
- Software support for *Centracs*<sup>®</sup>, *icons*<sup>®</sup>, *Aries*<sup>®</sup>, and any NTCIP 1202, level-2 compliant applications
- Software and upgrades can be easily downloaded via a laptop
- User-programmable default database
- Database and logs uploadable/downloadable via a laptop

## Control features

- 16 phases with 8 configurable concurrent groups in 4 timing rings
- All standard NEMA TS1, TS2, and NTCIP functions
- 16 timed vehicle overlaps
- 16 pedestrian phases that can be configured as pedestrian overlaps
- Exclusive pedestrian operation
- Soft vehicle recall
- Conditional service
- Dynamic max operation
- Bike minimum green, second walk and pedestrian clear times, in addition to a walk and pedestrian clearance maximum
- Advanced walk
- Pedestrian clear protect
- Red maximum
- Vehicle extension 2
- Guaranteed minimum green, walk, ped clear, yellow, red, red revert, and overlap green
- Redundant monitoring of the Malfunction Management Unit (MMU) status to enhance intersection monitoring
- 4 timing plans selectable on Time-of-Day (TOD) or coordination plan basis or for one cycle following preemption
- Powerful logic processor

## Coordinator features

- 120 coordination patterns, each with its own cycle, offsets, and split plan selection
- 120 split plans, each with its own coordinated phases, vehicle, and pedestrian recall and phase omits
- Offset and split entries displayed in percent or seconds
- Automatic permissive periods
- Fixed or floating force-off
- Crossing arterial coordination
- Quick-sync feature

## Preemptor features

- 10 preemption sequences. Each may be configured as priority, first-come-first-serve, or bus preemption operation
- ECPI dual-circuit preempt interlock to provide added monitoring safety

## Time Base features

- 200 schedule programs, configurable for any combination of months, days of the week, and days of the month
- 36 fixed or floating exception day programs that override the day plan event on a specific day
- 50 day plan events can use any of the 100 action plans
- 100 action plans can be used by any of the 50 day plans

## Status display feature

- Keyboard selection of detailed dynamic status displays for each of the main controller unit functions including controller, coordinator, preemptor, time base, detectors, and MMU (in TS2 environment)

## Detector features

- 64 vehicle detectors
- 16 system or speed detectors
- Unique detector types and operations
- Individually assignable to phase and functions
- Lock/non-lock function by detector
- 4 detector plans
- 4 detector diagnostics plans
- Logging of volume and/or occupancy assignable by detector
- 4 pedestrian diagnostic plans

## Logging features

- Separate buffers for detector activity, detector failures, controller events, and MMU events
- Logged data can be viewed on front panel, retrieved via RS-232 terminal port, or transferred via telemetry to a traffic management center

## Telemetry features

- Can be configured to be compatible with *KMC-10,000* or *ASC/2M-1000* zone masters as well as with *Centracs*<sup>®</sup>, *icons*<sup>®</sup> or *Aries*<sup>®</sup> systems
- 1200/9.6K bps FSK 2/4 wire telemetry module (optional)
- Multiple RS-232 1200-115.2 Kbps serial ports
- Multi-protocol support: ECPIP (Standard), AB3418 (Standard), NTCIP (Standard)

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