SIEMENS
Ingenuity for life

SEPAC Local Controller Software

Effective traffic control software

Giving high priority to public transportation without interrupting the general traffic flow has been a major challenge for conventional traffic control software in the past. Siemens' SEPAC local controller software is focused on enhancing performance of traffic signal control for customers who use Light Rail Transit, Bus Rapid Transit and regular Traffic Signal Priority functionality. Its features improve the use of low and full priority, with minimal impact on pedestrian and vehicle traffic.

SEPAC is unparalleled traffic signal priority software that enables mobility, safety and a better environment in order to improve the quality of life in cities. The software is designed for Siemens "M" series and CalTrans 2070 style controllers.

Incorporating more than 25 years of actual "on-street" traffic control experience, SEPAC is user-friendly and accommodates a large variety of traffic control requirements through its diverse configuration capabilities.

Programming advantages

- User-friendly, 16 line menu driven software
- Each parameter viewable with a menu and the cursor movable to that parameter for changes
- Easy verification with related parameters visible simultaneously
- On-screen programming area identification and editing prompts
- Standard traffic nomenclature used throughout the programming
- Keystrokes identical on any hardware platform
- Logically laid out programming for easy setup and startup

Modes of operation

SEPAC's traffic capabilities include five modes of operation that allow for Time of Day (TOD) operations, week plans, time of year or holiday plans, which include: coordination, free and flash functions. Modes include:

- **Standalone** – All functionality is operational as a standalone unit. Time updates available through GPS syncs. Controller can be programmed to use the GPS output for keeping its internal TOD clock accurate.

Siemens M60 ATC controller running SEPAC local controller software

- **Master Control** – In conjunction with a Marc Master Controller, SEPAC will work within a closed loop system.**
- **System Control** – SEPAC has the ability to communicate to TACTICS™ and operate under system control.
- **Manual** – SEPAC can be controlled manually to run specific coordination routines when set to manual, including free operation.
- **Adaptive Control** – SEPAC can accept commands from SCOOT® and ACS Lite for adaptive control, if available.

Siemens SEPAC Local Controller Software Features

Phases
- 16 vehicle phases
- 16 pedestrian phases
- 4 phase banks
- 4 timing rings
- 15 alternate sequences
- 16 overlaps

Coordination
- 6 modes of coordination
- 5 modes for offset transition
- Locally based traffic responsive routines
- 253 Unque Patterns
- 255 Actions / Day Plans / Schedules
- Free / Flash / Dimming
- 16 Special Functions
- 16 Phase Functions

Detection/Inputs
- 64 vehicle detectors*
- 8 pedestrian detectors*
- 8 system detectors*
- Ethernet detection interface for Sensys Ethernet Access Points (optional)

Communications
- Supports Siemens SCOOT® communication via Ethernet
- IP / Serial / FSK communications to TACTICS™
- IP standard on "M" series and 2070 1-B, 1-C and 1-E cards (2009 TEES)

Priority and Pre-emption
- 12 pre-empts (Leading number of pre-empts in the industry)
- 12 LRT / TSP (high / low) priority routines
- 4 priority banks with unique timing
- Allows for 24 specific actions
  - 6 detectors per approach
  - 19 vehicles tracked simultaneously
  - Up to six directions at one time
  - Tracks vehicles at any distance from intersection using up to 6 inbound detectors and one exit detector
  - Tested and verified with: Opticom® by GTT, EMTRAC®, E-Views® and Wayside Detection
  - Allows for seamless operation between transit and vehicle traffic
  - Adjusts splits, skips phases when necessary, and adjusts lead / lag in order to make the transitions between normal operation and priority service more fluid
- Low and high priority can be used for both bus and light rail vehicles

Miscellaneous
- Peer-to-Peer Communication between Controllers
- Bike timing with specific times for large bike traffic areas
- Any detector can be used for bike detection
- Advanced and delayed WALK operation
- Advance Warning Flasher functions
- 16 SPaT IP addresses for Connected Vehicle® operations
- Logging and diagnostics, including: cycling, coordination, pre-emption, detection, outputs, alarms and communications
- Anti-Backup (yellow trap avoidance)
- Password protection
- Collision avoidance routines (Red Protect)
- Available when used with a speed detector such as Iteris' new Vantage Vector™ video and radar camera
- External back-up – USB or DataKey®
- Help screen
- Illinois Rail Road security available
- International timing
- Extensive reporting capabilities

Hardware Platforms
- Linux Operating System
- NEMA or CalTrans specifications
- Meets all current NTCIP requirements for traffic signal control
- Cabinet types include: ATC, TS-1, TS-2, TS-2 Type 2, CalTrans 332 style, ITS and CBD
- External Memory Storage
- OS-9 uses DataKey®
- Linux uses USB memory sticks or DataKey®

* *80 total detectors defaulted to listed configuration but can be programmed as different types, if necessary.*

** *SEPAC has been developed to be used in combination with SEMARC (Master Controller Software) in the same OS9 controller, eliminating the need for two controllers in one cabinet.*

Please note, SEMARC and SEPAC can only run on the same controller if it is running OS9 (Not available for Linux controllers).

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