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Programming Pre-emption with FYA

Railroad and Emergency Vehicle Pre-emption Sequence Program Data defines which displays are to be used for which pre-emption intervals. How do we program FYA displays to operate during the pre-emption sequence in the Siemens controller?

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Programming Pre-emption with Flashing Yellow Arrow

Pre-emption Interval Sequence

The pre-emption interval sequence consists of these four distinct intervals:

1. Select
2. Track Clearance
3. Dwell/Cycle
4. Track Return or Exit

The select interval is the exit from the current signal display to enter the pre-emption sequence.

The track clearance interval is the green service of the railroad track to clear traffic queued onto the railroad track. [Track clearance is typically a non-event for emergency vehicle pre-emption]

The dwell/cycle interval is the resting signal display or cycling signal display that the controller rests in for the duration of the active pre-emption call after the track clearance interval has been processed.

The track return or exit interval is the first display given to drivers after the dwell interval ends and it is the return of the traffic signal to normal operation.

Association of Overlaps and Flashing Yellow Arrow– Siemens controller?

Each controller manufacturer has created their own method of relating phases to overlaps to operate their version of flashing yellow arrow control. In the Siemens controller, the standardized format is a fixed relationship as shown in Table 1.

Left turn Phase	1	3	5	7
Overlap	A	B	C	D

Table 1: Standard overlap association for Siemens controller to control Flashing Yellow Arrows. Note: this association is hard-fixed for firmware revisions X.56 and earlier. Need not be hard fixed for firmware X.57 and newer.

How to Program FYA displays as part of each Pre-emption Interval – Siemens controller?

How do we program the flashing yellow arrows to display properly for each of the intervals and interval transitions?

For the Select interval and the Exit interval, no specific flashing yellow arrow programming is required. The controller operates the flashing yellow arrow according to its default operational parameters.

For the Dwell/Cycle interval we have specific settings to define how the controller treats the flashing yellow arrow face during the pre-empt interval.

Figure 2 shows the settings required to acquire proper FYA operation during the Dwell/Cycle interval of the Pre-emption Sequence.

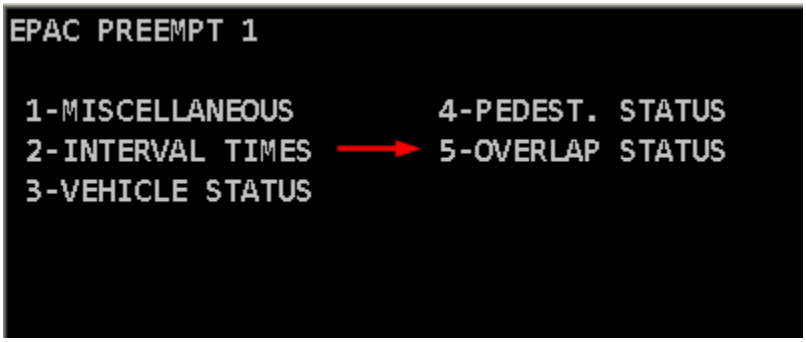

Figure 1: Pre-emption sequence 1 menu choice in the Siemens M50 or M60 controller. Operation of the flashing yellow arrow head is defined by the settings for overlap status.

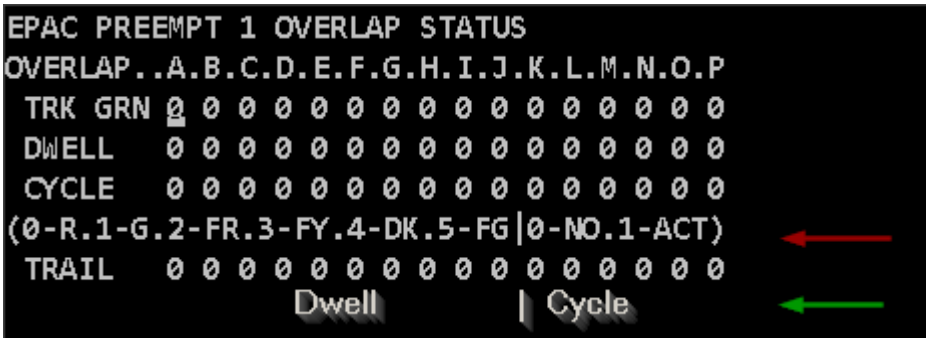

Figure 2: Overlap status page in the Siemens M50 or M60 controller. The menu option choices are shown on the controller screen in the line in parentheses designated with the red arrow. Note the vertical line within the menu in parentheses. The line "Dwell|Cycle" designated with the green line does not display in the Siemens M50 or M60 controller. That line is pointed out as a reference. All menu choices (red line designation) to the left of the vertical line associate to the program line DWELL. All menu choices to the right of the vertical line apply to the program line CYCLE. For proper operation of the Flashing Yellow Arrow during Dwell, place a 5 under the FYA left turn overlap in the row DWELL. For proper operation of the FYA left turn arrow during Cycle, place a 1 under the FYA left turn overlap in the row CYCLE.

Conclusion

The user must follow specific rules with the Siemens controller during pre-emption to acquire the proper displays of the flashing yellow arrow signal during the pre-emption sequence.