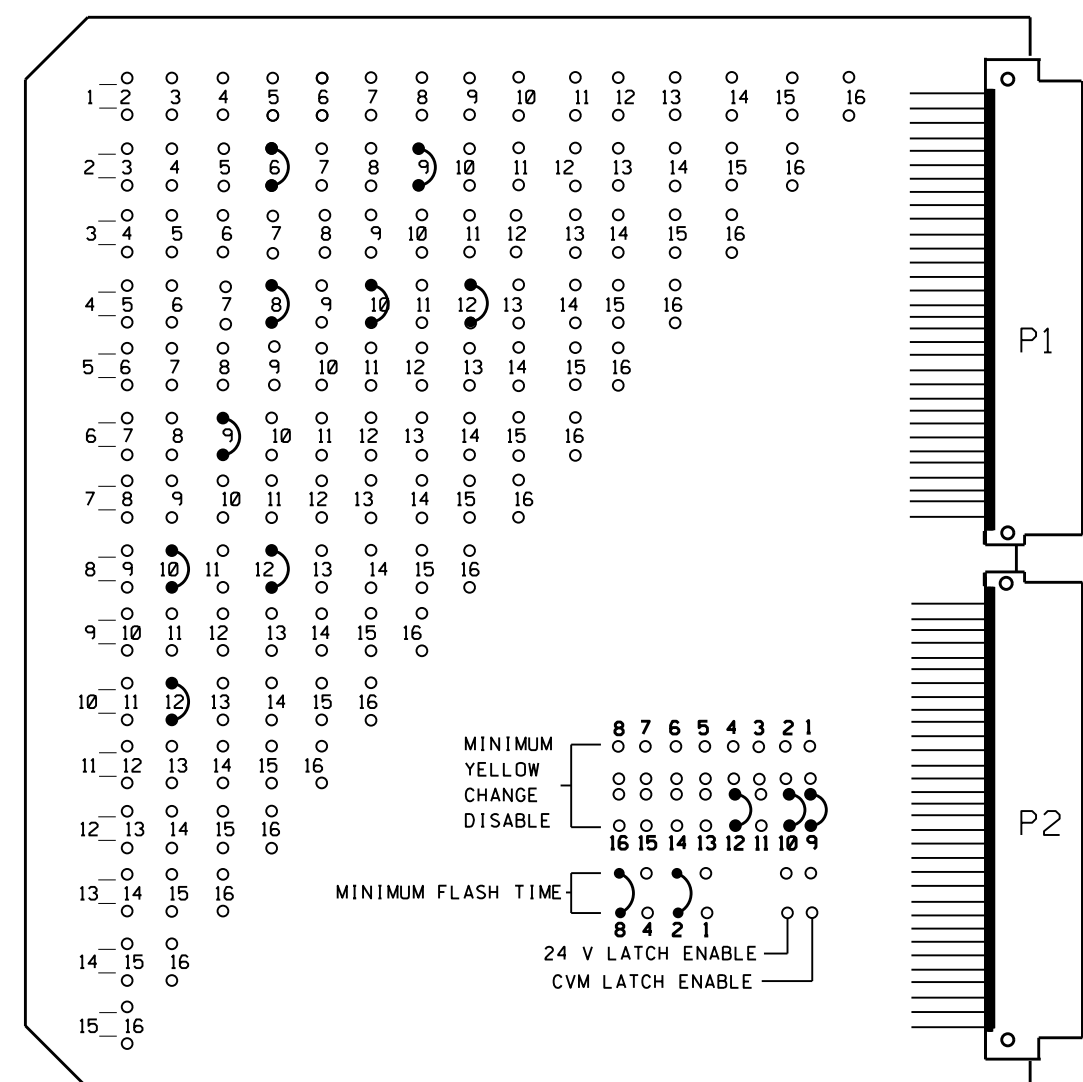


**EDI MODEL MMU2-16LEip
MALFUNCTION MANAGEMENT UNIT
PROGRAMMING DETAIL**

(program card and tables as shown below)



MMU PROGRAMMING CARD

**FIELD CHECK ENABLE
DUAL IND ENABLE
RED FAIL ENABLE**

CHANNEL NUMBER	ENABLE/DISABLE
1	DISABLE
2	ENABLE
3	DISABLE
4	ENABLE
5	DISABLE
6	ENABLE
7	DISABLE
8	ENABLE
9	ENABLE
10	ENABLE
11	DISABLE
12	ENABLE
13	DISABLE
14	DISABLE
15	DISABLE
16	DISABLE

UNIT OPTIONS	
OPTION	SETTING
RECURRENT PULSE	ON
WALK DISABLE	OFF
LOG CVM FAULTS	ON
EXTERN WATCHDOG	OFF
24V-2=12VDC	OFF
PGM CARD MEMORY	ON
LEDguard	ON
FORCE TYPE 16	OFF
TYPE12-SDLCL	OFF
VM 3x/Day Latch	ON

FLASHING YELLOW ARROW	
CONFIG MODE	SETTING
CONFIG MODE	8
ENABLE CHANNEL PAIR, FYA	
CH 1-13	OFF
CH 3-14	OFF
CH 5-15	OFF
CH 7-16	OFF
RED/YEL INPUT ENABLE	
CH 1	OFF
CH 3	OFF
CH 5	OFF
CH 7	OFF
FLASH RATE FAULT	OFF
FYA TRAP DETECT	OFF

MMU PROGRAMMING NOTE
ENSURE YELLOW CHANGE PLUS RED CLEARANCE MONITORING IS ENABLED FOR ALL CHANNELS.

NOTES

- To prevent "flash-conflict" problems, wire all unused load switches to flash red. Verify that signal heads flash in accordance with the signal plans.
- To prevent red failures on unused monitor channels, tie unused load switch red outputs 1,3,5,7,11,13,14,15, and 16 to load switch AC+ by inserting a jumper plug in the unused load switch socket from pin 1 (LS AC+) to pin 3 (RED out). Make sure all flash transfer relays are in place.
- Program controller to start up as follows: Main Menu 2-5 MUTCD->YES, ALL RED...6, Phase 2 Walk, Phase 6 Green
- Set power-up flash time to 10 seconds and implement on the Malfunction Management Unit. Set controller power-up flash time to 0 seconds.
- Enable simultaneous gap-out feature for all phases.
- Program detectors in accordance with the manufacturer's instructions to accomplish the detection schemes shown on the signal design plans.
- Program detector call delay and extension timing on the controller, unless otherwise specified.
- Set all detector card unit channels to "presence" mode.
- Program phase 2 for volume density operation.
- The cabinet and controller are a part of the Cary Signal System.

SIGNAL HEAD HOOK-UP CHART

PHASE	1	2	3	4	5	6	7	8	2 PED	4 PED	6 PED	8 PED	OLA	OLB	OLC	OLD
SIGNAL HEAD NO.	NU	21,22 23	NU	41,42	NC	61,62	NU	81,82 83	P21, P22	P41, P42	NU	P81, P82	NU	NU	NU	NU
RED		2R				6R		8R								
YELLOW		2Y						8Y								
GREEN																
RED ARROW				4R												
YELLOW ARROW				4Y	6Y											
GREEN ARROW		2G	4G		6G			8G								
Hand									9R	10R		12R				
Person									9G	10G		12G				

NU = Not Used
NC = Not Connected

DETECTOR RACK SET-UP DETAIL

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW. PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

RACK #1

BIU	CH1	CH1	CH1	CH1	CH1	CH1	SLOT	SLOT	SLOT	SLOT	SLOT
	L3	L1	L7	L5	L11	L9					
	∅ 2	∅ 2	∅ 4	∅ 2	∅ 8	∅ 6					
	**	**					EMPTY	EMPTY	EMPTY	EMPTY	EMPTY
	CH2	CH2	CH2	CH2	CH2	CH2					
	L4	L2	L8	L6	L12	L10					
	∅ 2	∅ 2	∅ 6	∅ 4	∅ 8	∅ 8					
	**	**									

EQUIPMENT INFORMATION

CONTROLLER.....2070EN2
CABINETNC-8 [TS-2]
SOFTWAREECONOLITE ASC/3-2070
CABINET MOUNT.....BASE
LOADBAY POSITIONS.....16
LOAD SWITCHES USED.....2,4,6,8,9,10,11,12
PHASES USED.....2,2PED,4,4PED,5*,6,8,8PED
OLA.....NOT USED
OLB.....NOT USED
OLC.....NOT USED
OLD.....NOT USED

* Phase used for timing purposes only

**LOAD SWITCH
ASSIGNMENT DETAIL**

(program controller according to schedule in chart below)

LOAD SWITCH NUMBER	FUNCTION
1	∅ 1
2	∅ 2
3	∅ 3
4	∅ 4
5	∅ 5
6	∅ 6
7	∅ 7
8	∅ 8
9	∅ 2 PED
10	∅ 4 PED
11	∅ 6 PED
12	∅ 8 PED
13	OLA
14	OLB
15	OLC
16	OLD

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0947
DESIGNED: March 2019
SEALED: 7/24/2019
REVISED: N/A

WIRE LOOPS TO TERMINALS ON LOOP PANEL AS SHOWN IN THE CHART BELOW

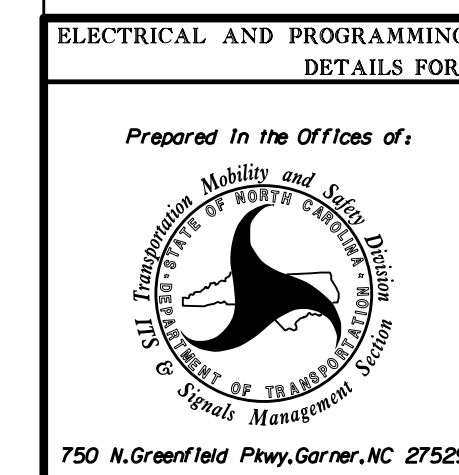
LOOP NO.	LOOP PANEL TERMINALS
2A	L1A, L1B
2B	L2A, L2B
2C	L3A, L3B
2D	L4A, L4B
2E	L5A, L5B
4A	L6A, L6B
4B	L7A, L7B
6A	L8A, L8B
6B	L9A, L9B
8A	L10A, L10B
8B	L11A, L11B
8C	L12A, L12B
NU	L13A, L13B
NU	L14A, L14B
NU	L15A, L15B
NU	L16A, L16B

PROGRAM CONTROLLER DETECTORS ACCORDING TO THE SCHEDULE SHOWN IN THE CHART BELOW

CONTROLLER DETECTOR NO.	FUNCTION	TIMING	
		FEATURE	TIME (SEC)
** 1	∅ 2		
** 2	∅ 2		
3	∅ 2		
4	∅ 2		
5	∅ 2		
6	∅ 4		
7	∅ 4		
8	∅ 6	DELAY	15
9	∅ 6	DELAY	15
10	∅ 8		
11	∅ 8		
12	∅ 8		
13			
14			
15			
16			

** Detector Type - N

Electrical Detail - Final Design - Sheet 1 of 3



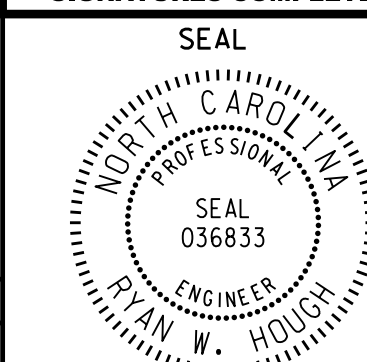
SR 3015 (Airport Boulevard)
at
I-40 EB Ramps

Division 5 Wake County Morrisville

PLAN DATE: May 2019 REVIEWED BY:
PREPARED BY: S. Armstrong REVIEWED BY:

REVISIONS INIT. DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DocuSigned by: Ryan W. Hough 8/1/2019
DATE

SIG. INVENTORY NO. 05-0947