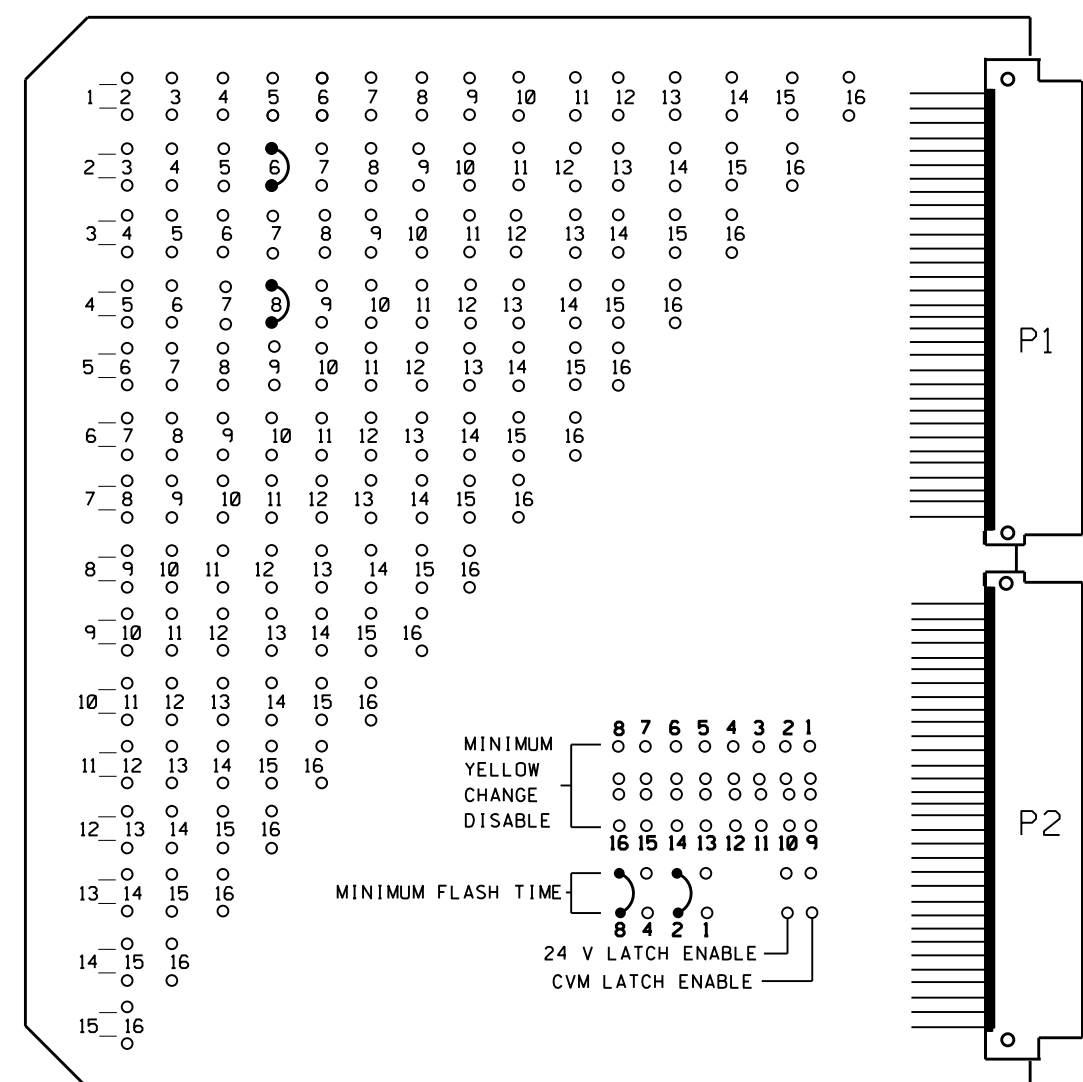


**EDI MODEL MMU2-16LEip  
MALFUNCTION MANAGEMENT UNIT  
PROGRAMMING DETAIL**

(program card and tables as shown below)



**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	DISABLE
10	DISABLE
11	DISABLE
12	DISABLE
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-SDLC	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.

**MMU PROGRAMMING CARD**

**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 1,3,5,7,9,10,11,12,13,14,15, 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 Green, 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	NU	NU	NU	NU	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																
Person																

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	SLOT	SLOT	CH1 L7 Ø 6	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT
	EMPTY	EMPTY	CH2 L8 Ø 6	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY

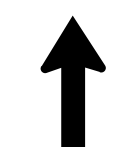
**EQUIPMENT INFORMATION**

CONTROLLER.....2070EN2  
CABINET .....NC-8 [TS-2]  
SOFTWARE .....ECONOLITE ASC/3-2070  
CABINET MOUNT.....BASE  
LOADBAY POSITIONS.....16  
LOAD SWITCHES USED.....2,4,6,8  
PHASES USED.....2,4,5\*,6,8  
OLA.....NOT USED  
OLB.....NOT USED  
OLC.....NOT USED  
OLD.....NOT USED

\* Phase used for timing purposes only

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

ADD JUMPERS FROM: L1A TO L2A, AND L1B TO L2B



REMOVE THESE JUMPERS!

LOOP NO.	LOOP PANEL TERMINALS
NU	L1A, L1B
NU	L2A, L2B
NU	L3A, L3B
NU	L4A, L4B
NU	L5A, L5B
NU	L6A, L6B
6B	L7A, L7B
6A	L8A, L8B
NU	L9A, L9B
NU	L10A, L10B
NU	L11A, L11B
NU	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			
3			
4			
5			
6			
7	Ø 6	DELAY	15
8	Ø 6	DELAY	15
9			
10			
11			
12			
13			
14			
15			
16			

**SPECIAL DETECTOR NOTE**

Install a video detection system for vehicle detection. Perform installation according to manufacturer's directions and NCDOT engineer approved mounting locations to accomplish the detection schemes shown on the Signal Design Plans for zones 2A, 2B, 2C, 2D, 2E, 4A, 4B, 8A, 8B, and 8C.

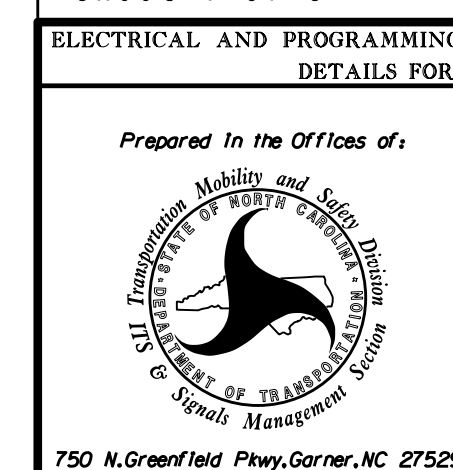
**LOAD SWITCH ASSIGNMENT DETAIL**

(program controller according to schedule in chart below)

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

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 05-0947T5  
DESIGNED: March 2019  
SEALED: 7/24/2019  
REVISED: N/A

Electrical Detail - Temp Design 5 (TMP Phase IV)  
Sheet 1 of 3



Prepared In the Offices of:

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

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

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL	DATE
SEAL 036833	8/1/2019
SIG. INVENTORY NO. 05-0947T5	