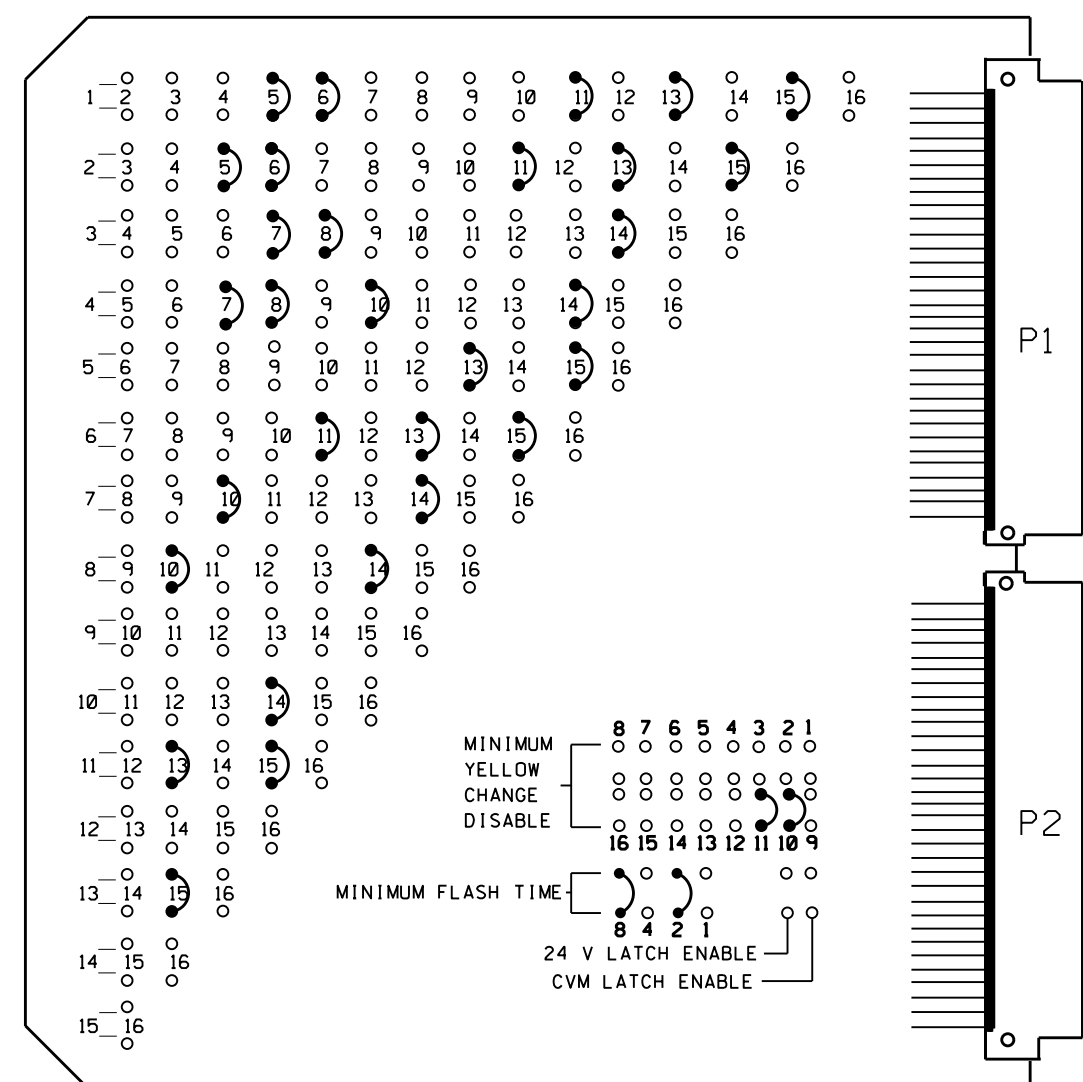


**EDI MODEL MMU2-16LEip  
MALFUNCTION MANAGEMENT UNIT  
PROGRAMMING DETAIL**

(program card and tables as shown below)



MMU PROGRAMMING CARD

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

CHANNEL NUMBER	ENABLE/DISABLE
1	ENABLE
2	ENABLE
3	DISABLE
4	ENABLE
5	DISABLE
6	ENABLE
7	ENABLE
8	ENABLE
9	DISABLE
10	ENABLE
11	ENABLE
12	DISABLE
13	ENABLE
14	ENABLE
15	ENABLE
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	B
ENABLE CHANNEL PAIR, FYA	
CH 1-13	ON
CH 3-14	ON
CH 5-15	ON
CH 7-16	OFF
RED/YEL INPUT ENABLE	
CH 1	ON
CH 3	ON
CH 5	ON
CH 7	OFF
FLASH RATE FAULT	ON
FYA TRAP DETECT	ON

**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 9, 12, 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 in phase 2 Green and 6 Walk.
- 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 phases 2 and 6 for volume density operation.
- Program phase 4 for dual entry.
- 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.	11★	82	21,22 23	31★	41,42, 43	51★	61,62 63	71,72	81,82, 83	NU	P41, P42	P61, P62	NU	11★	31★	51★	NU
RED	*	2R	*	4R	*	6R		8R									
YELLOW		2Y	*	4Y	*	6Y		8Y									
GREEN		2G		4G		6G		8G									
RED ARROW								7R					13R	14R	15R		
YELLOW ARROW	1Y						7Y	7Y					13Y	14Y	15Y		
FLASHING YELLOW ARROW													13G	14G	15G		
GREEN ARROW	1G	1G	3G		5G		7G	7G									
⚡													10R	11R			
🚶													10G	11G			

NU = Not Used  
\* Denotes install load resistor. See Load Resistor Installation Detail on sheet 3.  
★ See pictorial of head wiring detail this sheet.

**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	SLOT
	CH1	CH1	CH1	CH1	CH1	CH1	CH1	CH1			
	L3 ∅ 1	L1 ∅ 1	L7 ∅ 3	L5 ∅ 2	L11 ∅ 6	L9 ∅ 5	L15 ∅ 7	L13 ∅ 6	EMPTY	EMPTY	EMPTY
	CH2 ∅ 2	CH2 ∅ 6	CH2 ∅ 8	CH2 ∅ 4	CH2 ∅ 6	CH2 ∅ 2	CH2 ∅ 8	CH2 ∅ 7	EMPTY	EMPTY	EMPTY
	**	*		**	SYS6	*	**	SYS8	EMPTY	EMPTY	EMPTY
				**	SYS7	*			EMPTY	EMPTY	EMPTY

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

LOOP NO.	LOOP PANEL TERMINALS
1A	L1A, L1B L2A, L2B
1B	L3A, L3B
2A	L4A, L4B
2B	L5A, L5B
4A	L6A, L6B
3A	L7A, L7B L8A, L8B
5A	L9A, L9B L10A, L10B
6A/S6	L11A, L11B
6B/S7	L12A, L12B
6C/S8	L13A, L13B
7A	L14A, L14B
7B	L15A, L15B
8A	L16A, L16B

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

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

- \* Detector Type - G (remove delay from existing detector card)
- \*\* Detector Type - N
- ★ See the Vehicle Detector Setup Programming Detail on sheet 4 for Alternate Phasing.

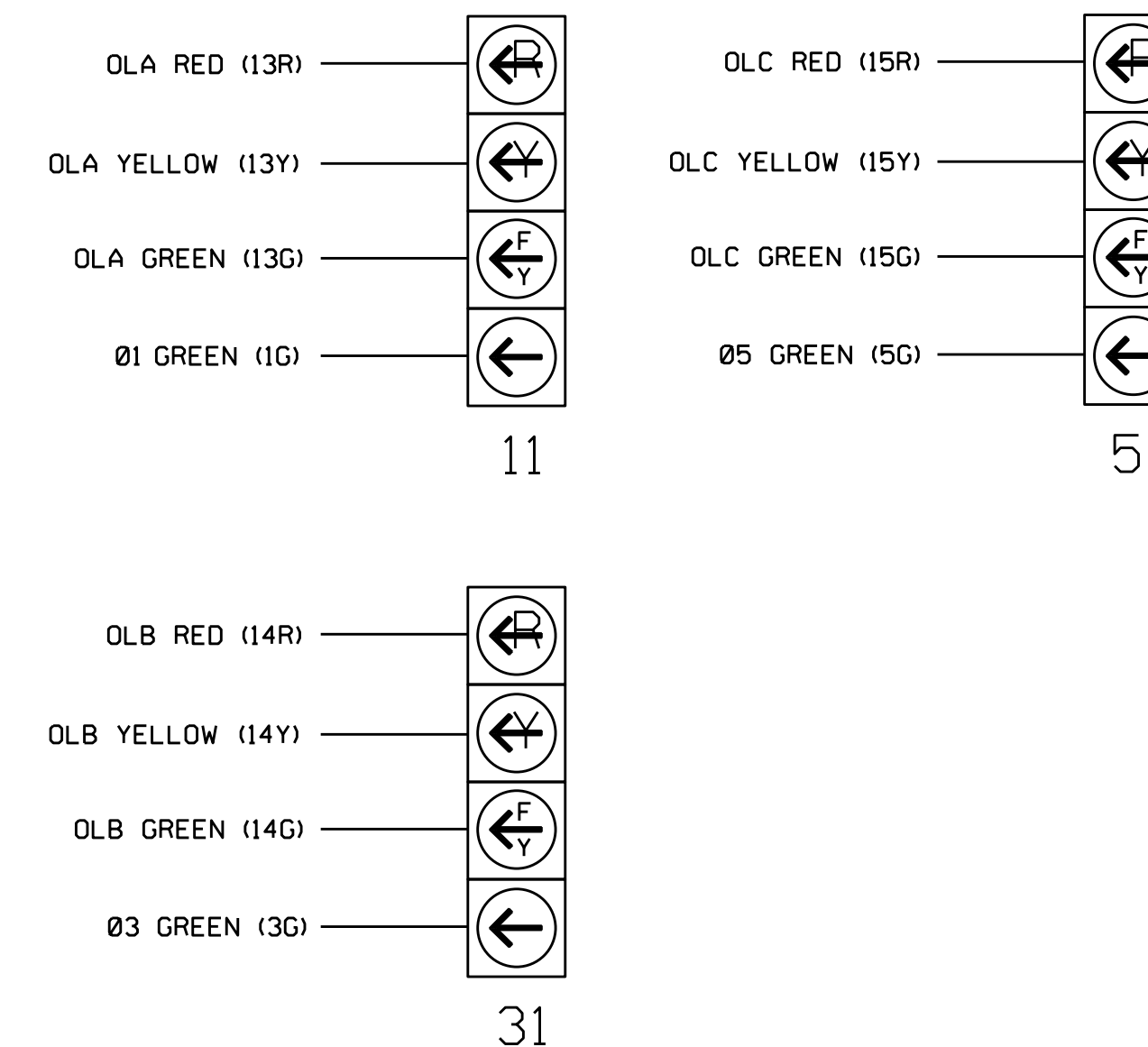
**EQUIPMENT INFORMATION**

CONTROLLER.....2070EN2  
CABINET .....NC-8 [TS-2]  
SOFTWARE .....ECONOLITE ASC/3-2070  
CABINET MOUNT.....BASE  
LOADBAY POSITIONS.....16  
LOAD SWITCHES USED.....1,2,3,4,5,6,7,8,10,11,13,14,15  
PHASES USED.....1,2,3,4,4PED,5,6,6PED,7,8  
OLA.....\*  
OLB.....\*  
OLC.....\*  
OLD.....\*

\* SEE OVERLAP PROGRAMMING DETAIL ON SHEET 2

**FYA SIGNAL WIRING DETAIL**

(wire signal heads as shown)



**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: 05-1726T5  
DESIGNED: March 2019  
SEALED: 7/24/2019  
REVISED: N/A

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

Prepared In the Offices of:  750 N. Greenfield Pkwy, Garner, NC 27529	SR 3015 (Airport Blvd.) at Factory Shops Road/ Aerial Center Parkway		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED  SEAL 036833 ENGINEER RYAN W. HOUGH
	Division 5 PLAN DATE: May 2019 PREPARED BY: S. Armstrong	Wake County REVIEWED BY: REVISIONS:	