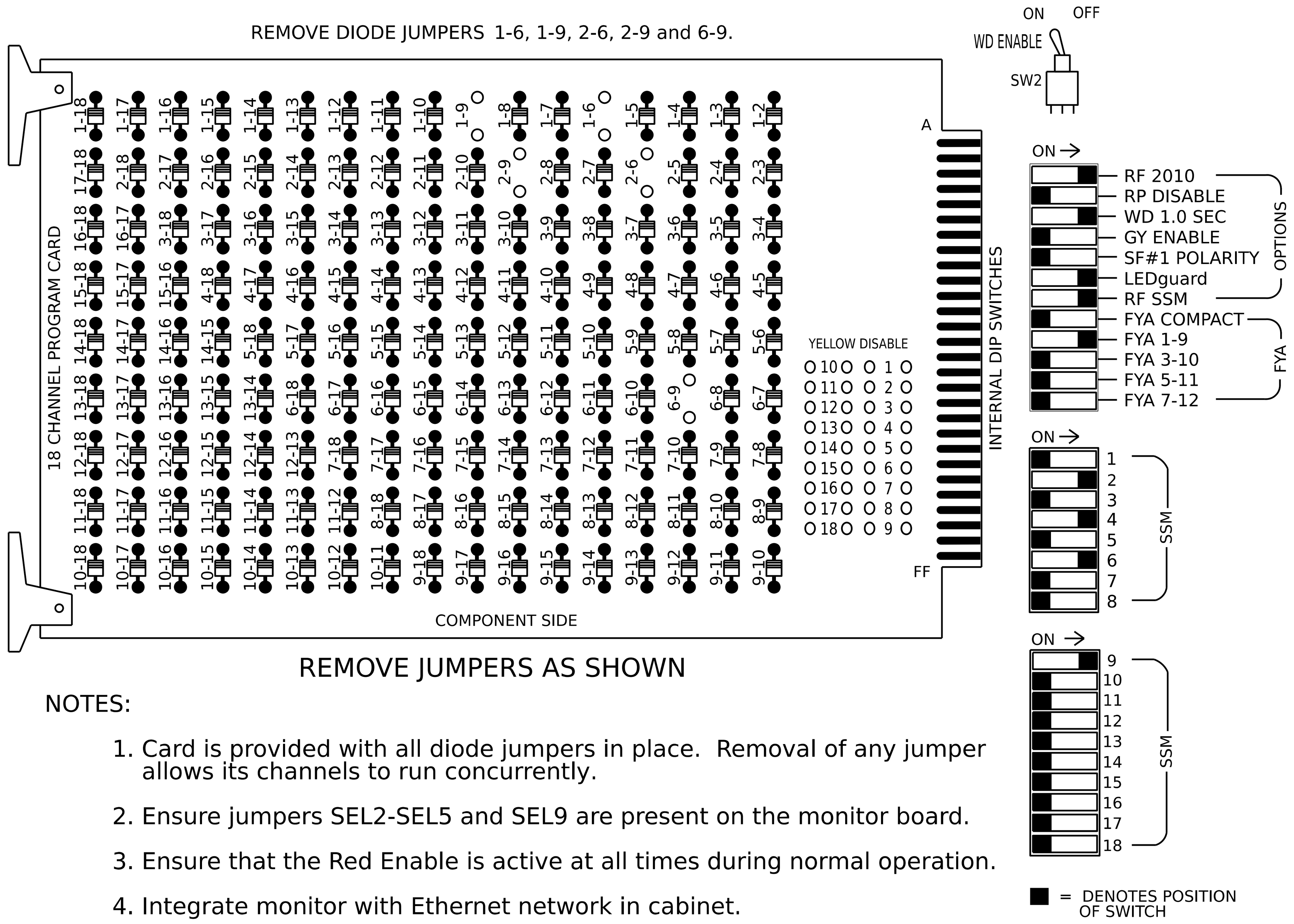
PROJECT REFERENCE NO.	SHEET NO.
I-5716	Sig. 3.1

18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
3. Ensure that the Red Enable is active at all times during normal operation.
4. Integrate monitor with Ethernet network in cabinet.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Program controller to start up in phases 2 and 6 Green.
3. Enable simultaneous gap-out feature for all phases.
4. The cabinet and controller are part of the Hickory City System.
5. Default the controller before programming this detail.

EQUIPMENT INFORMATION

Controller	2070
Cabinet	332 w/ Aux
Software	SE-PAC2070
Cabinet Mount	Base
Output File Positions	18 With Aux. Output File
Load Switches Used	S1, S2, S5, S8, AUX S1
Phases Used	1, 2, 4, 6
Overlap "A"	*
Overlap "B"	Not Used
Overlap "C"	Not Used
Overlap "D"	Not Used

*See overlap programming detail on sheet 2

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2		S3	S4	S5	S6	S7	S8		S9	S10	S11	S12	AUX S1	AUX S2	AUX S3	AUX S4	AUX S5	AUX S6
CMU CHANNEL NO.	1	2		13	3	4	14	5	6		15	7	8	16	9	10	17	11	12	18
PHASE	1	2		2 PED	3	4	4 PED	5	6		6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11★	21	22	NU	NU	41,42	NU	NU	61	62	NU	NU	NU	NU	11★	NU	NU	NU	NU	NU
RED		128	128			101			134	134										
YELLOW	*	129	129						135	135										
GREEN			130						136											
RED ARROW															A121					
YELLOW ARROW						102									A122					
FLASHING YELLOW ARROW															A123					
GREEN ARROW	127	130				103				136										
(hand symbol)																				
(pedestrian symbol)																				

NU = Not Used

*Denotes install load resistor. See LOAD RESISTOR INSTALLATION DETAIL this sheet.

★See pictorial of head wiring in detail this sheet.

INPUT FILE POSITION LAYOUT

(front view)

FILE		1	2	3	4	5	6	7	8	9	10	11	12	13	14
"I"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	FS DC ISOLATOR
	L														ST DC ISOLATOR
"J"	U	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L														

EX. : 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE

ST = STOP TIME

INIT & N.A. RESP PROGRAMMING DETAIL

(program controller as shown below)

1. From Main Menu select `3-PHASE DATA`
2. From PHASE DATA Submenu select `4-INIT & N.A. RESP+`

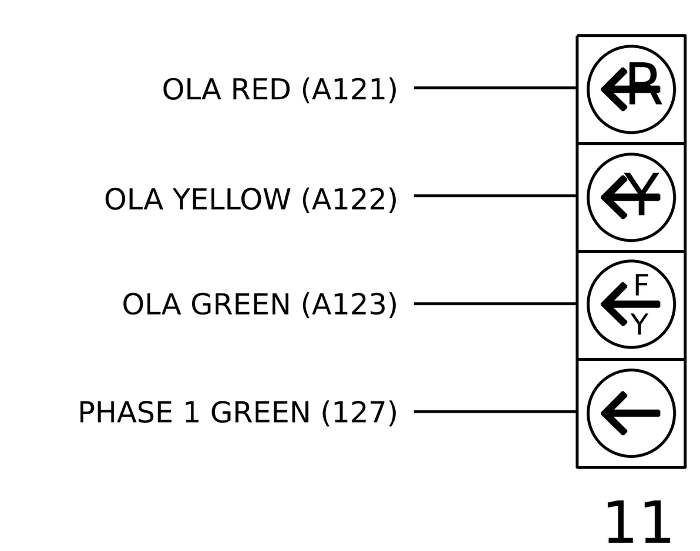
```
PHASE......1...2...3...4...5...6...7...8
 INITIAL   1   4   0   1   0   4   0   0
 NA RESP  0   1   0   2   0   1   0   0
 UPDT GRN  0   0   0   0   0   0   0   0
CODES.....0....1....2...3...4...5...6
 INIL    NONE INACT RED YEL GRN DRK G/DW
 NA RSP NONE  NA1  NA2 1&2 --- --- ---
                                     ***
```

← Notice phases 3,5,7 & 8 not used!

INIT & N.A. RESP PROGRAMMING COMPLETE

FYA SIGNAL WIRING DETAIL

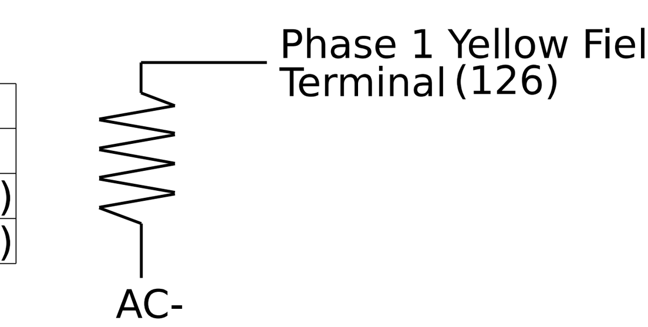
(wire signal head as shown)



LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown)

ACCEPTABLE VALUES	
Value (ohms)	Wattage
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



SPECIAL DETECTOR NOTE

Install a multi-zone microwave 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.

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

1. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
2. ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
3. REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 12-0309T2
DESIGNED: January 2026
SEALED: 04/13/2026
REVISED: N/A

Electrical Detail - (TMP Phase 3) - Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Electrical and Programming Details For:

I-40 EB Ramp at SR 1007 (Lenoir Rhyne Blvd. SE)

Division 12 — Catawba County — Hickory

PLAN DATE: April 2026 — REVIEWED BY:

PREPARED BY: Tim Langston — REVIEWED BY:

REVISIONS — INIT. — DATE

Prepared in the Offices of: Transportation Mobility and Safety Division, ITS & Signals Management Section

750 N. Greenfield Pkwy, Garner, NC 27529

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 031001 ENGINEER D. TODD JOYCE

DocuSigned by: D. Todd Joyce 04/14/2026 DATE

SIG. INVENTORY NO. 12-0309T2

14-APR-2026 09:33
pw://ncdot-pw.bentley.com:ncdot-pw-01/Documents/NCDOT Units/NCDOT TSMO/Signal Design Section/Division_12/12-0309/Signals Management/12030972_sm_ele_yyyymmdd.dgn
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