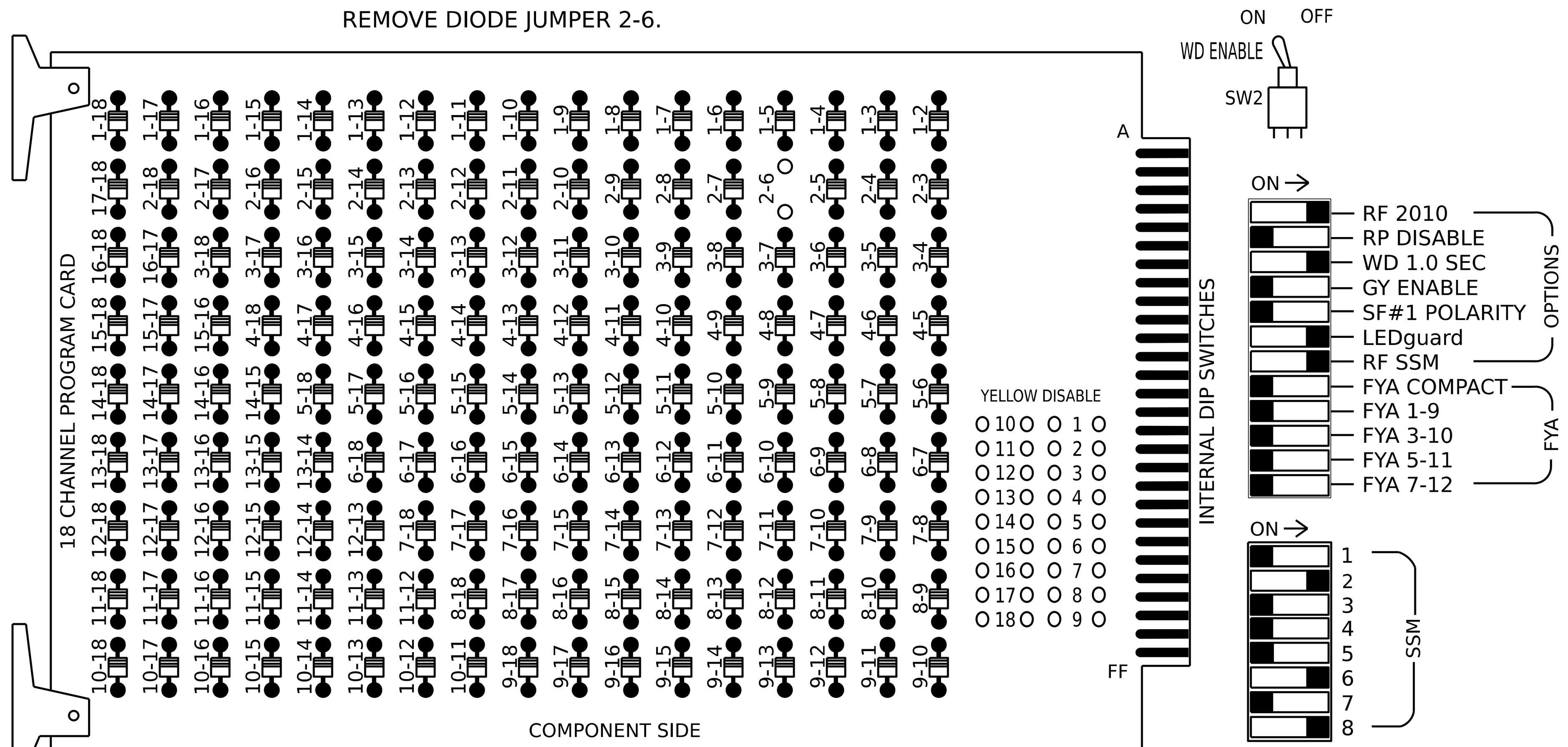
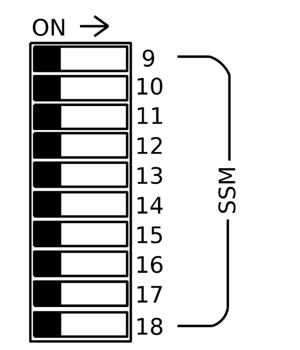
18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumper and set switches as shown)





REMOVE JUMPERS AS SHOWN

■ = DENOTES POSITION OF SWITCH

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.

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

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.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 12-0308T1
DESIGNED: December 2025
SEALED: 04/09/2026
REVISED: N/A

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.

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...................... S2, S8, S11,
Phases Used..................................2,△4, 6, 8
Overlaps..NONE

△Phase used for timing only

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	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	NU	21,22	NU	NU	NC	NU	NU	61	62	NU	NU	81,82	NU	NU	NU	NU	NU	NU	NU
RED		128						134	134										
YELLOW		129						135	135										
GREEN		130							136										
RED ARROW												107							
YELLOW ARROW												108							
FLASHING YELLOW ARROW																			
GREEN ARROW								136				109							
✋ (Don't Walk)																			
🚶 (Walk)																			

NU = Not Used
NC = Not Connected

ALL RED FLASH STARTUP PROGRAMMING DETAIL

(program controller as shown below)

1. From Main Menu select `4-UNIT DATA`
2. From UNIT DATA Submenu select `1-STARTUP & MISC`

```
STARTUP & MISC
STARTUP TIME.:  6 (SEC) STATE: 2 (O-FL
RED REV/10...: 40 (TSEC)         1-RED
AUTO PED CLR.:  0 (O-NO 1-YES)    2-RAF)
STOP T RESET.:  0 (O-NO 1-YES)
SEQUENCE.....:  1 (1-19)
SPECIAL SEQ  :  0 (SEE HELP)
```

STARTUP PROGRAMMING COMPLETE

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   0   4   0   1   0   4   0   1
 NA RESP   0   1   0   2   0   1   0   2
 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 1, 3, 5 & 7 not used!

INIT & N.A. RESP PROGRAMMING COMPLETE

REMOTE FLASH PROGRAMMING DETAIL

(program controller as shown below)

1. From Main Menu select `4-UNIT DATA`
2. From UNIT DATA Submenu select `2-FLASH`
3. From FLASH Submenu select `1-REMOTE FLASH SETTINGS`

```
REMOTE FLASH SETTINGS    TEST-A FLASH: 0

LDSW:123456789 0123456789 0123456789 012
FLSH:010000010 0100000000 0000000000 000
 ALT:010000000 0000000000 0000000000 000

0-DARK  1-RED  2-YELLOW  3-STEADY YELLOW
```

PRESS 'F' TO RETURN TO FLASH

4. From REMOTE FLASH Submenu select `2-REMOTE FLASH ENTRY/EXIT PHASES`

```
REMOTE FLASH  ENTRY/EXIT PHASES

     PHASES:  12345678  90123456
      ENTRY:  01000100  00000000
       EXIT:  01000100  00000000
```

REMOTE FLASH PROGRAMMING COMPLETE

Electrical Detail - (TMP Phase 5A) - Sheet 1 of 1

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Electrical and Programming Details For:

I-40 EB Ramp at SR 1007 (Lenoir Rhyne Blvd) & SR 1534 (8th St SE)(West Intersection)

Division 12 | Catawba County | Hickory

Prepared in the Offices of:
Transportation Mobility and Safety Division
ITS & Signals Management Section
State of North Carolina Department of Transportation
750 N. Greenfield Pkwy, Garner, NC 27529

PLAN DATE: April 2026	REVIEWED BY:
PREPARED BY: Tim Langston	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031001 D. TODD JOYCE

DocuSigned by: D. Todd Joyce 04/10/2026
A90CADEDBD4241D...
DATE

SIG. INVENTORY NO. 12-0308T1

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tslangston