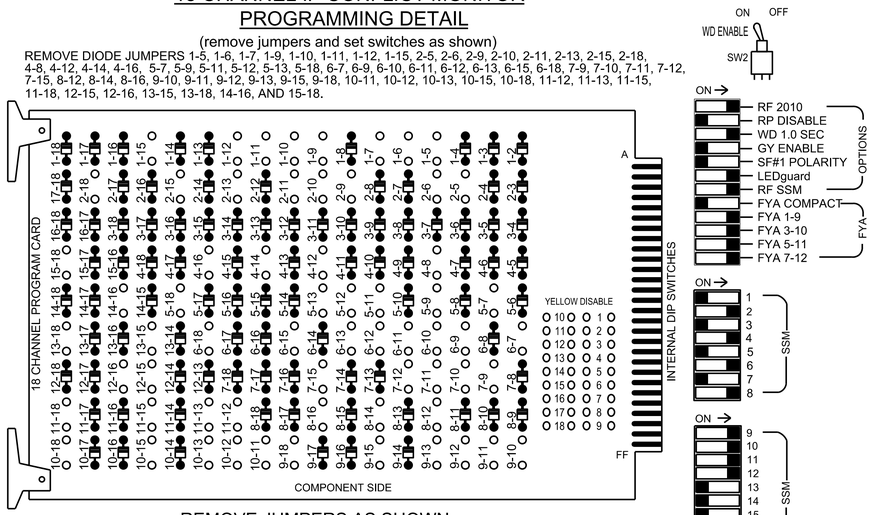
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18 CHANNEL IP CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-5, 1-6, 1-7, 1-9, 1-10, 1-11, 1-12, 1-15, 2-5, 2-6, 2-9, 2-10, 2-11, 2-13, 2-15, 2-18, 4-8, 4-12, 4-14, 4-16, 5-7, 5-9, 5-11, 5-12, 5-13, 5-18, 6-7, 6-9, 6-10, 6-11, 6-12, 6-13, 6-15, 6-18, 7-9, 7-10, 7-11, 7-12, 7-15, 8-12, 8-14, 8-16, 9-10, 9-11, 9-12, 9-13, 9-15, 9-18, 10-11, 10-12, 10-13, 10-15, 10-18, 11-12, 11-13, 11-15, 11-18, 12-15, 12-16, 13-15, 13-18, 14-16, AND 15-18.



■ = DENOTES POSITION OF SWITCH

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.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø1 1A	Ø1 1B	Ø2 2A	SLOT EMPTY	SLOT EMPTY	Ø4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø2 PED DC ISOLATOR	Ø6 PED DC ISOLATOR	FS DC ISOLATOR
	L	NOT USED	Ø1 1C	Ø2 2B			Ø4 4B						Ø4 PED DC ISOLATOR	Ø8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	Ø5 5A	Ø6 6A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø8 8A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED	Ø6 6B				Ø8 8B								

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

FS = FLASH SENSE
ST = STOP TIME

NOTE: Remove jumpers from I1-W to J4-W and J1-W to I4-W if present.

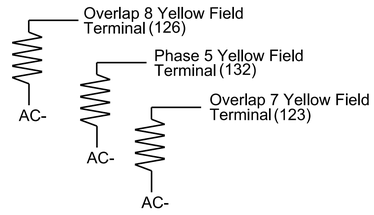
COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown)

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



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 plan.
2. Program phases 4 and 8 for Dual Entry.
3. Program controller to start up in phase 2 Green Walk and 6 Green Walk.
4. If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.
5. The cabinet and controller are part of the West Catawba Avenue CLS, D10-18 Cornelius.

EQUIPMENT INFORMATION

Controller.....2070LX
Cabinet.....332 w/ Aux
Software.....Q-Free MAXTIME
Cabinet Mount.....Base
Output File Positions.....18 With Aux. Output File
Load Switches Used.....S1, S2, S3, S5, S6, S7, S8, S9, S10, S11, S12, AUX S1, AUX S2, AUX S4, AUX S5, AUX S6
Phases Used.....1, 2, 2PED, 4, 4PED, 5, 6, 6PED, 7, 8, 8PED, **9
Overlap "1".....*
Overlap "2".....*
Overlap "3".....*
Overlap "4".....*
Overlap "5".....NOT USED
Overlap "6".....*
Overlap "7".....*
Overlap "8".....*
Overlap "9".....*

*See overlap programming detail on sheet 2

**Phase used only during Coordination run.

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT POINT	DETECTOR NO.	CALL PHASE	DELAY TIME	EXTEND TIME	EXTEND	ADDED INITIAL	CALL	DELAY DURING GREEN
1A	TB2-1,2	I1U	56	18	1	1	15.0	---	X	_	X	_
				-	29	6	---	---	X	_	X	X
1B	TB2-5,6	I2U	39	1	2	2	15.0	---	X	_	X	_
1C	TB2-7,8	I2L	43	5	3	2	15.0	---	X	_	X	_
2A	TB2-9,10	I3U	63	29	4	2	---	3.0	X	_	X	_
2B	TB2-11,12	I3L	76	42	5	2	---	3.0	X	_	X	_
4A	TB4-9,10	I6U	41	3	8	4	---	---	X	_	X	_
4B	TB4-11,12	I6L	45	7	9	4	10.0	---	X	_	X	_
5A	TB3-1,2	J1U	55	17	15	5	15.0	---	X	_	X	_
				-	31	2	3.0	---	X	_	X	X
6A	TB3-5,6	J2U	40	2	16	6	---	3.0	X	_	X	_
6B	TB3-7,8	J2L	44	6	17	6	---	3.0	X	_	X	_
8A	TB5-9,10	J6U	42	4	22	8	3.0	---	X	_	X	_
8B	TB5-11,12	J6L	46	8	23	8	15.0	---	X	_	X	_
PED PUSH BUTTONS												
P21;P22	TB8-4,6	I12U	67	33	2	PED 2						
P41;P42	TB8-5,6	I12L	69	35	4	PED 4						
P61;P62	TB8-7,9	I13U	68	34	6	PED 6						
P81;P82	TB8-8,9	I13L	70	36	8	PED 8						

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

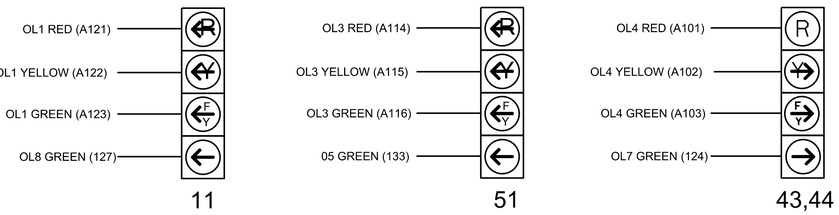
SIGNAL HEAD HOOK-UP CHART

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	OL8	2	2 PED	3	4		4 PED	5	OL9	6 PED	OL7	8		8 PED	OL1	OL2	SPARE	OL3	OL4	OL6
SIGNAL HEAD NO.	11★	21,22	P21, P22	NU	41	42	P41, P42	51★	61,62	P61, P62	43,44★	81	82	P81, P82	11★	63★	NU	51★	43,44★	23★
RED		128			101	101			134			107	107			A124			A101	A104
YELLOW	*	129			102	102		*	135		*	108	108							
GREEN		130				103			136				109							
RED ARROW															A121			A114		
YELLOW ARROW															A122	A125		A115	A102	A105
FLASHING YELLOW ARROW															A123	A126		A116	A103	A106
GREEN ARROW	127				103			133			124	109								
✋			113				104			119				110						
🚶			115				106			121				112						

NU = Not Used
* Denotes install load resistor. See load resistor installation detail this sheet.
★See pictorial of head wiring in detail this sheet.

FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



1. The sequence display for this signal requires special logic programming. See sheet 2 for programming instructions.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 10-0939
DESIGNED: July 2025
SEALED: 7/30/2025
REVISED: N/A

Electrical Detail - Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
U-5906	Sig. 4.1

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared for the Offices of:
Traffic Engineering Branch
Traffic Signal Management Section
750 N.Greenfield Pkwy.Garner,NC 27529

SR 5544 (West Catawba Avenue) at SR 2195 (Torrence Chapel Road)/ Liverpool Parkway

Division 10 Mecklenburg County Cornelius

PLAN DATE:	July 2025	REVIEWED BY:	O. Drobny
PREPARED BY:	S.G. Haynie	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029531 ENGINEER STEVEN G. HAYNIE

DocuSigned by: Steve Haynie 7/30/2025
SIGNATURE DATE

SIG. INVENTORY NO. 10-0939

RS&H
NC FIRM LICENSE No: F-0493
1520 SOUTH BOULEVARD, SUITE 200
CHARLOTTE, NC 28203
(704) 752-0610

7/30/2025
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