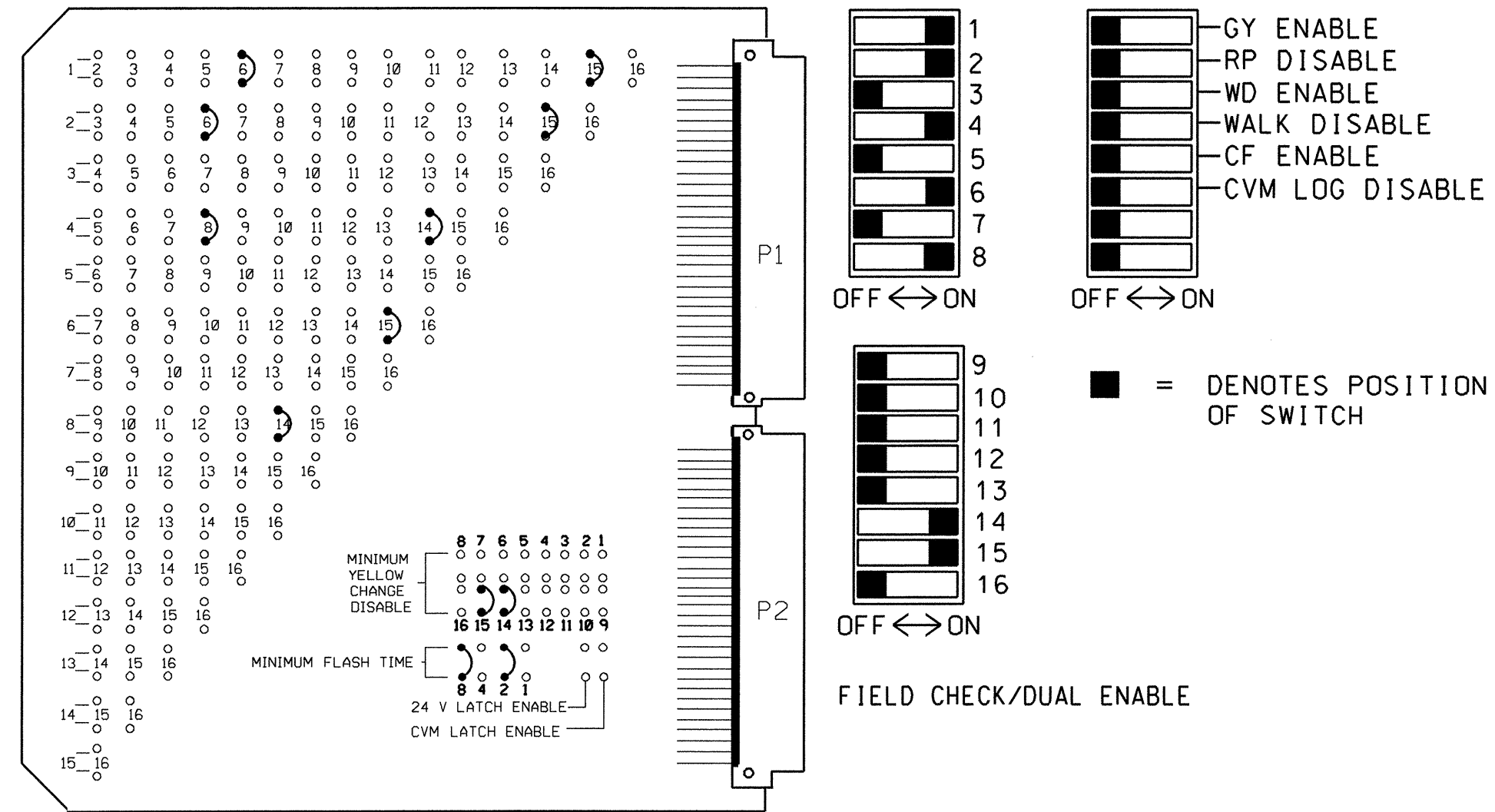


**EDI MODEL MMU-16E  
MALFUNCTION MANAGEMENT UNIT  
PROGRAMMING DETAIL**

(program card and set switches as shown below)



MMU PROGRAMMING CARD

**DETECTOR RACK SET-UP DETAIL**

INSERT DETECTOR CARDS IN RACK ACCORDING TO THE DETAIL SHOWN BELOW. PARTICULAR DETECTOR CHANNELS WILL CALL PHASES INDICATED.

|     |          |          |          |          |           |           |                       |                       |                      |
|-----|----------|----------|----------|----------|-----------|-----------|-----------------------|-----------------------|----------------------|
| BIU | CH1      | CH1      | CH1      | CH1      | CH1       | CH1       | S<br>L<br>O<br>T      | S<br>L<br>O<br>T      | POWER SUPPLY<br>AREA |
|     | L3<br>Ø1 | L1<br>Ø1 | L7<br>Ø4 | L5<br>Ø2 | L11<br>Ø8 | L9<br>Ø6  |                       |                       |                      |
|     | CH2      | CH2      | CH2      | CH2      | CH2       | CH2       | E<br>M<br>P<br>T<br>Y | E<br>M<br>P<br>T<br>Y |                      |
|     | L4<br>Ø2 | L2<br>Ø6 | L8<br>Ø4 | L6<br>Ø2 | L12<br>Ø8 | L10<br>Ø6 |                       |                       |                      |

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

|  |          |                      |
|--|----------|----------------------|
| ADD JUMPERS FROM:<br>L1A TO L2A, AND<br>L1B TO L2B | LOOP NO. | LOOP PANEL TERMINALS |
|  | 1A       | L1A, L1B             |
|  | 1A       | L2A, L2B             |
|  | 1B       | L3A, L3B             |
|  | 2A,2B    | L4A, L4B             |
|  | 2C,2D    | L5A, L5B             |
|  | 2E       | L6A, L6B             |
|  | 4A       | L7A, L7B             |
|  | 4B       | L8A, L8B             |
|  | 6A,6B    | L9A, L9B             |
|  | 6C,6D    | L10A, L10B           |
|  | 8A       | L11A, L11B           |
|  | 8B       | L12A, L12B           |
|  | —        | L13A, L13B           |
|  | —        | L14A, L14B           |
|  | —        | L15A, L15B           |
|  | —        | L16A, L16B           |

**NOTE**  
BE SURE TO PROGRAM DETECTOR TYPES AND TIMERS (EXTEND AND DELAY) AS SHOWN ON THE SIGNAL PLANS.

ASSIGN CONTROLLER SYSTEM DETECTORS TO LOCAL CONT. DET. NUMBERS AS SHOWN IN CHART BELOW

| CONTROLLER SYS. DET. NO. | LOCAL CONT. DETECTOR NO. |
|--------------------------|--------------------------|
| 1                        |                          |
| 2                        |                          |
| 3                        |                          |
| 4                        |                          |
| 5                        |                          |
| 6                        |                          |
| 7                        |                          |
| 8                        |                          |

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

| CONTROLLER DETECTOR NO. | FUNCTION | TIMING  |            |
|-------------------------|----------|---------|------------|
|                         |          | FEATURE | TIME (SEC) |
| 1                       | Ø 1      | DELAY   | 15         |
| 2*                      | Ø 6      | DELAY   | 3          |
| 3                       | Ø 1      | DELAY   | 10         |
| 4                       | Ø 2      | EXTEND  | 1.8        |
| 5                       | Ø 2      | —       | —          |
| 6*                      | Ø 2      | DELAY   | 3          |
| 7                       | Ø 4      | DELAY   | 3          |
| 8                       | Ø 4      | DELAY   | 10         |
| 9                       | Ø 6      | EXTEND  | 1.8        |
| 10                      | Ø 6      | —       | —          |
| 11                      | Ø 8      | DELAY   | 3          |
| 12                      | Ø 8      | —       | —          |
| 13                      | —        | —       | —          |
| 14                      | —        | —       | —          |
| 15                      | —        | —       | —          |
| 16                      | —        | —       | —          |

\* THIS DETECTOR IS EQUIPPED WITH DELAY AND EXTEND TIMER. TIMING REQUIRED FOR THIS DETECTOR CHANNEL SHALL BE PROGRAMMED ON THE DETECTOR UNIT, NOT THE CONTROLLER.

**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 3,5,7,9,10,11,12,13 & 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 PHASES 2 AND 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, ON CONTROLLER UNIT, 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 4 AND 8, ON CONTROLLER UNIT, FOR DUAL ENTRY.
- PROGRAM AND WIRE THIS CONTROLLER AND CABINET TO BE PART OF THE HIGH POINT CITY SIGNAL SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INTERCONNECTION AND OPERATION OF THIS SIGNAL WITHIN THE SYSTEM.

**EQUIPMENT INFORMATION**

CONTROLLER.....PEEK TRAFFIC 3000  
 CABINET .....PEEK TRAFFIC NC-6 [TS2-1]  
 CABINET MOUNT.....BASE  
 LOADBAY POSITIONS.....16  
 LOAD SWITCHES USED.....1, 2, 4, 6, 8, 14, 15  
 PHASES USED.....1, 2, 4, 6, 8, 4PED, 6PED  
 OL/A.....NOT USED  
 OL/B.....NOT USED  
 OL/C.....NOT USED  
 OL/D.....NOT USED

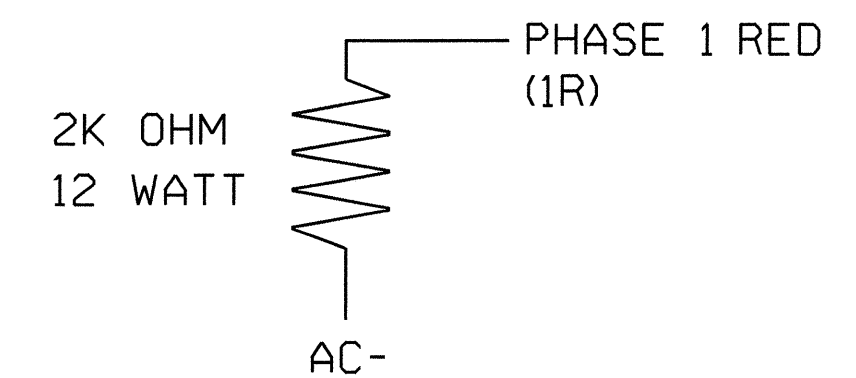
**FIELD CONNECTION HOOK-UP CHART**

| PHASE           | 1     | 2     | 3  | 4     | 5  | 6           | 7  | 8     | OLA | OLB | OLC | OLD | 2 PED | 4 PED       | 6 PED       | 8 PED |
|-----------------|-------|-------|----|-------|----|-------------|----|-------|-----|-----|-----|-----|-------|-------------|-------------|-------|
| SIGNAL HEAD NO. | 61,82 | 21,22 | NU | 41,42 | NU | 61,62<br>63 | NU | 81,82 | NU  | NU  | NU  | NU  | NU    | P41,<br>P42 | P61,<br>P62 | NU    |
| GREEN           |       | 2G    |    | 4G    |    | 6G          |    | 8G    |     |     |     |     |       |             |             |       |
| YELLOW          |       | 2Y    |    | 4Y    |    | 6Y          |    | 8Y    |     |     |     |     |       |             |             |       |
| RED             | *     | 2R    |    | 4R    |    | 6R          |    | 8R    |     |     |     |     |       |             |             |       |
| RED ARROW       |       |       |    |       |    |             |    |       |     |     |     |     |       |             |             |       |
| YELLOW ARROW    | 1Y    |       |    |       |    |             |    |       |     |     |     |     |       |             |             |       |
| GREEN ARROW     | 1G    |       |    |       |    |             |    |       |     |     |     |     |       |             |             |       |
| ⤴               |       |       |    |       |    |             |    |       |     |     |     |     |       | 14G         | 15G         |       |
| ⤵               |       |       |    |       |    |             |    |       |     |     |     |     |       | 14R         | 15R         |       |

NU = NOT USED

\* A LOAD RESISTOR SHALL BE INSTALLED ON LOAD SWITCH I RED FIELD TERMINAL. REFER TO LOAD RESISTOR INSTALLATION DETAIL THIS SHEET.

**LOAD RESISTOR INSTALLATION DETAIL**



NOTE: THE PURPOSE OF THIS RESISTOR IS TO LOAD THE CHANNEL RED MONITOR INPUT IN ORDER FOR THE MALFUNCTION MANAGEMENT UNIT TO USE THE FULL SIGNAL SEQUENCE MONITORING CAPABILITY ON PHASES THAT DO NOT USE THE RED DISPLAY IN THE FIELD.

HIGH POINT CITY SIGNAL SYSTEM  
INTERSECTION I.D. 710

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 07-2052  
 DESIGNED: 03/19/2004  
 SEALED: 06/15/2004  
 REVISED:

**PLANS PREPARED BY :**  
**RUMMEL KLEPPER & KAHL, LLP**  
*consulting engineers*  
 5800 FARINGDON PLACE SUITE 105  
 RALEIGH, NORTH CAROLINA 27609-3960  
 FOR  
**DIVISION OF HIGHWAYS**

ELECTRICAL AND PROGRAMMING DETAILS FOR:  
 Traffic Engineering and Safety Systems Branch  
 DEPARTMENT OF TRANSPORTATION  
 Signal Management Section  
 122 N. McDowell St., Raleigh, NC 27603

SR 1113 (KIVETT DRIVE)  
 AT  
 TRIANGLE LAKE ROAD / DILLON ROAD  
 DIVISION 07 GUILFORD COUNTY HIGH POINT  
 PLAN DATE: MAY 2004 REVIEWED BY: J O DEATON  
 PREPARED BY: M W YALCH REVIEWED BY:  
 REVISIONS INIT. DATE

SEAL  
 NORTH CAROLINA PROFESSIONAL SEAL 07438  
 ENGINEER JAMES O. DEATON  
 SIGNATURE DATE  
 SIG. INVENTORY NO. 07-2052