PROJECT REFERENCE NO.	SHEET NO.
U-4902D	Sig. 3.2

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL FOR INDICATOR LAMP CONTROL

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1,2,3,4, AND 5.
2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
LOGICAL I/O COMMAND #1   (+/-COMMAND#)
IF  INPUT   ASSIGNMENT #14  IS ON
OR  ACTIVE PREEPTION    #2  IS ON

             SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #33 ON
```

NOTE: FIRE HOUSE PILOT LAMP LOGIC.

PRESS '+'

```
LOGICAL I/O COMMAND #2   (+/-COMMAND#)
IF  INPUT   ASSIGNMENT #14  IS OFF
AND ACTIVE PREEMPTION   #2  IS OFF

             SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #33 OFF
```

NOTE: FIRE HOUSE PILOT LAMP LOGIC.

```
LOGICAL I/O COMMAND #3   (+/-COMMAND#)
IF  ACTIVE PHASE        #4  IS ON
AND OUTPUT ASSIGNMENT   #34 IS ON

             SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #11 OFF
```

NOTE: LOGIC TO WIG-WAG THE RED INDICATIONS ON HEADS 21,22, 23 & 24 DURING PHASE 4.

```
LOGICAL I/O COMMAND #4   (+/-COMMAND#)
IF  ACTIVE PHASE        #4  IS ON
AND OUTPUT ASSIGNMENT   #34 IS OFF

             SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #14 OFF
```

NOTE: LOGIC TO WIG-WAG THE RED INDICATIONS ON HEADS 21,22, 23 & 24 DURING PHASE 4.

PRESS '+'

```
LOGICAL I/O COMMAND #5   (+/-COMMAND#)
IF  GREEN ON OVERLAP    #1  IS ON
OR  GRN EXT ON OVERLAP  #1  IS ON
OR  YELLOW ON OVERLAP   #1  IS ON

             SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #34 OFF
SET OUTPUT  ASSIGNMENT #35 OFF
```

NOTE: LOGIC TO ENSURE THAT RED INDICATIONS OF HEADS 21,22,23,24 REMAIN DARK UNTIL YELLOW CLEARANCE INTERVALS ARE FINISHED TIMING.

END OF PROGRAMMING

OUTPUT REFERENCE SCHEDULE

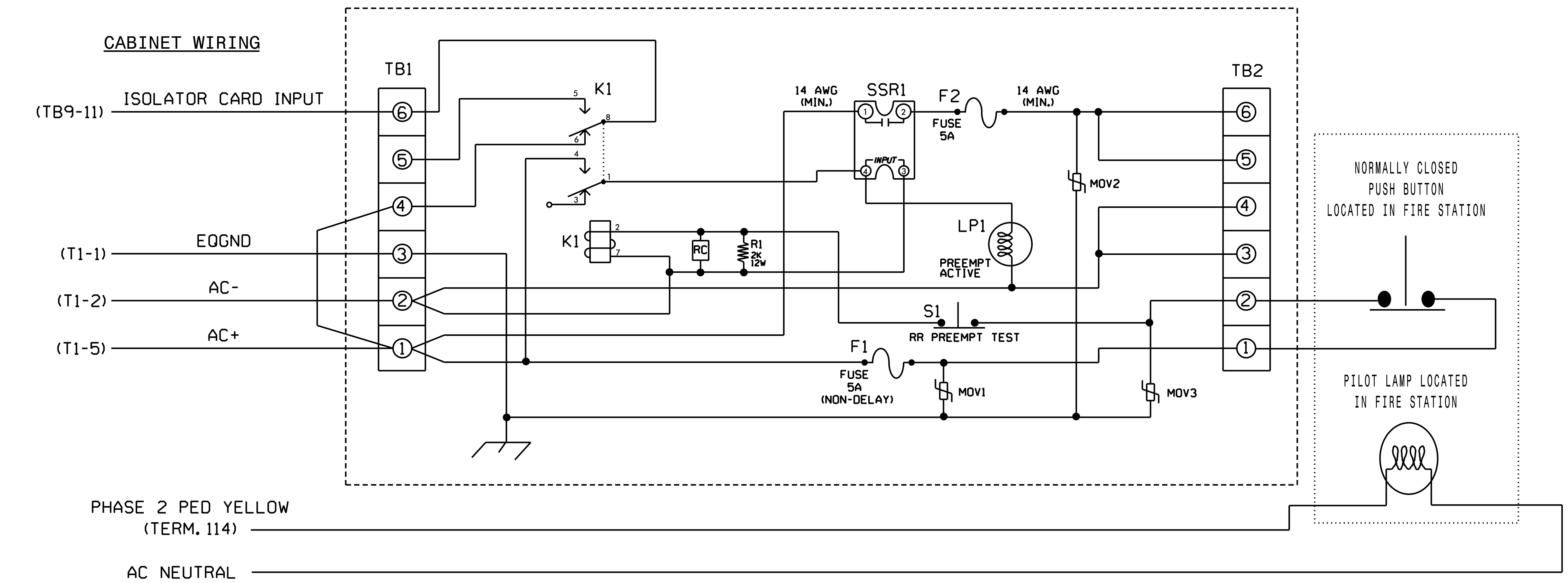
USE TO INTERPRET LOGIC PROCESSOR

- INPUT 14 = Preempt 2
- OUTPUT 33 = Phase 2 PED Yellow
- OUTPUT 11 = OLA Red
- OUTPUT 14 = OLA Red (Duplicate)
- OUTPUT 34 = Out of Phase Flasher
- OUTPUT 35 = Advance Beacon 1

NOTE: Outputs 11, 14, 34, & 35 have been remapped. See detail on Sheet 3.

EV Preemption Control Box Wiring Detail

(wire as shown below)



NOTES

1. Relay K1 is shown in the energized (Preempt not active) normal operation state.
2. Relay 'K1' is an enclosed DPDT general purpose relay with a 120VAC coil, 10A contacts, and octal-style plug.
3. Relay SSR1 is a SPST (normally open) Solid State Relay with AC input and AC (25 amp) output.
4. AC Isolator Card shall activate preemption upon removal of AC+ from the input (as shown above). To accomplish this, set invert dip switch on AC Isolator Card.
5. IMPORTANT!! Terminal TB9-12 (on input panel) shall be connected to AC neutral (jumper may have to be added).

EMERGENCY VEHICLE PREEMPTION PROGRAMMING DETAIL

(program controller as shown below)

From Main Menu press 'A' (Preemption), then '1' (Standard Preemptions). Press 'NEXT' to advance to Preemption #2.

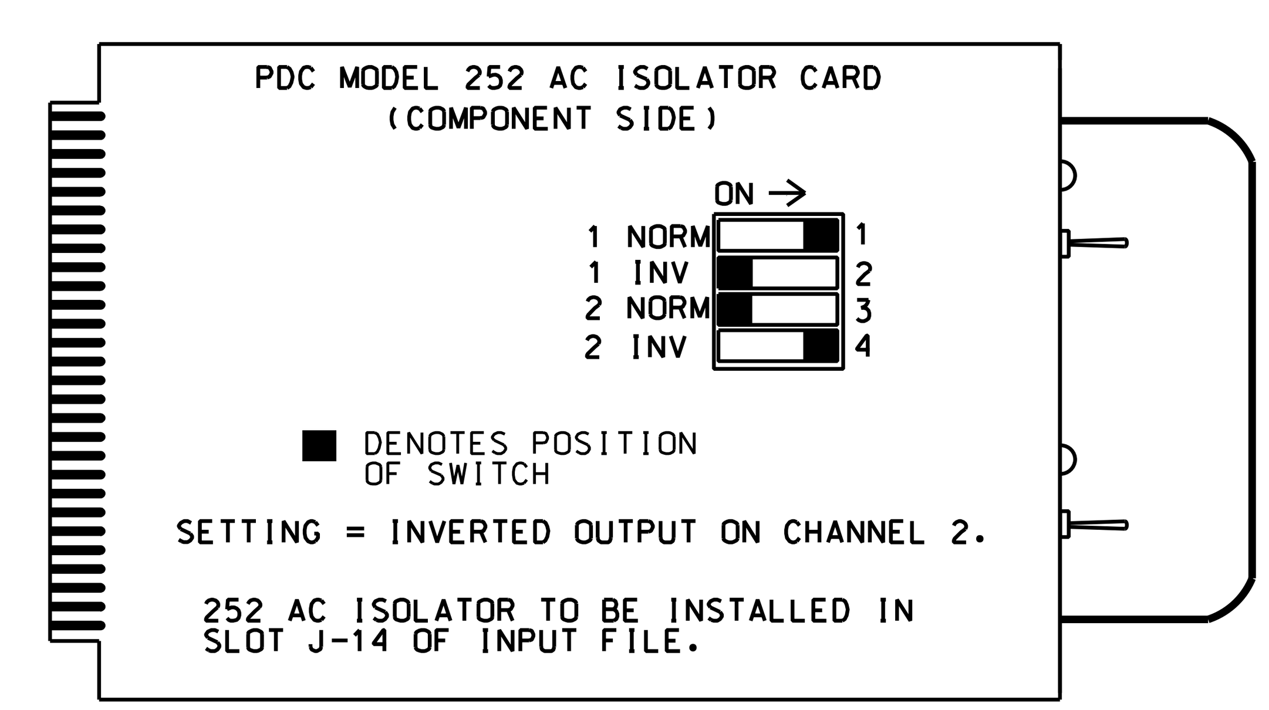
```
  PREEMPTION  #2  SETTINGS (NEXT:1-10)
INTERVAL/TIMING |  CLEAR/DWELL PHASES
  GRN YEL  RED  |12345678910111213141516
1 255  0.0  0.0 |   X
2   0  0.0  0.0 |
3   0  0.0  0.0 |
4   0  0.0  0.0 |
5   1  0.0  0.0 | X
EXIT CALLS      |
            OPTIONS
PRIORITY (Y/N TO SELECT) ............MED
DELAY TIMER (0-255 SEC) .............*
MIN GREEN BEFORE PRE (O= DEFAULT)....1
PED CLEAR BEFORE PRE (O= DEFAULT)....0
YELLOW CLEAR BEFORE PRE (O= DEFAULT).0.0
RED CLEAR BEFORE PRE (O= DEFAULT)....0.0
DWELL MIN TIMER (0-255 SEC) .........*
DWELL MAX TIMER (0=OFF,1-255MIN) ....0
DWELL HOLD-OVER TIMER (0-255) .......0
LATCH CALL? .........................Y
LINK TO NEXT PREEMPT? ...............N
ENABLE BACKUP PROTECTION? ...........N
HOLD CLEAR 1 PHASES DURING DELAY? ...N
FAST GREEN FLASH DWELL PHASES? ......N
PED CLEARANCE THROUGH YELLOW? .......N
INHIBIT OVERLAP GREEN EXTENSION? ....N
SERVICE DURING SOFTWARE FLASH? ......N
REST IN RED DURING DWELL INTERVAL? ..N
FLASH DWELL INTERVAL? ...............N
ALLOW PEDS IN DWELL INTERVAL? .......N
RE-TIME DWELL INTERVAL? .............N
OVERLAPS:                 | ABCDEFGHIJKLMNOP
DWELL INT FLASH YELLOW    |
OMIT OVERLAPS:            |
```

PROGRAMMING COMPLETE

* Denotes timing to be determined in field.

PREEMPT 2 AC ISOLATOR (MODEL 252) OUTPUT PROGRAMMING DETAIL

*(set **DIP** switches as shown below)*



■ DENOTES POSITION OF SWITCH

SETTING = INVERTED OUTPUT ON CHANNEL 2.

252 AC ISOLATOR TO BE INSTALLED IN SLOT J-14 OF INPUT FILE.

NOTE: IF ANOTHER MANUFACTURER TYPE OF AC ISOLATOR IS USED, OUTPUT PROGRAMMING IS LIKELY NOT TO EQUATE TO THAT SHOWN ABOVE.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 03-0635
DESIGNED: February 2018
SEALED: 8-1-18
REVISED: N/A

Electrical Detail - Sheet 2 of 3
Signal Upgrade - Final Design

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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ELECTRICAL AND PROGRAMMING DETAILS FOR:

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

US 17 (Market Street) at Ogden Volunteer Fire Dept.

Division 03 New Hanover Co. Wilmington

PLAN DATE: February 2018	REVIEWED BY: A.D. Klinksiek
PREPARED BY: A.H. Thornburg	REVIEWED BY: N.R. Simmons

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 031464 ENGINEER NATASHA R. SIMMONS

DocuSigned by: Natasha R. Simmons 8/1/2018
SIGNATURE DATE

SIG. INVENTORY NO. 03-0635