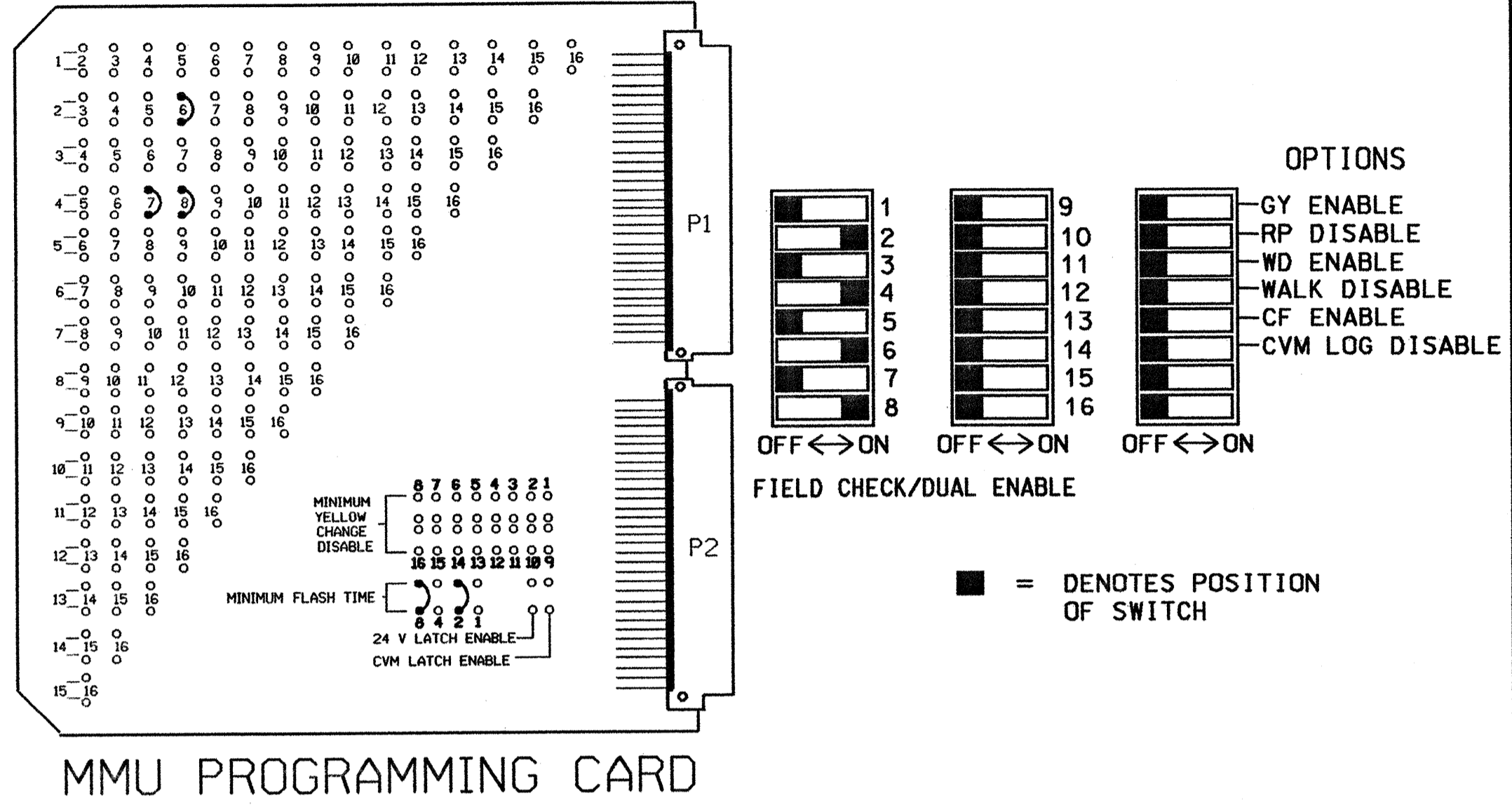


**EDI MODEL MMU-16E
MALFUNCTION MANAGEMENT UNIT
PROGRAMMING DETAIL**

(program card and set switches as shown below)



NOTES

1. TO PREVENT "FLASH-CONFLICT" PROBLEMS, WIRE ALL UNUSED LOAD SWITCHES TO FLASH RED. VERIFY THAT SIGNAL HEADS FLASH IN ACCORDANCE WITH THE SIGNAL PLANS.
2. TO PREVENT RED FAILURES ON UNUSED MONITOR CHANNELS, TIE UNUSED LOAD SWITCH RED OUTPUTS: 1, 3, 5, 9, 10, 11, & 12 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.
3. PROGRAM THE CONTROLLER TO START UP IN PHASES 2 AND 6 GREEN.
4. SET POWER-UP FLASH TIME TO 10 SECONDS AND IMPLEMENT ON THE MALFUNCTION MANAGEMENT UNIT. SET CONTROLLER POWER-UP FLASH TIME TO 0 SECONDS.
5. ENABLE SIMULTANEOUS GAP-OUT FEATURE, ON CONTROLLER UNIT, FOR ALL PHASES.
6. PROGRAM PHASES 4 AND 8, ON CONTROLLER UNIT, FOR DUAL ENTRY.
7. SET ALL DETECTOR CARD UNITS TO 'PRESENCE' MODE.
8. PROGRAM DETECTOR CALL DELAY AND EXTENSION TIMING ON THE CONTROLLER UNLESS OTHERWISE SPECIFIED.
9. THIS CONTROLLER AND CABINET HAS BEEN PROGRAMMED AND WIRED AS PART OF AN EXISTING CLOSED LOOP SYSTEM ON US 70. THIS CONTRACTOR IS RESPONSIBLE FOR THE PROPER INTERCONNECTING AND OPERATION OF THIS SIGNAL WITHIN THE SYSTEM.

FIELD CONNECTION HOOK-UP CHART

PHASE	1	2	3	4	5	6	7	8	2 PED	4 PED	6 PED	8 PED
SIGNAL HEAD NO.	NU	2I,22	NU	4I,42	NU	6I,62	4I	8I,82	NU	NU	NU	NU
GREEN		2G		4G		6G		8G				
YELLOW		2Y		4Y		6Y	*	8Y				
RED		2R		4R		6R		8R				
RED ARROW												
YELLOW ARROW												
GREEN ARROW								7G				

NU = NOT USED

* INSTALL LOAD RESISTOR ON LOAD SWITCH 7 YELLOW FIELD TERMINAL. REFER TO LOAD RESISTOR INSTALLATION DETAIL THIS SHEET.

LOAD SWITCH ASSIGNMENT DETAIL
(program controller according to schedule in chart below)

LOAD SWITCH NUMBER	FUNCTION
1	Ø 1
2	Ø 2
3	Ø 3
4	Ø 4
5	Ø 5
6	Ø 6
7	Ø 7
8	Ø 8
9	Ø 2 PED
10	Ø 4 PED
11	Ø 6 PED
12	Ø 8 PED

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 L O T	CH1	S L O T	S L O T	S L O T
	L3	L1	L7	L5	L11	L9		L13			
	Ø2	Ø2	Ø6	Ø4	Ø8	Ø6		FUTURE USE			
	*					*					
	CH2	CH2	CH2	CH2	CH2	CH2	E M P T Y	CH2	E M P T Y	E M P T Y	E M P T Y
	L4	L2	L8	L6	L12	L10		L14			
	FUTURE USE	Ø2	Ø6	Ø4	Ø8	NOT USED		FUTURE USE			

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

LOOP NO.	LOOP PANEL TERMINALS
2A,2B	L1A, L1B
2C	L2A, L2B
2D	L3A, L3B
—	L4A, L4B
4A	L5A, L5B
4B	L6A, L6B
6A,6B	L7A, L7B
6C,6D	L8A, L8B
6E	L9A, L9B
—	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.

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

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

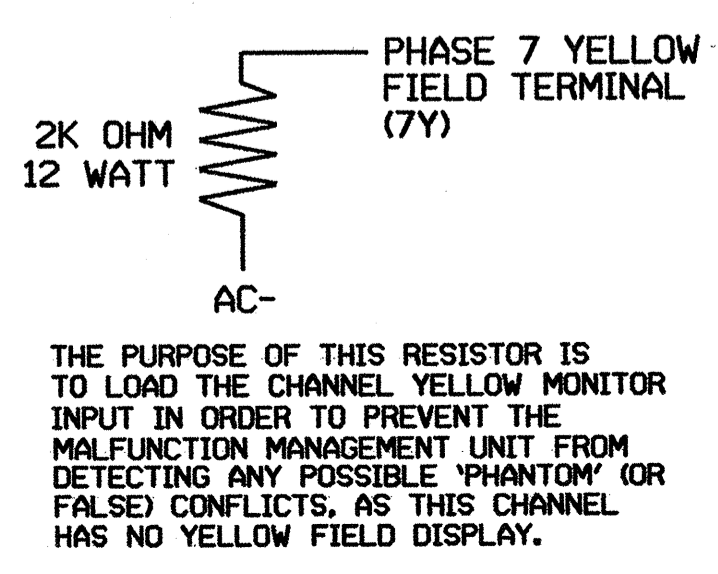
* THIS DETECTOR IS EQUIPPED WITH DELAY AND EXTEND TIMER. PROGRAM THE TIMING REQUIRED FOR THIS DETECTOR CHANNEL ON THE DETECTOR UNIT, NOT THE CONTROLLER.

EQUIPMENT INFORMATION

CONTROLLER.....ECONOLITE ASC/2S-2100**
 CABINET.....ECONOLITE M/PNL [TS2-1] TYPE NC-4**
 CABINET MOUNT.....BASE
 LOADBAY POSITIONS.....12
 LOAD SWITCHES USED.....2, 4, 6, 7, 8
 PHASES USED.....2, 4, 6, 7*, 8
 OL/A.....NOT USED
 OL/B.....NOT USED
 OL/C.....NOT USED
 OL/D.....NOT USED
 MASTER CONTROLLER.....ECONOLITE ASC/2M-1000** (MOUNTED IN THIS CABINET)

* USED IN R. R. CLEAR ONLY
 ** EXISTING TO REMAIN IN USE

LOAD RESISTOR INSTALLATION DETAIL



THIS ELECTRICAL DETAIL IS FOR THE TEMPORARY SIGNAL DESIGN: 12-1137T
 DESIGNED: AUGUST 2002*
 SEALED: 1-27-03*
 REVISED: N/A

* BY ARCADIS G & M OF NORTH CAROLINA, INC. 801 CORPORATE CENTER DRIVE, SUITE 300 RALEIGH, NC 27607-5073 TEL: 919/854-1282 FAX: 919/854-5448

TS-2 TYPE 1 CABINET

SEE SHEET 2 FOR RAILROAD PREEMPTION WIRING AND CONTROLLER PROGRAMMING

TEMPORARY DESIGN

ELECTRICAL DETAIL - SHEET 1 of 2

ELECTRICAL AND PROGRAMMING DETAILS FOR: Prepared in the Office of: 122 N. McDowell St., Raleigh, NC 27603	US 70 at SR 2318 (SHILOH CHURCH/FANJOY ROAD)		SEAL GEORGE C. BROWN ENGINEER
	DIVISION 12 IREDELL COUNTY E. of STATESVILLE PLAN DATE: JANUARY 2003 REVIEWED BY: T. Joffe PREPARED BY: F.E. RUSS REVIEWED BY:		
REVISIONS: _____ INIT. DATE _____			SIGNATURE: DATE: _____
SIG. INVENTORY NO. 12-1137T			