

CONTROLLER INTERFACE PANEL

P1		P2		P3	
SH SHELL GROUND	GB3	SH SHELL GROUND	GB3	SH SHELL GROUND	GB3
A RESV.	6B	A 01 PHASE NEXT	21B	A STATUS BIT A 2	18B
B 24V DC+	59A	B SPARE 1	29A	B STATUS BIT B 2	18B
C VOLTAGE MONITOR	54A	C 02 PHASE NEXT	29A	C 08 DWK	19B
D 01 RED	64A	D 03 GRN	22B	D 08 RED	126A
E 01 DWK	66A	E 03 YEL	76A	E 07 YEL	124A
F 02 RED	71A	F 03 RED	77A	F 07 RED	117A
G 02 DWK	73A	G 04 RED	78A	G 06 RED	118A
H 02 PCL	142A	H 04 PCL	84A	H 06 RED	111A
J 02 WK	142A	J 04 PCL	144A	J 05 RED	104A
K 02 VEH DET	72A	K 04 CHECK	86A	K 05 YEL	103A
L 02 PED DET	68A	L 04 VEH DET	24A	L 05 PCL	103A
M 02 HOLD	89A	M 04 VEH DET	81A	M 05 DWK	106A
N STOP TIMING I	8B	N 04 PED DET	91A	N 05 PHASE NEXT	106A
P INHIBIT MAX TERM I	15A	P 03 VEH DET	75A	P 05 PHASE ON	25B
R EXTERNAL START	9A	R 03 PED DET	90A	P 05 VEH DET	37A
S INTERVAL ADVANCE	19A	S 03 PHASE OMIT	43A	R 05 PED DET	101A
T INDICATOR LAMP CONT	20A	S 02 PHASE OMIT	42A	R 06 VEH DET	128A
U AC-COMMON	NB3	T 05 PED OMIT	37B	S 06 PED DET	108A
V CHASSIS GROUND	GB3	U 01 PHASE OMIT	41A	T 06 PED DET	129A
W LOGIC GROUND	55A	V PED RECYCLE 2	132A	U 07 PED DET	130A
X FLASH LOGIC OUT	5A	W SPARE 2	29B	V 08 VEH DET	115A
Y STATUS BIT C1	17B	X SPARE 3	29B	W 08 PED DET	131A
Z 01 YEL	63A	Y 03 WK	30A	X 08 HOLD	148
a 01 PCL	141A	Z 03 PCL	79A	Y FORCE OFF 2	148
b 02 YEL	70A	a 03 DWK	143A	Z STOP TIME 2	8A
c 02 GRN	69A	b 04 GRN	80A	z INHIBIT MAX TERM 2	10A
d 02 CHECK	22A	c 04 YEL	82A	0 SPARE 1	31A
e 02 PHASE ON	34A	d 04 WK	83A	c STATUS BIT C 2	20B
f 01 VEH DET	61A	e 04 PHASE ON	85A	0 08 WK	125A
g 01 PED DET	88A	f 04 PHASE NEXT	36A	0 08 YEL	123A
h 01 HOLD	7B	g 04 PHASE OMIT	24B	0 7 GRN	116A
i FORCE OFF 1	7A	h 04 HOLD	10B	0 6 GRN	109A
j EXT MIN RECALL ALL	50A	i 03 HOLD	9B	0 6 YEL	110A
k MAN CONTROL ENABLE	4A	j 03 PED OMIT	9B	i 05 GRN	102A
l CALL TO NON-ACT I	17A	k 06 PED OMIT	38B	j 05 WK	105A
m TEST INPUT A	1B	l 07 PED OMIT	39B	k 05 CHECK	25A
n AC+ CONTROL	845B	m 08 PED OMIT	40B	0 5 PHASE OMIT	11B
o SPARE 1	3B	n 06 MOLD	45A	p 06 MOLD	45A
p STATUS BIT B1	3B	o 06 PHASE OMIT	12B	q 06 PHASE OMIT	46A
q 01 GRN	16B	r 03 CHECK	97A	r 07 PHASE OMIT	47A
r 01 WK	62A	s 03 PHASE ON	23A	s 08 PHASE OMIT	47A
u 01 CHECK	65A	t 03 PHASE NEXT	35A	t 08 VEH DET	121A
v 02 PED OMIT	21A	u 04 RED	23B	u RED REST MODE 2	121A
w OMIT RED CLR	34B	v SPARE 4	140A	v OMIT RED CLR 2	12A
x RED REST MODE I	13A	w 04 PCL	138A	w 08 PCL	148A
y SPARE 2	4B	x 04 PED OMIT	36B	x 08 GRN	122A
z CALL TO NON-ACT II	18A	y SPARE 5	31B	y 07 DWK	120A
AA TEST INPUT B	2B	z MAX 2 SELECT 2	2A	z 06 DWK	113A
BB WALK REST MODIFIER	3A	AA 01 A GRN	95A	AA 06 PCL	145A
CC STATUS BIT A I	15B	BB 01 B YEL	99A	BB 06 CHECK	26A
DD 01 PHASE ON	33A	CC 01 B RED	100A	CC 06 PHASE ON	38A
EE 01 PED OMIT	33B	DD 01 C RED	137A	DD 06 PHASE NEXT	26B
FF PED RECYCLE	92A	EE 01 D YEL	139A	EE 07 HOLD	13B
GG MAX 2 SELECT	1A	FF 01 C GRN	135A	FF 08 CHECK	28A
HH SPARE 3	5B	GG 01 B GRN	98A	GG 08 PHASE ON	28A
		HH 01 C YEL	136A	HH 08 PHASE NEXT	40A
				JJ 07 WK	28B
				KK 07 PCL	119A
				LL 06 WK	147A
				MM 07 CHECK	112A
				NN 07 PHASE ON	27A
				PP 07 PHASE NEXT	39A
					27B

NEMA 12L CONFLICT MONITOR  
CM1 CM2

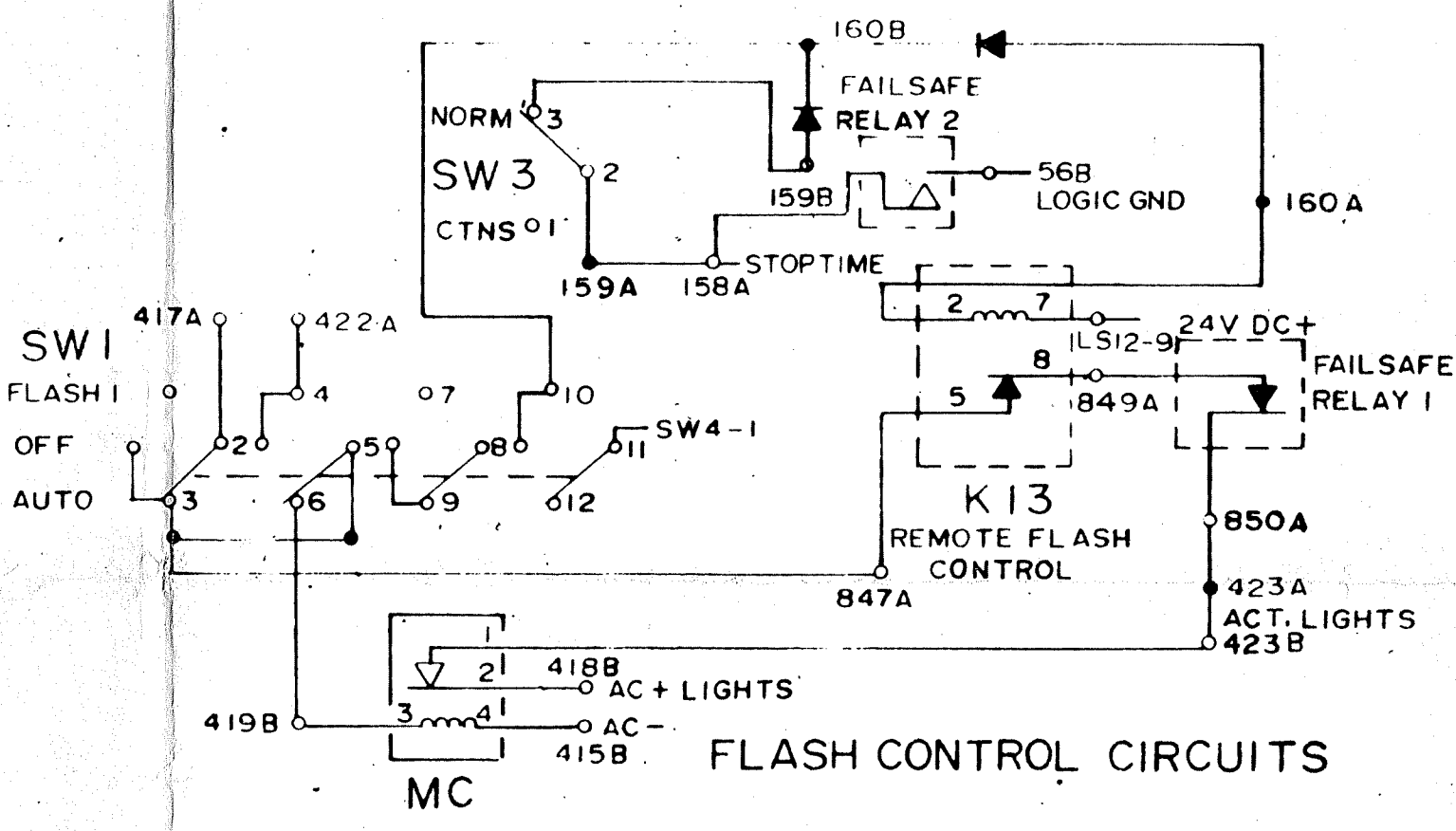
P4		CM1		CM2	
1 SPLIT (B) IN	658A	SH SHELL GROUND	GB3	SH SHELL GROUND	GB3
2 SYNC IN	658A	A AC+ I1	826B	A AC+ I1	825B
3 CALL DET A	662A	B RELAY 1 NO	156A	B DELAY RELAY COMM	57B
4 SPLIT (A) IN	671A	C RELAY 2 NC	149A	C DELAY RELAY NO.	6A
5 CALL DET D	674A	D CH12 GRN	833A	D CH12 RED	825A
6 CALL DET C	674A	E CH11 GRN	834A	E CH11 RED	826A
7 CYCLE B IN	652A	F CH10 GRN	835A	F CH9 RED	828A
8 OFFSET 1 IN	651A	G CH9 GRN	836A	G CH8 RED 08	248A
9 OFFSET 2 IN	666A	H CH8 GRN 08	246A	H CH7 RED 07	242A
10 OFFSET 3 IN	667A	I CH7 GRN 07	240A	I CH6 RED 06	236A
11 PREEMPT 1 IN	676A	J CH6 GRN 06	234A	J CH5 RED 05	230A
12 PREEMPT 2 IN	681A	K CH5 GRN 05	228A	L CH4 RED 04	224A
13 PREEMPT 3 IN	682A	L CH4 GRN 04	222A	M CH3 RED 03	218A
14 PREEMPT 4 IN	683A	M CH3 GRN 03	216A	N CH2 RED 02	212A
15 PREEMPT 5 IN	684A	N CH2 GRN 02	210A	P CH1 RED 01	206A
16 PREEMPT 6 IN	684A	P CH1 GRN 01	204A	R SPARE 1	153A
17 CHASSIS GROUND	679A	R +24V MONITOR II	58B	S SPARE 2	154A
18 CHASSIS GROUND	689A	S +24V MONITOR	204A	T SPARE 3	154A
19 N/C	675B	T LOGIC GROUND	58B	U DELAY RELAY NC	155A
20 MASTER SELECT IN	675B	U CHASSIS GROUND	55B	V CH TORED	153B
21 CALL DET B IN	672A	V AC-	SHELL	W SPARE 4	827A
22 RTC DISABLE	678A	W RELAY 1 COMMON(A)	NB3	X SPARE 5	154B
23 PREEMPT 2 OUT	686A	X RELAY 2 COMMON(LG)	850A	Y SPARE 6	156B
24 PREEMPT 3 OUT	687A	Y CH12 YEL	829A	Z SPARE 7	157B
25 SPARE 6 OUT	685B	Z CH11 YEL	830A	c SPARE 8	158B
26 OFFSET 3 OUT	670A	a CH10 WK	839A		
27 R12 STATUS OUT	669B	b CH10 YEL	831A		
28 OFFSET 2 OUT	669B	c CH9 YEL	832A		
29 SPARE 5 OUT	686B	d CH8 YEL 08	158-5		
30 R34 STATUS OUT	670B	e CH7 YEL 07	157-5		
31 SYNC OUT	661B	f CH6 YEL 06	156-5		
32 CYCLE B OUT	654A	g CH5 YEL 05	155-5		
33 FREE STATUS OUT	677B	h CH4 YEL 04	154-5		
34 LOGIC GND	690A	i CH3 YEL 03	153-5		
35 N/C	676B	j CH2 YEL 02	843A		
36 FLASH (MUTCD) IN	656A	k CH1 YEL 01	152-5		
37 EXT. RESYNC. IN	664B	m CONT. VOLT. MON.	LS1-5		
38 FREE IN	655A	n +24V MONITOR INHIBIT	54B		
39 PREEMPT 1 OUT	685A	p RELAY 1 NC	149B		
40 PREEMPT 4 OUT	688A	q RELAY 2 NO	849A		
41 PREEMPT 5 OUT	677A	r CH12 WK	158A		
42 OFFSET 1 OUT	668A	s CH11 WK	837A		
43 SPLIT A OUT	659A	t CH9 WK	838A		
44 SPLIT B OUT	660A	u CH8 WK 08	840A		
45 SF 1 OUT	680A	v CH7 WK	271A		
46 SF 2 OUT	661A	w CH6 WK	841A		
47 R78 STATUS OUT	663B	x CH5 WK	842A		
48 R56 STATUS OUT	663A	y CH4 WK 04	154-5		
49 CYCLE A OUT	653A	z CH3 WK	253A		
		AA SPARE 1	844A		
		BB RESET	150A		
		CC CAB. INTERLOCK A	152B		
		DD CAB. INTERLOCK B	151B		
		EE CH6 WK 06	150B		
		FF CH4 WK 04	265A		
		GG SPARE 2	259A		
		HH SPARE 3	151A		
			152A		

CONFLICT MONITOR MATRIX  
PROGRAMMING INSTRUCTIONS

1-2	3-4	5-6	7-8	9-10	11-12
1-2	3-4	5-6	7-8	9-10	11-12
1-3	2-4	3-5	4-6	5-7	6-8
1-4	2-5	3-6	4-7	5-8	6-9
1-5	2-6	3-7	4-8	5-9	6-10
1-6	2-7	3-8	4-9	5-10	6-11
1-7	2-8	3-9	4-10	5-11	6-12
1-8	2-9	3-10	4-11	5-12	
1-9	2-10	3-11	4-12		
1-10	2-11	3-12			
1-11	2-12				
1-12					

CHANNEL-0 COMBINATION NOT PINNED WITH MATRIX JUMPERS CONSTITUTE CONFLICTING MOVEMENTS. TO PROGRAM, CIRCLE PERMISSIVE COMBINATIONS AND INSTALL JUMPERS ON CORRESPONDING PINS ON THE PROGRAM CARD

SPECIAL FUNCTION MODULE PIN ASSIGNMENT "D" CABLE 28022900-004		
CONN.	FUNCTION	TERM.
1	EMERG. PR. 4 OUT	688A
2	OFFSET 2 OUT	
3	OFFSET 4 (ADD BIT 3)	
4	DN LINE	
5	SPARE	
6	DIAL 4	
7	DIAL 1	
8	SPECIAL FUNCTION 2 OUT	
9	SPLIT 3 (ADD BIT 2)	
10	OFFSET 2 (ADD BIT 1)	
11	FLASH OUT	
12	SPLIT 5 (ADD BIT 0)	
13	SYSTEM DET. 8	
14	DIAL 5	
15	SPECIAL FUNCTION 3 OUT	
16	SPLIT 5	
17	SYSTEM DET. 1 (SEQ. #1)	
18	SYSTEM DET. 4 (SEQ. #4)	
19	SYSTEM ENABLE	
20	DIMMING ENABLE	
21	SPLIT 2 OUT	686A
22	EMERG. PR. 2 OUT	
23	RAILROAD PR. OUT	
24	SPARE	
25	DIAL 2 (SPECIAL FUNCTION 2)	
26	FREE/COORD (SPECIAL FUNCTION 1)	
27	FREE/COORD	
28	SPECIAL FUNCTION 1 OUT	
29	DIAL 4 OUT	
30	SYSTEM DET. 5	
31	SYSTEM DET. 3 (SEQ. #3)	685A
32	EMERG. PR. 1 OUT	
33	OFFSET 1 OUT	687A
34	EMERG. PR. 3 OUT	
35	DIAL 3 (SPECIAL FUNCTION 3)	
36	OFFSET 3 (ADD BIT 2)	
37	FLASH STATUS	
38	OFFSET 5 (ADD BIT 4)	
39	SYSTEM DET. 6	
40	SYSTEM DET. 7	
41	OFFSET 4 OUT	
42	OFFSET 2 OUT	
43	DIAL 2 OUT	
44	DIAL 3 OUT	
45	OFFSET 5 OUT	
46	SPLIT 3 OUT	
47	SYSTEM DET. 2 (SEQ. #2)	689A
48	LOGIC GND.	681A
49	EMERG. PREEMPT 1	682A
50	EMERG. PREEMPT 2	
51	DIAL 5 OUT	
52	DIAL 6 OUT	
53	LOGIC GND.	
54	LOGIC GND.	
55	EMERG. PREEMPT 3	683A
56	EMERG. PREEMPT 4	684A
57	RAILROAD PREEMPT	
58	CONFLICT STATUS	
59	RESERVED	
60	FLASH COMMAND	
61	RESERVED	
62	RESERVED	
63	CHASSIS GND.	



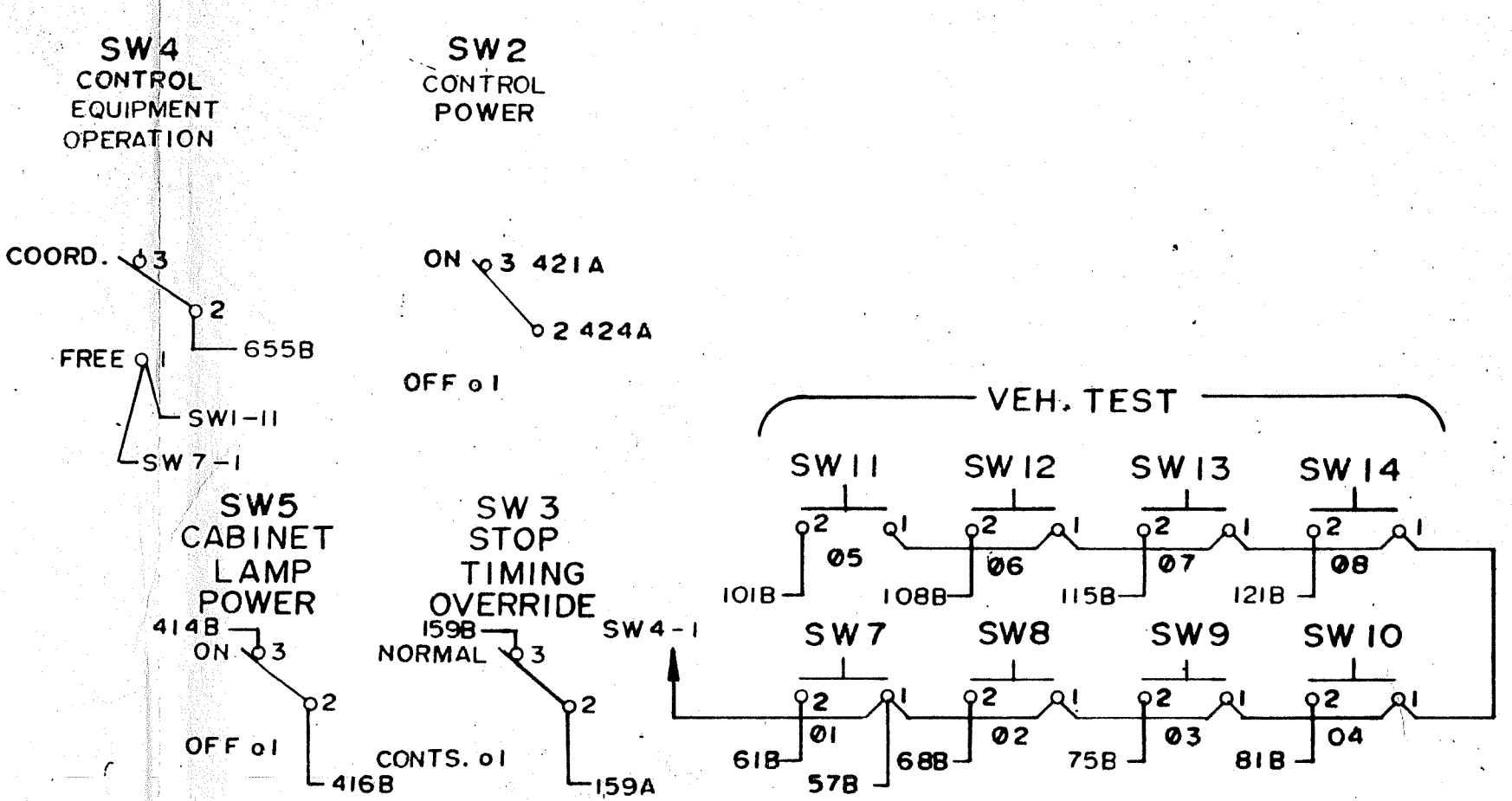
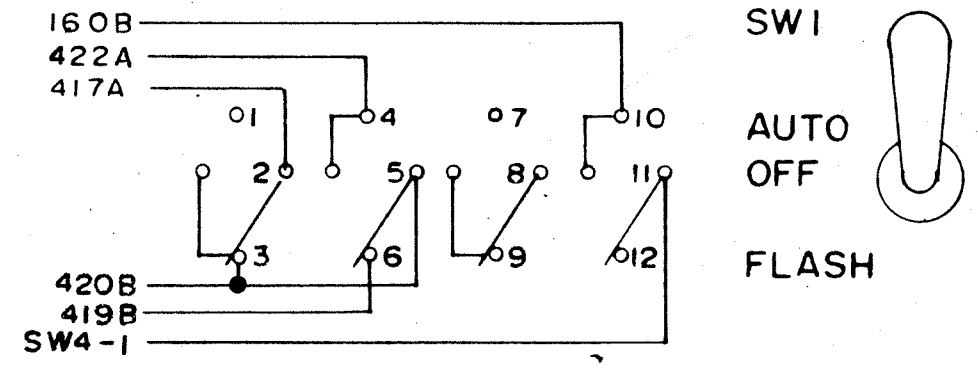
\* DOES NOT INCLUDE CONTROL EQUIPMENT HARNESS

COLOR	FUNCTIONAL *
BLACK	AC +
WHITE	AC NEUTRAL
GREEN	EARTH GROUND
RED	CONFLICT MONITOR WIRING
BLUE	
YELLOW	INTERCONNECT
ORANGE	
PURPLE	CALLING DETECTOR

EVP SENSORS

CONTR. CHAN.	PHASES	POLE #	SIGNAL	DC (+)	GND
1	2-6		361	362	365
2	4		364	362	365

POLICE PANEL (REAR VIEW)



VEHICLE SIGNALS

SIGNAL	TERMINAL			
	G	Y	R	
2-1		207	208	209
2-2		210	211	212
2-3		207	208	209
4-1	219	219	220	221
4-2	222	222	223	224
6-1		231	232	233
6-2		234	235	236
6-3		231	232	233

VEH DETECTORS

DET	TERMINAL
D1-1 *	301-302
D2-1	313-314
D2-2	316-317
D6-1	318-319
D6-2 *	321-322
D6-3 *	325-326
D6-4	328-326
D4-1	328-329
D4-2	349-350
D4-3	352-353

PED SIGNALS

SIGNAL	TERMINAL
P4-1	255 256
P4-2	259 260
P4-3	255 256
P4-4	259 260
P2-1	249 250
P2-2	249 250

PED PUSHBUTTONS

PPB	TERMINAL
PB 4-1,4-2,4-3,4-4	312
PB 2-1,2-2	311

EVP CONFIRMATORY LIGHTS

CONTR. CHAN.	PHASES	POLE #	TERM
1	2-6		251
2	4		257

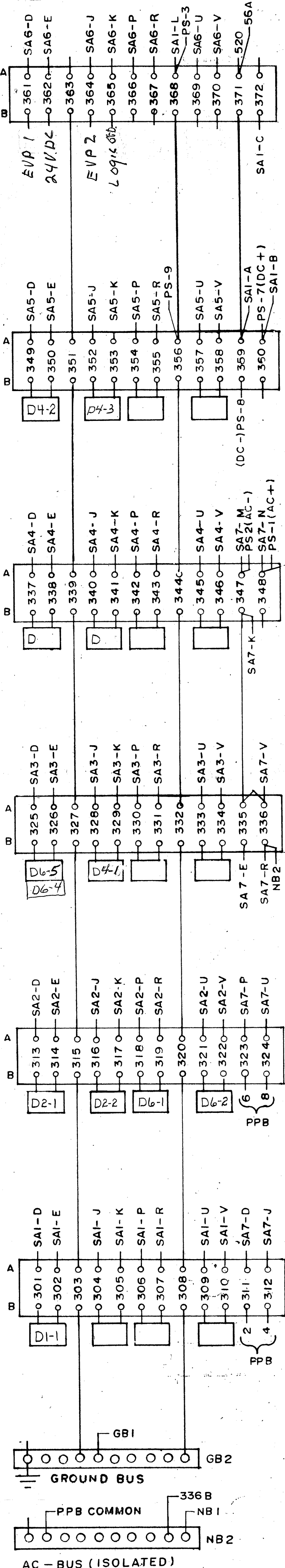
MINNESOTA DEPARTMENT OF TRANSPORTATION  
80 CABINET FACILITY FOR MINNESOTA MICROTRONICS

TYPE 800 CONTROLLER

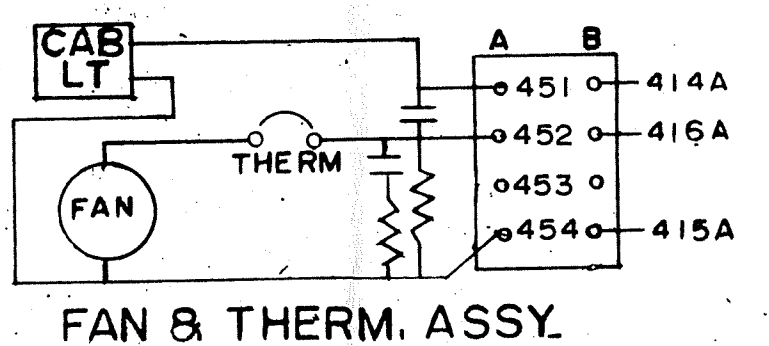
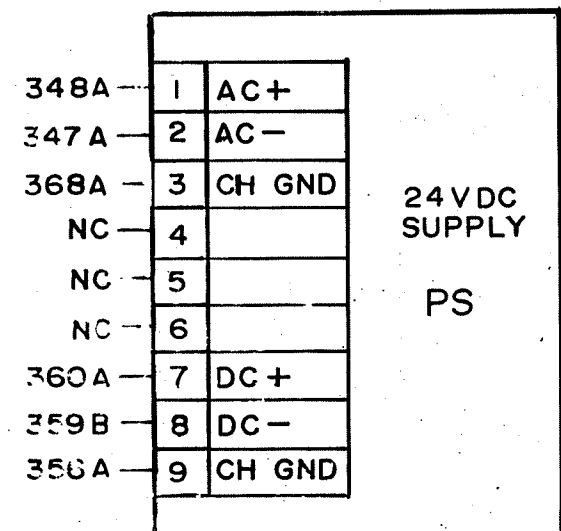
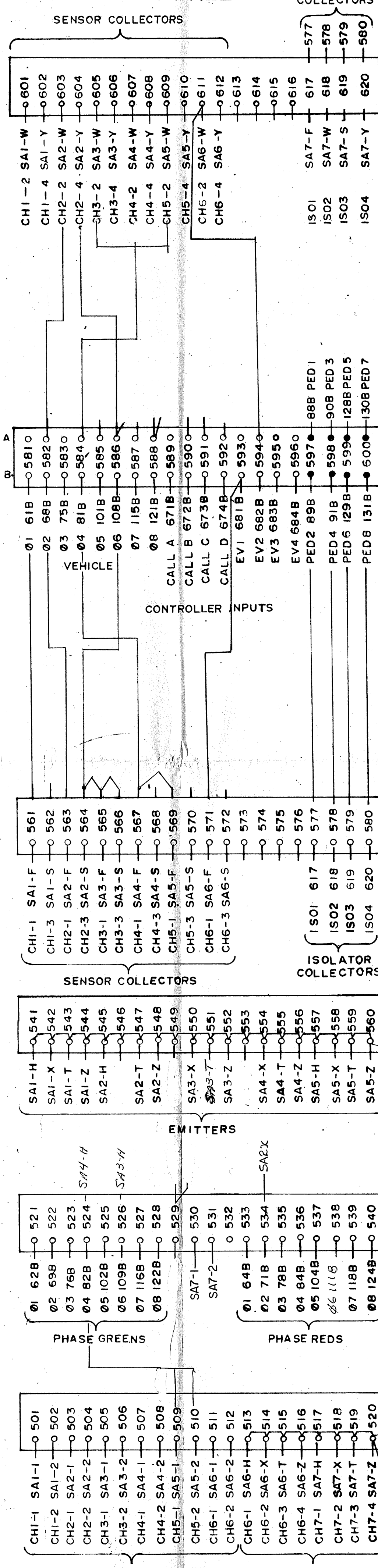
SUPPLIED BY RIDDLE CONTROL PRODUCTS INC.

ENGINEER R.R.	REV	ORDER	DATE
DRAFTSMAN D.W.L.	REV	DWG NO. 60-100	11-21-85
APPR.	MND		

**SENSOR FIELD PANEL**



**SENSOR PROGRAM PANEL**



**DETECTOR RACK CARD EDGE HARNESS--TYPICAL**  
(ONE HARNESS FOR EACH FOUR CHANNEL POSITION)

CARD EDGE PIN	HARNESS PIN	COLOR CODE	FUNCTION
1	1	WHITE/RED	CH1 TIMER INHIBIT
2	2	BROWN	CH2 TIMER INHIBIT
3	3	WHITE/BROWN	CH1 LOOP
4	4	WHITE/BLUE	CH1 OUT (+)
5	5	BLUE	CH1 OUT (-)
6	6	BLACK/RED	CH2 LOOP
7	7	BLACK/WHITE	CH2 LOOP
8	8	ORANGE	CH3 LOOP
9	9	WHITE/ORANGE	CH3 LOOP
10	10	WHITE/GREY	CH3 OUT (+)
11	11	GREY	CH3 OUT (-)
12	12	YELLOW	CH4 LOOP
13	13	WHITE/YELLOW	CH4 LOOP
14	14	WHITE/VIOLET	CH4 OUT (+)
15	15	VIOLET	CH4 OUT (-)
16	16	WHITE/GREEN	CH4 OUT (+)
17	17	WHITE/BLACK	CH4 OUT (-)
18	18		

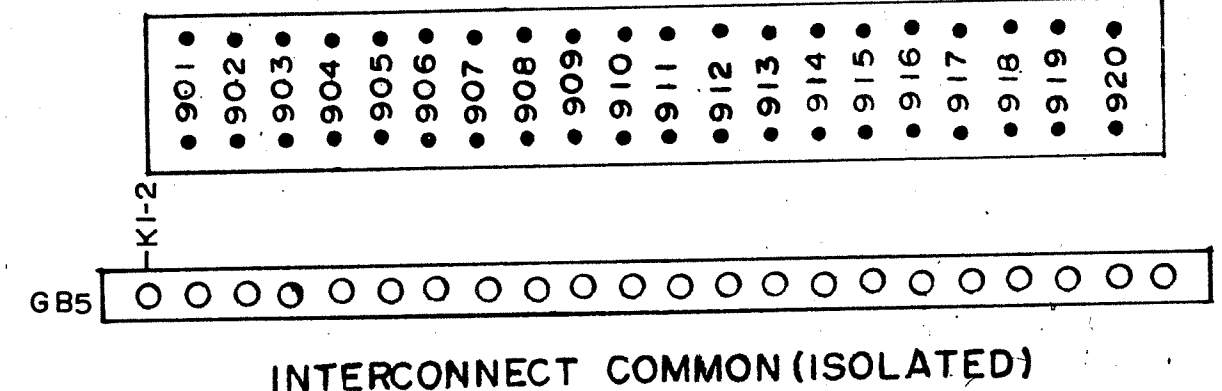
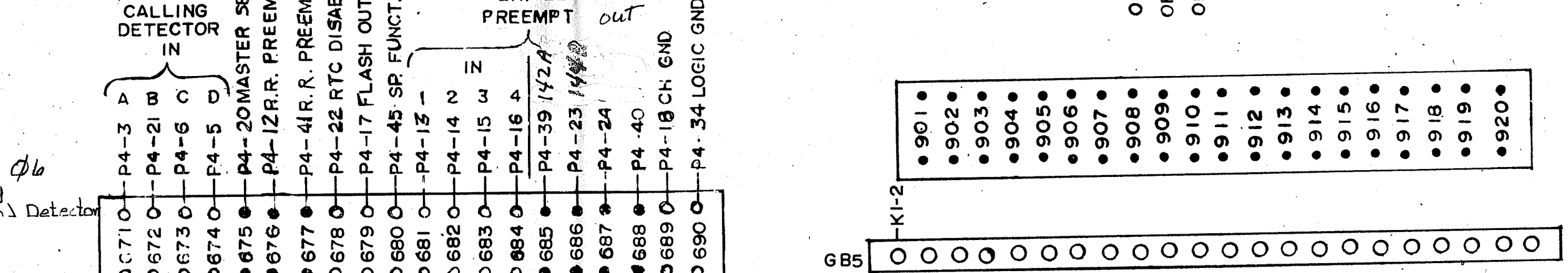
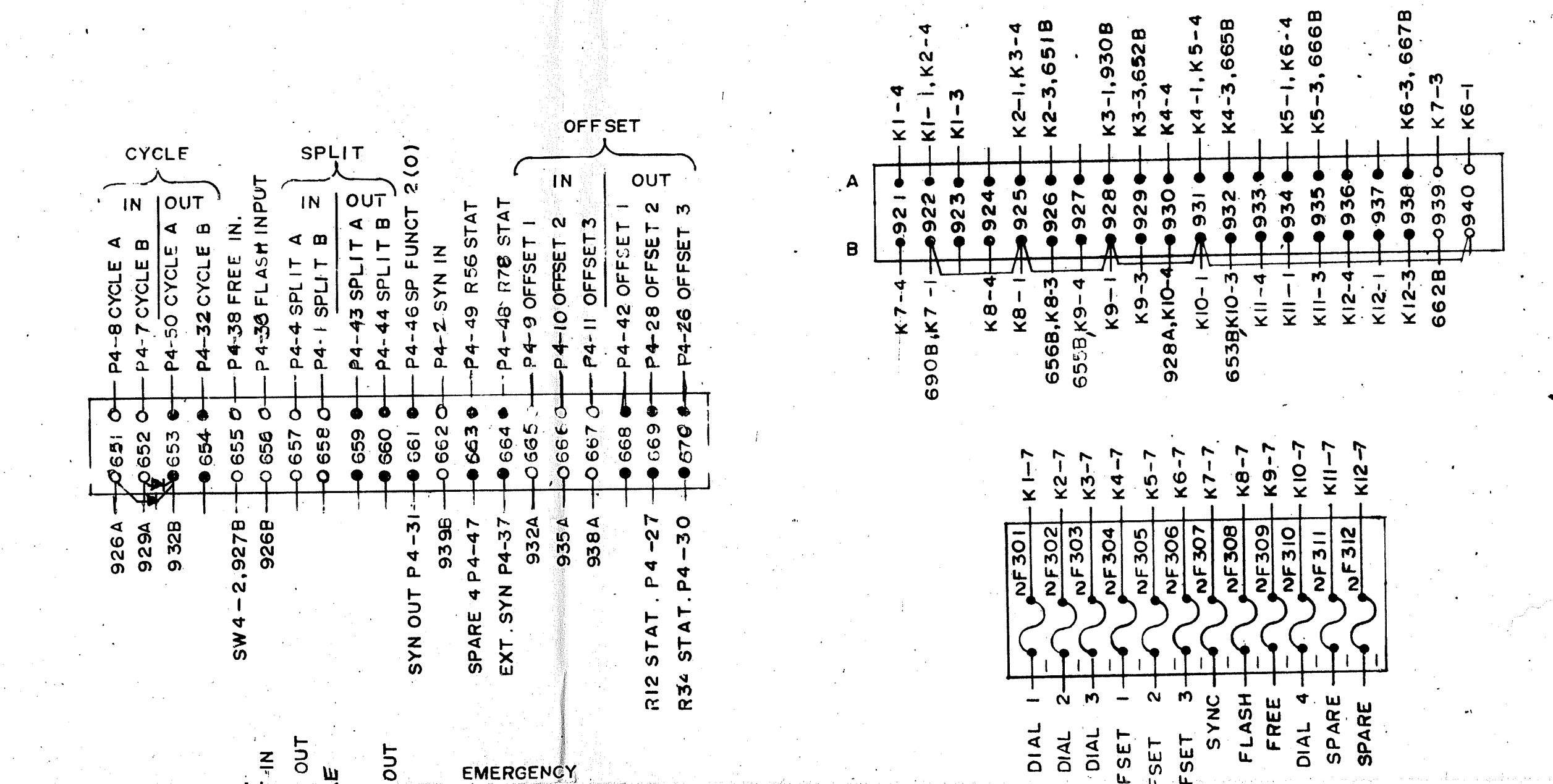
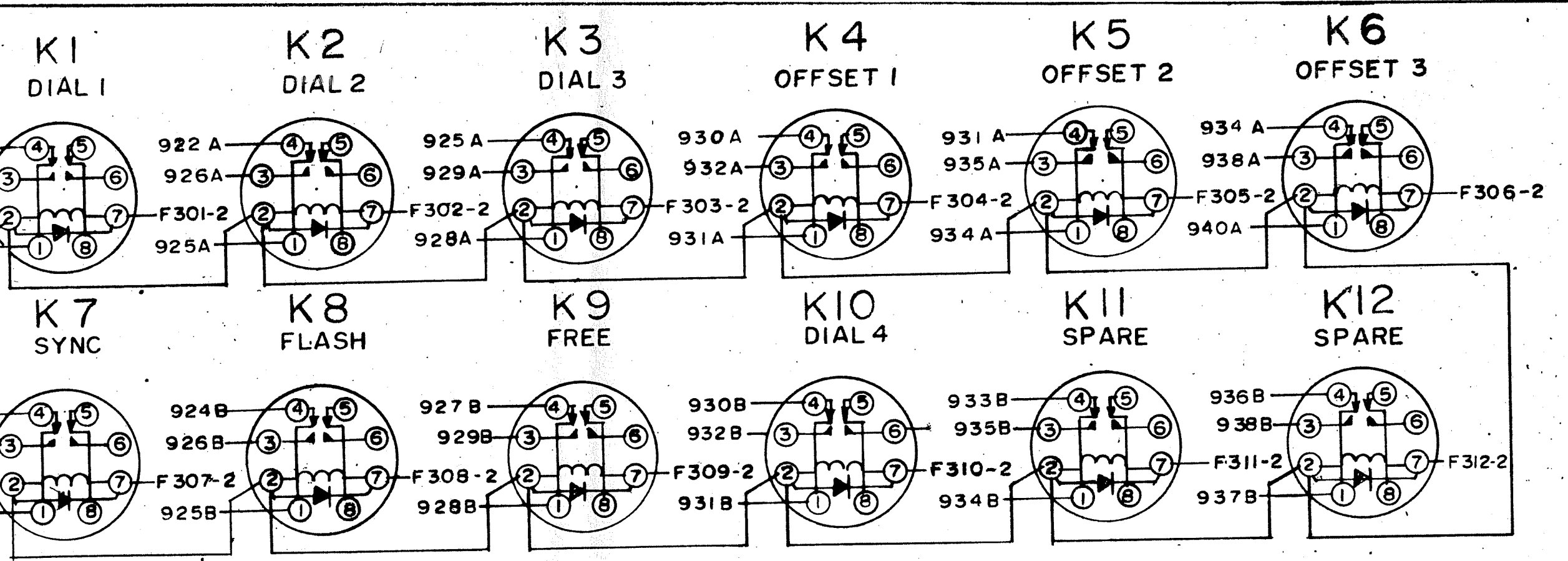
THE FOLLOWING 20 GAUGE WIRES ARE SOLDERED TO TERMINALS ON THE BACK OF THE DETECTOR RACK

WIRE	COLOR	FUNCTION
L	GREEN	EARTH GND
M-11	WHITE	AC NEUTRAL
N-12	BLACK	120 VAC+
O	RED	24 VDC+
P	BLACK/YELLOW	24 VDC- RESET
Q	BLACK/BLUE	RESET

- FUNCTIONS:**
- 1-CALL AND EXTEND
  - 2-CALL ONLY
  - 3-EXTEND ONLY
  - 4-CALL ONLY DENS
  - 5-DLY CALL ONLY
  - 6-DLY CALL ONLY DENSITY
  - 7-DLY CALL IMMED EXTEND
  - 8-CARRY OVER
  - 9-ADVISORY
  - 10-SAMPLING
  - 11-SPECIAL-SEE NOTE

**DETECTORS AND PPB ISOLATION**

PIN RACK HARNESS	SA-PIN	SA1				SA2				SA3				SA4				SA5				SA6				SA7			
		PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	
A	DC GROUND																												
B	24V DC+																												
C	REMOTE RESET																												
D-4	CH1 LOOP	301A			313A			325A			337A			349A			361A			373A									
E-5	CH1 LOOP	302A			314A			326A			338A			350A			362A			374A									
F	CH1 OUTPUT (+)	561			563			565			567			569			571			573									
G	CH1 OUTPUT (-)	541			545			549			553			557			561			565									
H	CH2 LOOP	304A			316A			328A			340A			352A			364A			376A									
J	CH2 LOOP	305A			317A			329A			341A			353A			365A			377A									
L	CHASSIS GROUND	368A																											
M	SPARE	NC			NC			NC			NC			SA6/SA5			SA5/SA7			347A									
N	SPARE	NC			NC			NC			NC			SA6/SA5			SA5/SA7			348A									
P-13	CH3 LOOP	306A			318A			330A			342A			354A			366A			378A									
R-14	CH3 LOOP	307A			319A			331A			343A			355A			367A			379A									
S	CH3 OUTPUT (+)	562			564			566			568			570			572			574									
T	CH3 OUTPUT (-)	543			547			551			555			559			563			567									
U-17	CH4 LOOP	309A			321A			333A			345A			357A			369A			381A									
V-18	CH4 LOOP	310A			322A			334A			346A			358A			370A			382A									
W	CH2 OUTPUT (+)	601			603			605			607			609			611			613									
X	CH2 OUTPUT (-)	542			546			550			554			558			562			566									
Y	CH4 OUTPUT (+)	602			604			606			608			610			612			614									
Z	CH4 OUTPUT (-)	544			548			552			556			560			564			568									
1	CH1 GREEN	501			503			505			507			509			511			513									
2	CH2 GREEN	502			504			506			508			510			512			514									
3	CH3 GREEN																												
10	CH4 GREEN																												



OLD CENTRAL AVE & 69th AVE. N.E.

80 FACILITY FOR MINNESOTA MICROTRONICS 800

MINDOT 8500 CABINET DWG NO. 60-100

