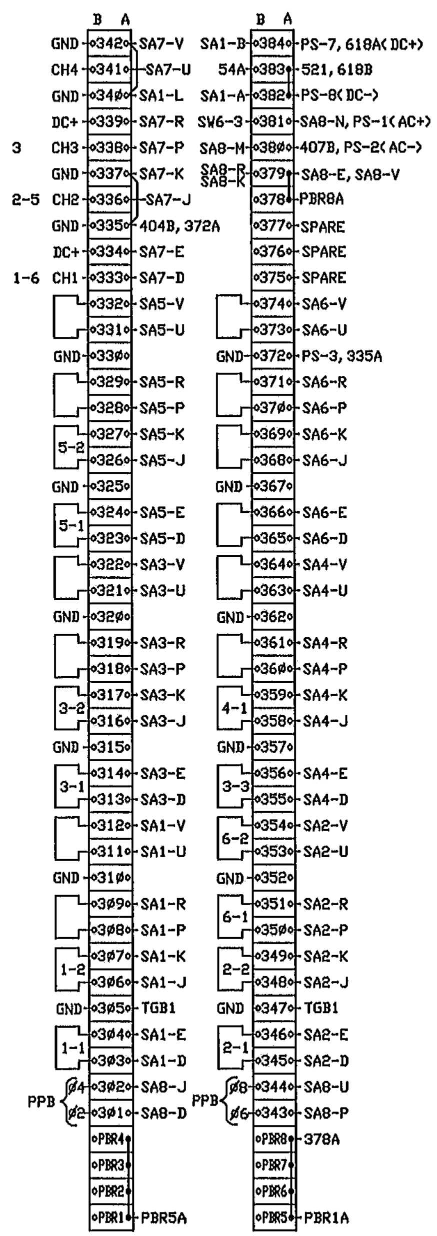
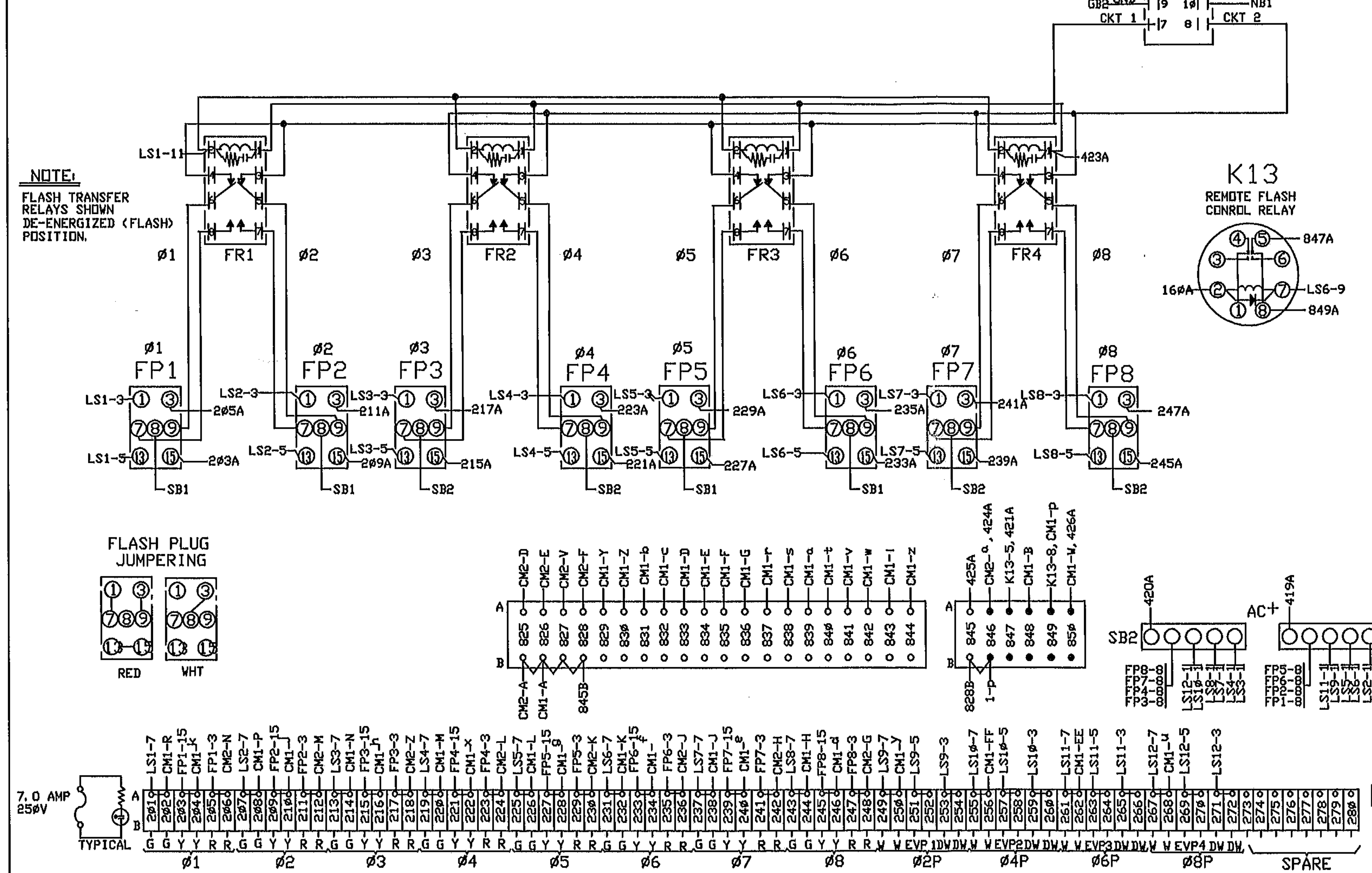


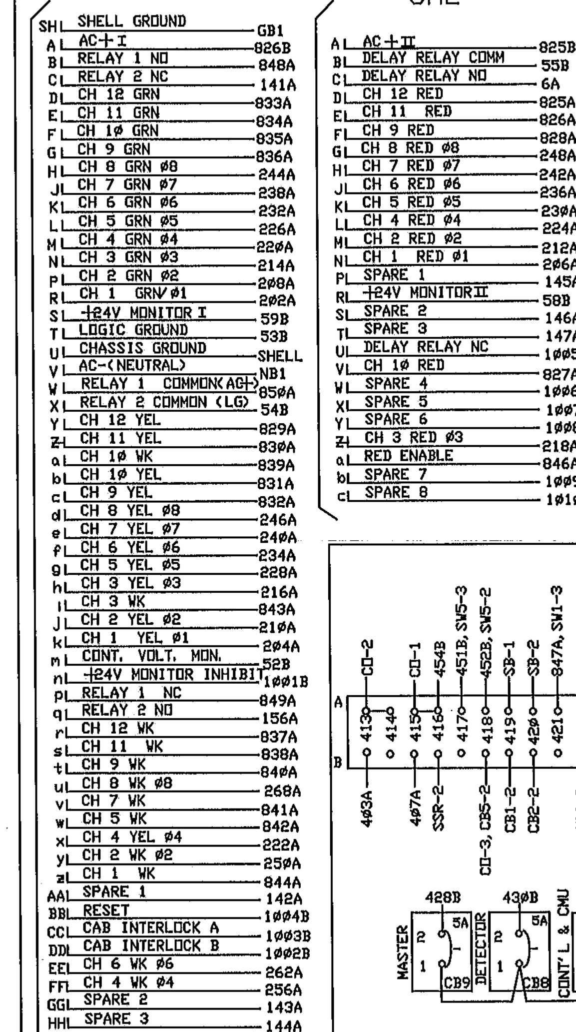
NOTE: 305, 310, 315, 320, 325, 330, 335, 340, 347, 352, 357, 362, 367 AND 372 ARE INTERCONNECTED BY THE WIEDMULLER MOUNTING RAIL.

JUMPERS 335A-337A AND 340A-342A, ARE TO BE ADDED AS NEEDED FOR EVP.

LOAD SWITCH PANEL ASSEMBLY

		LS	1	2	3	4	5	6	7	8	9	1ø	11	12	13	14
		CONT Ø	1	2	3	4	5	6	7	8	2P	4P	6P	8P		
		PLAN Ø														
IN	GREEN / WALK	1ø	62A	69A	76A	82A	1ø2A	1ø9A	116A	122A	72A	85A	112A	125A		
IN	YELLOW/PED CLR	8	63A	7øA	77A	83A	1ø3A	11øA	117A	123A	142B	144B	146B	148B		
IN	RED/DON'T WALK	6	64A	71A	78A	84A	1ø4A	111A	118A	124A	73A	86A	113A	126A		
OUT	GREEN / WALK	7	2ø1A	2ø7A	213A	219A	225A	231A	237A	243A	249A	255A	261A	267A		
OUT	YELLOW	5	FP1-13	FP2-13	FP3-13	FP4-13	FP5-13	FP6-13	FP7-13	FP8-13	251A	257A	263A	269A		
OUT	RED/DON'T WALK	3	FP1-1	FP2-1	FP3-1	FP4-1	FP5-1	FP6-1	FP7-1	FP8-1	253A	259A	265A	271A		
POWER	+24 VDC	9	◁					K13-7						▷6øB		
POWER	CHASSIS GROUND	2	◁													▷GB1
POWER	AC NEUTRAL	11	NB1 FR1-2	NB1	NB1	NB1	NB1	NB1	NB1	NB1	NB1	NB1	NB1	NB1	NB1	NB1
POWER	115 VAC	1	SB1	SB1	SB2	SB2	SB1	SB1	SB2	SB2	SB1	SB2	SB1	SB2 FP8-8		



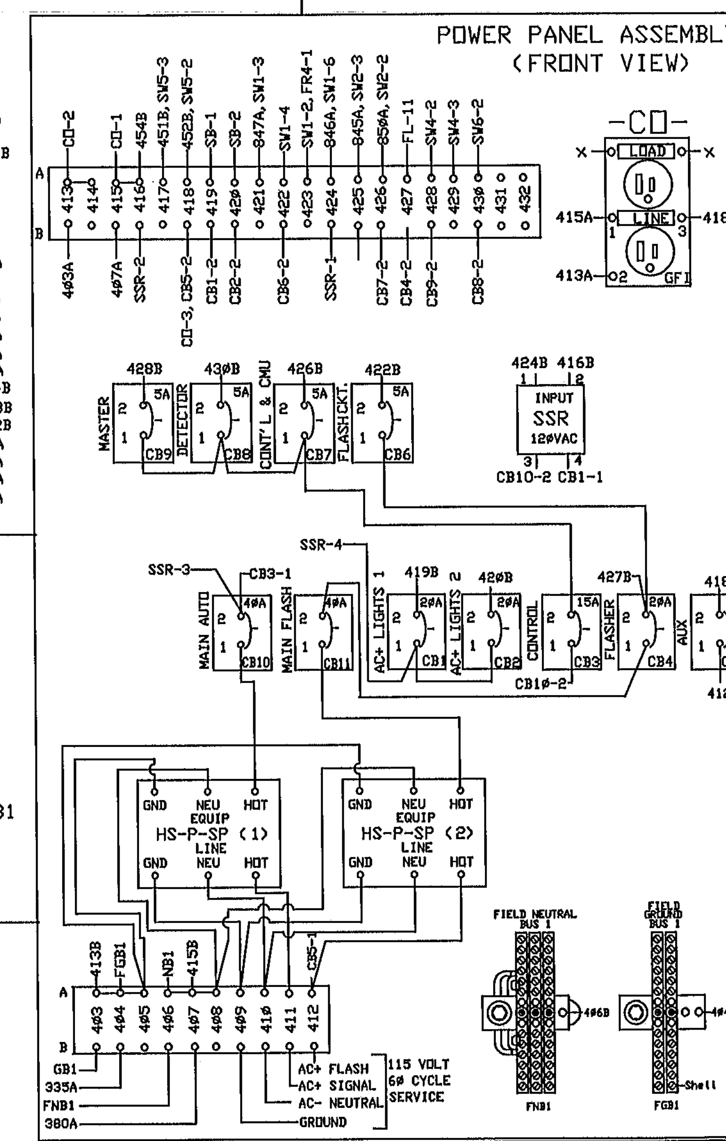


CONFLICT MONITOR MATRIX PROGRAMMING INSTRUCTIONS

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

CH1-ø 1 | CH5-ø 5
CH2-ø 2 | CH6-ø 6
CH3-ø 3 | CH7-ø 7
CH4-ø 4 | CH8-ø 8
CH9-ø ___
CH1ø-ø ___
CH11-ø ___
CH12-ø ___

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



TIGHTENING TORQUE SPECIFICATIONS

SCREW SIZE	6-32	8-32	1ø-32
POUND INCHES	12	16	25.9
BLOCK TYPE	SAKS6	RK6-1ø	SAK35N
POUND INCHES	1ø.5	16	35
BLOCK TYPE	ZB35	ZB1ø	
POUND INCHES	35.5	17.75	

VEHICLE SIGNALS

SIGNAL	TERMINAL ←G	←Y	←R	G	Y	R
1-1	201	203	205			
1-2	202	204	206			
2-1, 2-2				207	209	211
2-2				208	210	212
3-1				213	215	217
3-2				214	216	218
3-3	213	215				217
4-1				219	221	223
4-2	220	222				224
5-1	225	227	229			
5-2	226	228	230			
6-1, 6-3				231	233	235
6-2				232	234	236

SIGNAL HEAD NEUTRALS TO BE TERMINATED ON FNB1

VEH DETECTORS

DET	TERMINAL
1-1	303, 304
1-2	306, 307
2-1	345, 346
2-2	348, 349
3-1	313, 314
3-2	316, 317
3-3	355, 356
4-1	358, 359
5-1	323, 324
5-2	326, 327
6-1	350, 351
6-2	353, 354

LOOP LEAD IN DRAIN WIRES ARE TO BE CONNECTED TO GREEN/YEL WIEDMULLER BLOCKS ONLY

PED SIGNALS

SIGNAL	TERMINAL WK	DW
P2-1	249	253
P2-2	250	254
P4-1	255	259
P4-2	256	260
P6-1	261	265
P6-2	262	266

PED HEAD NEUTRALS TO BE TERMINATED ON FNB1

PED PUSHBUTTONS

PPB	TERMINAL
PB2-1, 2-2	301
PB4-1, 4-2	302
PB6-1, 6-2	343

NOTES

1) IF EVP HEADS ARE INSTALLED JUMPER 367B TO 369B AND / OR 335B TO 337B

EVP SENSORS

CONTR. CHAN.	PHASES	POLE #	SIGNAL	DC(+)	GND
1	1-6	2	333	334	337
2	2-5	4	336	334	337
3	3	3	338	339	342

EVP CONFIRMATORY LIGHTS

CONTR. CHAN.	PHASES	POLE #	TERM
1	1-6	2	251
2	2-5	4	257
3	3	3	263

EVP TYPICAL SENSOR WIRE COLORS

SIGNAL	DC(+)	GND
YEL	ORG	BLU
CLR	RED	BLK
WHT	RED	BLK

REV. STATUS			
SHEET	1	2	3
REV	A	A	A

ACT Electronics, Inc.

7 AT #20

MNDOT 1999 'R' & 'P' CABINET

FOR ANOKA

SIZE D

CONTROLLER INTERFACE PANEL

1

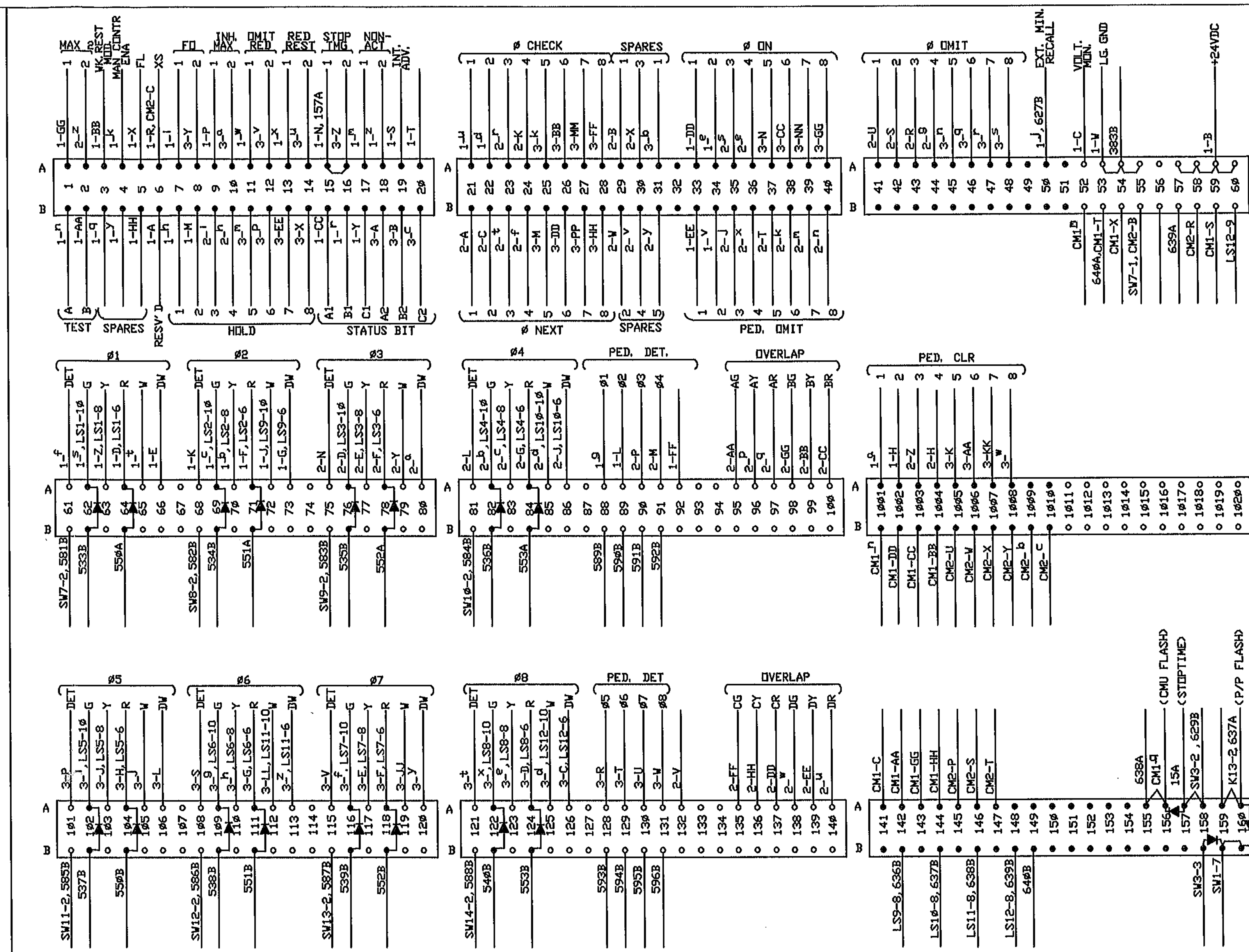
SH	SHELL GROUND	1-V
A	RESV.	6B
B	24VDC+	59A
C	VOLTAGE MONITOR	52A
D	Ø1 RED	64A
E	Ø1 DWK	66A
F	Ø2 RED	71A
G	Ø2 DWK	73A
H	Ø2 PCL	1ØØ2A
J	Ø2 WK	72A
K	Ø2 VEH DET	68A
L	Ø2 PED DET	89A
M	Ø2 HOLD	8B
N	STOP TIMING 1	15A
P	INHIBIT MAX TERM 1	9A
R	EXTERNAL START	6A
S	INTERVAL ADVANCE	19A
T	INDICATOR LAMP CONT	2ØA
U	AC- NEUTRAL	NB1
V	CHASSIS GROUND	GB1
W	LOGIC GROUND	53A
X	FLASH LOGIC OUT	5A
Y	STATUS BIT C1	17B
Z	Ø1 YEL	63A
a	Ø1 PCL	1ØØ1A
b	Ø2 YEL	7ØA
c	Ø2 GRN	69A
d	Ø2 CHECK	22A
e	Ø2 PHASE ON	34A
f	Ø1 VEH DET	61A
g	Ø1 PED DET	88A
h	Ø1 HOLD	7B
i	FORCE OFF 1	7A
j	EXT MIN RECALL ALL/ Ø	5ØA
k	MAN. CONTROL ENABLE	4A
m	CALL TO NON-ACT I	17A
n	TEST INPUT A	1B
p	AC+ CONTROL	846B
q	SPARE 1	3B
r	STATUS BIT B1	16B
s	Ø1 GRN	62A
t	Ø1 WK	65A
u	Ø1 CHECK	21A
v	Ø2 PED OMIT	34B
w	OMIT RED CLR	11A
x	RED REST MODE 1	13A
y	SPARE 2	4B
z	CALL TO NON-ACT II	18A
AA	TEST INPUT B	2B
BB	WALK REST MODIFIER	3A
CC	STATUS BIT A1	15B
DD	Ø1 PHASE ON	33A
EE	Ø1 PED OMIT	33B
FF	PED RECYCLE 1	92A
GG	MAX 2 SELECT	1A
HH	SPARE 3	5B

2

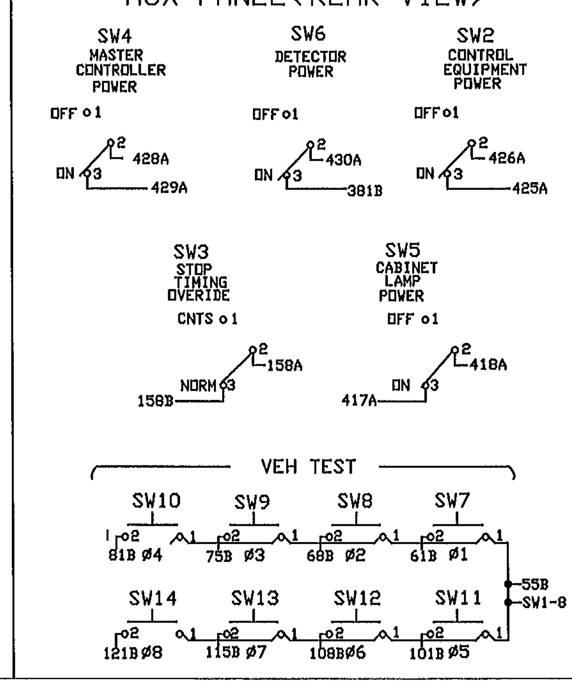
A	Ø1 PHASE NEXT	21B
B	SPARE 1	29A
C	Ø2 PHASE NEXT	22B
D	Ø3 GRN	76A
E	Ø3 YEL	77A
F	Ø3 RED	78A
G	Ø4 RED	84A
H	Ø4 PCL	1ØØ4A
J	Ø4 DWK	86A
K	Ø4 CHECK	24A
L	Ø4 VEH DET	81A
M	Ø4 PED DET	91A
N	Ø3 VEH DET	75A
P	Ø3 PED DET	9ØA
R	Ø3 PHASE OMIT	43A
S	Ø2 PHASE OMIT	42A
T	Ø5 PED OMIT	37B
U	Ø1 PHASE OMIT	41A
V	PED RECYCLE 2	132A
W	SPARE 2	29B
X	SPARE 3	3ØA
Y	Ø3 WK	79A
Z	Ø3 PCL	1ØØ3A
a	Ø3 DWK	8ØA
b	Ø4 GRN	82A
c	Ø4 YEL	83A
d	Ø4 WALK	85A
e	Ø4 PHASE ON	36A
f	Ø4 PHASE NEXT	24B
g	Ø4 PHASE OMIT	44A
h	Ø4 HOLD	1ØB
i	Ø3 HOLD	9B
j	Ø3 PED OMIT	35B
k	Ø6 PED OMIT	38B
m	Ø7 PED OMIT	39B
n	Ø8 PED OMIT	4ØB
p	OL A YEL	96A
q	OL A RED	97A
r	Ø3 CHECK	23A
s	Ø3 PHASE ON	35A
t	Ø3 PHASE NEXT	23B
u	OL D RED	14ØA
v	SPARE 4	3ØB
w	OL D GRN	138A
x	Ø4 PED OMIT	36B
y	SPARE 5	31B
z	MAX 2 SELECT 2	2A
AA	OL A GRN	95A
BB	OL B YEL	99A
CC	OL B RED	1ØØA
DD	OL C RED	137A
EE	OL D YEL	139A
FF	OL C GRN	135A
GG	OL B GRN	98A
HH	OL C YEL	136A

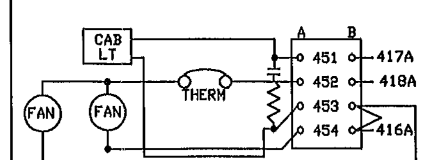
3

A	STATUS BIT A2	18B
B	STATUS BIT B2	19B
C	Ø8 DWK	126A
D	Ø8 RED	124A
E	Ø7 YEL	117A
F	Ø7 RED	118A
G	Ø6 RED	111A
H	Ø5 RED	1Ø4A
J	Ø5 YEL	1Ø3A
K	Ø5 PCL	1ØØ5A
L	Ø5 DWK	1Ø6A
M	Ø5 PHASE NEXT	25B
N	Ø5 PHASE ON	37A
P	Ø5 VEH DET	1Ø1A
R	Ø5 PED DET	128A
S	Ø6 VEH DET	1Ø8A
T	Ø6 PED DET	129A
U	Ø7 PED DET	13ØA
V	Ø7 VEH DET	115A
W	Ø8 PED DET	131A
X	Ø8 HOLD	14B
Y	FORCE OFF 2	8A
Z	STOP TIME 2	16A
a	INHIBIT MAX TERM 2	1ØA
b	SPARE 1	31A
c	STATUS BIT C2	2ØB
d	Ø8 WK	125A
e	Ø8 YEL	123A
f	Ø7 GRN	116A
g	Ø6 GRN	1Ø9A
h	Ø6 YEL	11ØA
i	Ø5 GRN	1Ø2A
j	Ø5 WK	1Ø5A
k	Ø5 CHECK	25A
m	Ø5 HOLD	11B
n	Ø5 PHASE OMIT	45A
p	Ø6 HOLD	12B
q	Ø6 PHASE OMIT	46A
r	Ø7 PHASE OMIT	47A
s	Ø8 PHASE OMIT	48A
t	Ø8 VEH DET	121A
u	RED REST MODE 2	14A
v	OMIT RED CLR 2	12A
w	Ø8 PCL	1ØØ8A
x	Ø8 GRN	122A
y	Ø7 DWK	12ØA
z	Ø6 DWK	113A
AA	Ø6 PCL	1ØØ6A
BB	Ø6 CHECK	26A
CC	Ø6 PHASE ON	38A
DD	Ø6 PHASE NEXT	26B
EE	Ø7 HOLD	13B
FF	Ø8 CHECK	28A
GG	Ø8 PHASE ON	4ØA
HH	Ø8 PHASE NEXT	28B
JJ	Ø7 WK	119A
KK	Ø7 PCL	1ØØ7A
LL	Ø6 WK	112A
MM	Ø7 CHECK	27A
NN	Ø7 PHASE ON	39A
PP	Ø7 PHASE NEXT	27B

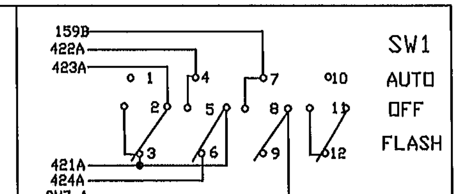


AUX PANEL(REAR VIEW)

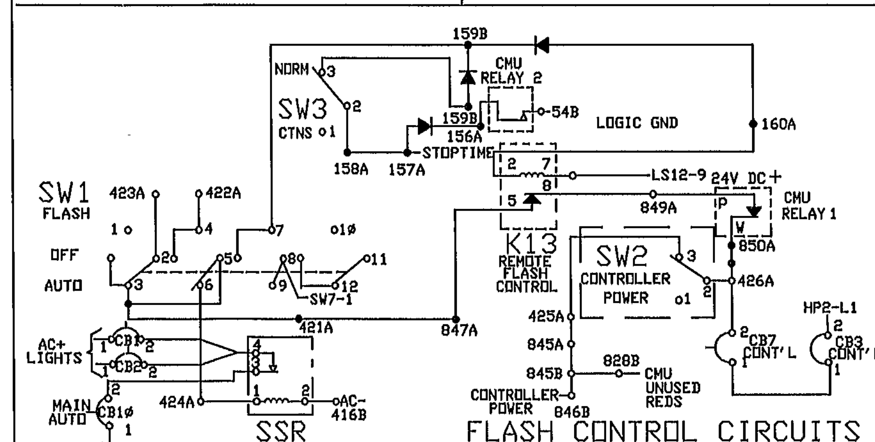




FAN & THERM ASSY



POLICE PANEL (REAR VIEW)



FLASH CONTROL CIRCUITS

CSAH 7 AT CSAH 20

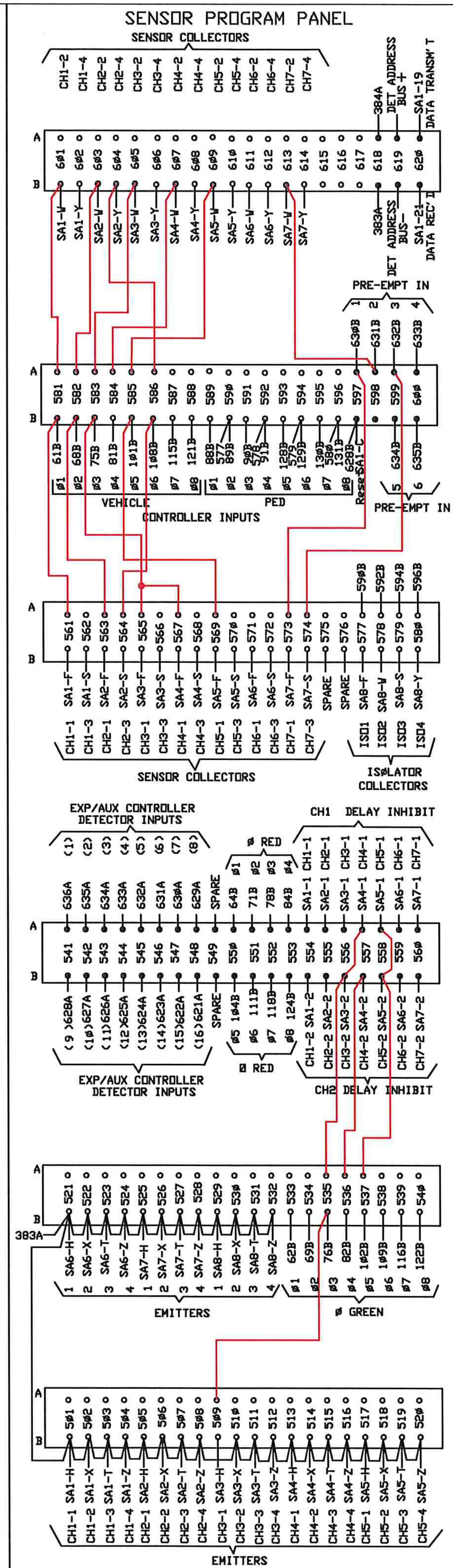
REV. STATUS			
SHEET	1	2	3
REV	A	A	A

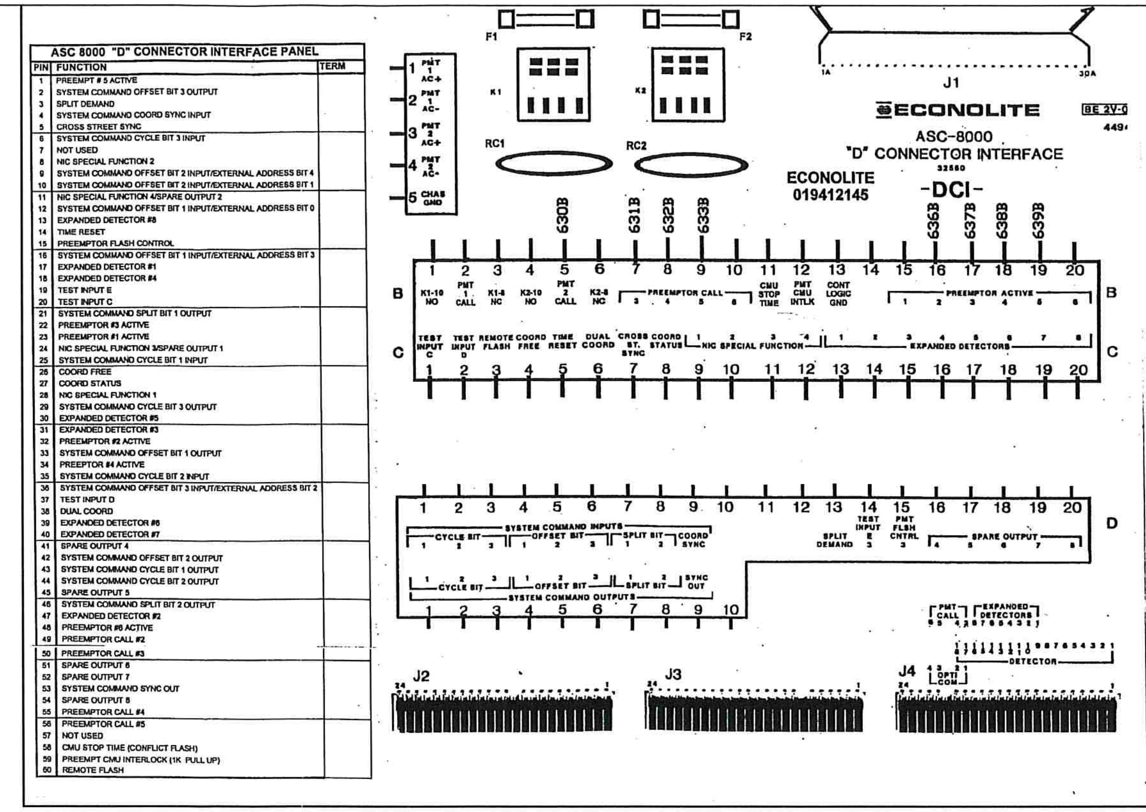
FOR: MNDOT

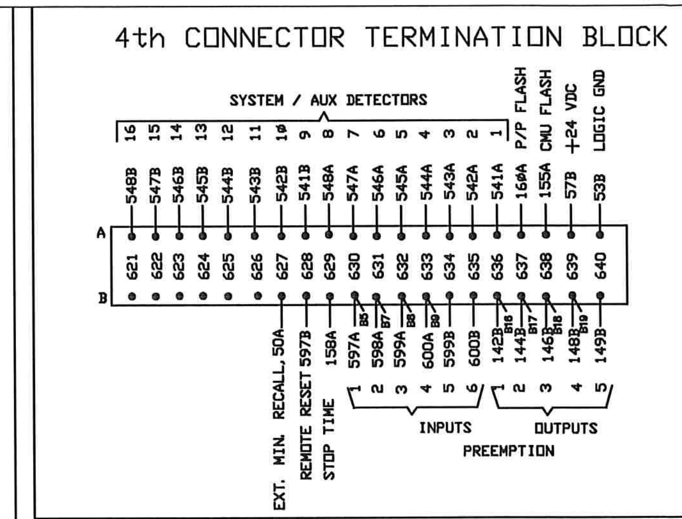
ACT Electronics, Inc.

TITLE: MNDOT 1998 'R' & 'P' CABINET

SIZE: D







SA

DETECTORS AND PPB ISOLATION

⊕ SA1 THROUGH SA7 ARE WIRED TO ACCEPT VEH DET. OR EVP DISCRIMINATOR OR PPB ISOLATOR.

☒ Pin 10 of the edge conn. can be Jumpered for use as CH4 delay inhibit. Jumpering will disable addressing.

	SA1 PHASE	SA1 FUNC	SA1 DET	SA2 PHASE	SA2 FUNC	SA2 DET	SA3 PHASE	SA3 FUNC	SA3 DET	SA4 PHASE	SA4 FUNC	SA4 DET	SA5 PHASE	SA5 FUNC	SA5 DET	SA6 PHASE	SA6 FUNC	SA6 DET	SA7 PHASE	SA7 FUNC	SA7 DET	SA8 PPB ISOLATION PHASE	
CH 1	1	1	1-1	2	1	2-1	3	3/8	3-1	3	7	3-3	5	7	5-1					EVP	1-6	2	CH 1
CH 2	1	1	1-2	2	1	2-5	3	7	3-2	4	7	4-1	5	7	5-2					EVP	2-5	4	CH 2
CH 3				6	1	6-1														EVP	3	6	CH 3
CH 4				6	1	6-2														EVP		8	CH 4
MODEL	602			604			602T			602T			602T						EVP			244	MODEL

FUNCTIONS
1-CALL&EXTEND
2-CALL ONLY
3-EXTEND ONLY
4-CALL ONLY DENSITY
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-

MAIN I/O BLOCK	WIRE COLOR	SA I/O BLOCK	EDGE CONN.		SA1	SA2	SA3	SA4	SA5	SA6	SA7	SA8		
1	BLK/YEL	—	A	DC GROUND	382B ◁	———	———	———	———	———	———▷	NC	SPARE	A
2	RED	—	B	24V DC+	384B ◁	———	———	———	———	———	———▷	NC	SPARE	B
3	BLK/BLU	—	C	REMOTE RESET	597B ◁	———	———	———	———	———	———▷	NC	SPARE	C
	BRN	3	D-4	CH 1 LOOP	303A	345A	313A	355A	323A	365A	333A	301A	INPUT CH 1	D
	WHT/BRN	4	E-5	CH 1 LOOP	304A	346A	314A	356A	324A	366A	334A	379A	INPUT COMMON	E
5	ORANGE		6	ADDRESS BIT# 0	619B	SA1-15	SA2-10	SA3-15	SA4-15	SA5-10	SA6-15	NC		
	WHT/BLU	5	F	CH 1 OUTPUT (+)	561B	563B	565B	567B	569B	571B	573B	577B	OUTPUT CH 1 (+)	F
	BLUE	6	H	CH 1 OUTPUT (-)	501B	505B	509B	513B	517B	521B	525B	529B	OUTPUT CH 1 (-)	H
	BLK/RED	7	J-8	CH 2 LOOP	306A	348A	316A	358A	326A	368A	336A	302A	INPUT CH 2	J
	BLK/WHT	8	K-9	CH 2 LOOP	307A	349A	317A	359A	327A	369A	337A	379B	INPUT COMMON	K
6	YELLOW		10	ADDRESS BIT# 1	619A	SA1-6	SA3-6	SA4-6	SA4-10	SA5-15	SA7-6	NC		
12	GREEN	—	L	CHASSIS GROUND	340A ◁	———	———	———	———	———	———	———▷	CHASSIS GROUND	L
15	WHITE	—	M	AC-	SA2-M ◁	———	———	———	———	———	———	▷ 380B	AC-(NEUTRAL)	M
13	BLACK	—	N	115V AC+	SA2-N ◁	———	———	———	———	———	———	▷ 381A	115V AC+	N
	ORANGE	9	P-13	LOOP CH 3	308A	350A	318A	360A	328A	370A	338A	343A	INPUT CH 3	P
	WHT/OR	10	R-14	LOOP CH 3	309A	351A	319A	361A	329A	371A	339A	379B	INPUT COMMON	R
			15	ADDRESS BIT# 2	SA1-10	SA2-6	SA2-15	SA3-10	SA5-6	SA6-10	SA7-10	NC		
	WHT/GRY	11	S	CH 3 OUTPUT (+)	562B	564B	566B	568B	570B	572B	574B	579B	OUTPUT CH 3 (+)	S
	GREY	12	T	CH 3 OUTPUT (-)	503B	507B	511B	515B	519B	523B	527B	531B	OUTPUT CH 3 (-)	T
	YELLOW	13	U-17	CH 4 LOOP	311A	353A	321A	363A	331A	373A	341A	344A	INPUT CH 4	U
	WHT/YEL	14	V-18	CH 4 LOOP	312A	354A	322A	364A	332A	374A	342A	379A	INPUT COMMON	V
8	GREY		19	DATA TRANSMIT	620A ◁	———	———	———	———	———	———▷	NC		
10	VIOLET		21	DATA RECEIVE	620B ◁	———	———	———	———	———	———▷	NC		
	WHT/VIO	15	W	CH 2 OUTPUT (+)	601B	603B	605B	607B	609B	611B	613B	578B	OUTPUT CH 2 (+)	W
	VIOLET	16	X	CH 2 OUTPUT (-)	502B	506B	510B	514B	518B	522B	526B	530B	OUTPUT CH 2 (-)	X
	WHT/GRN	17	Y	CH 4 OUTPUT (+)	602B	604B	606B	608B	610B	612B	614B	580B	OUTPUT CH 4 (+)	Y
	WHT/BLK	18	Z	CH 4 OUTPUT (-)	504B	508B	512B	516B	520B	524B	528B	532B	OUTPUT CH 4 (-)	Z
	WHT/RED	1	1	CH 1 GREEN	554A	555A	556A	557A	558A	559A	560A	——	SPARE	
	RED	2	2	CH 2 GREEN	554B	555B	556B	557B	558B	559B	560B	——	SPARE	

PS 24VDC DETECTOR POWER SUPPLY

381A	1	AC+
380A	2	AC—NEUTRAL
372A	3	CH GND
384A	7	DC+
382A	8	DC—

REV. STATUS

SHEET	1	2	3
REV	A	A	A

ACT Electronics, Inc.

#7 AT #20

MNDOT 1999 'R' & 'P' CABINET

MNDOT

SIZE D