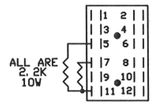
1137

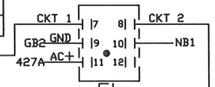
LS	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CONT Ø	1	2	3	4	5	6	7	8	2P	4P	6P	8P		
PLAN Ø														
IN GREEN / WALK	10	62A	69A	76A	82A	102A	109A	116A	122A	72A	85A	112A	125A		
IN YELLOW/PED CLR	8	63A	70A	77A	83A	103A	110A	117A	123A	142B	144B	146B	148B		
IN RED/DON'T WALK	6	64A	71A	78A	84A	104A	111A	118A	124A	73A	86A	113A	126A		
OUT GREEN / WALK	7	201A	207A	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								▷60B
POWER CHASSIS GROUND	2	◁													▷GB1
POWER AC NEUTRAL	11	NB1 FR1-2	NB1	NB1	NB1	NB1	NB1	NB1	NB1	NB1	NB1	NB1	SB2 FP8-8	NB1	NB1
POWER 115 VAC	1	SB1	SB1	SB2	SB2	SB1	SB1	SB2	SB2	SB1	SB2	SB1			

LOAD SWITCH PANEL ASSEMBLY

PED SOCKETS HAVE ONE RESISTOR FROM 11-7 ONLY.

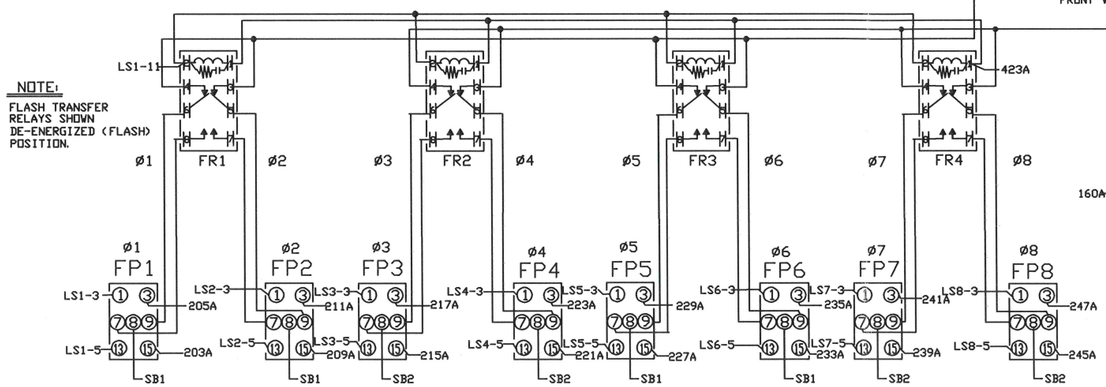


TYPICAL ALL LOAD SWITCH BASES FRONT VIEW

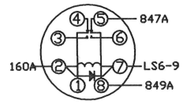


FL FLASHER FRONT VIEW

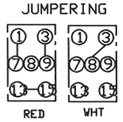
NOTE: FLASH TRANSFER RELAYS SHOWN DE-ENERGIZED (FLASH) POSITION.

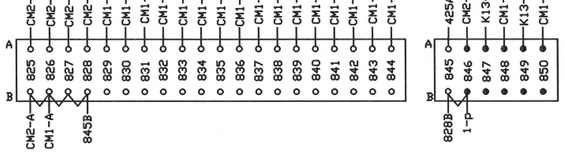


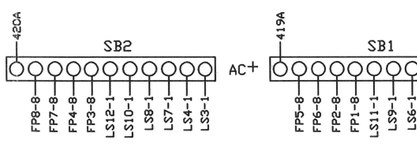
K13 REMOTE FLASH CONROL RELAY

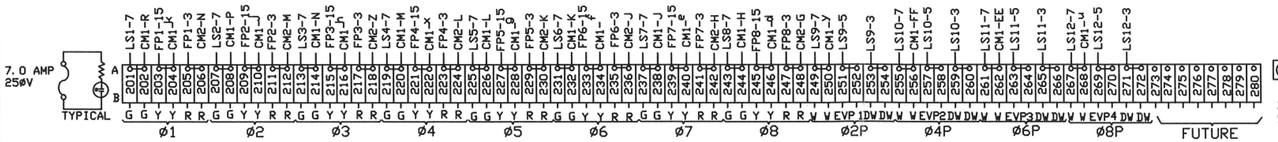


FLASH PLUG JUMPERING

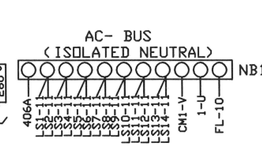








AC- BUS (ISOLATED NEUTRAL)



NEMA 12CH CONFLICT MONITOR

CM1

SH	SHELL GROUND	GB1
A	AC+ I	826B
B	RELAY 1 NO	848A
C	RELAY 2 NC	141A
D	CH 12 GRN	833A
E	CH 11 GRN	834A
F	CH 10 GRN	835A
G	CH 9 GRN	836A
H	CH 8 GRN ø8	244A
J	CH 7 GRN ø7	238A
K	CH 6 GRN ø6	232A
L	CH 5 GRN ø5	226A
M	CH 4 GRN ø4	220A
N	CH 3 GRN ø3	214A
P	CH 2 GRN ø2	208A
R	CH 1 GRN ø1	202A
S	+24V MONITOR I	59B
T	LOGIC GROUND	53B
U	CHASSIS GROUND	SHELL
V	AC-(NEUTRAL)	NB1
W	RELAY 1 COMMON(AC+)	850A
X	RELAY 2 COMMON (LG)	54B
Y	CH 12 YEL	829A
Z	CH 11 YEL	830A
a	CH 10 WK	839A
b	CH 10 YEL	831A
c	CH 9 YEL	832A
d	CH 8 YEL ø8	246A
e	CH 7 YEL ø7	240A
f	CH 6 YEL ø6	234A
g	CH 5 YEL ø5	228A
h	CH 3 YEL ø3	216A
i	CH 3 WK	843A
j	CH 2 YEL ø2	210A
k	CH 1 YEL ø1	204A
m	CONT. VOLT. MON.	52B
n	+24V MONITOR INHIBIT	1001B
p	RELAY 1 NC	849A
q	RELAY 2 NO	156A
r	CH 12 WK	837A
s	CH 11 WK	838A
t	CH 9 WK	840A
u	CH 8 WK ø8	268A
v	CH 7 WK	841A
w	CH 5 WK	842A
x	CH 4 YEL ø4	222A
y	CH 2 WK ø2	250A
z	CH 1 WK	844A
AA	SPARE 1	142A
BB	RESET	1004B
CC	CAB INTERLOCK A	1003B
DD	CAB INTERLOCK B	1002B
EE	CH 6 WK ø6	262A
FF	CH 4 WK ø4	256A
GG	SPARE 2	143A
HH	SPARE 3	144A

CM2

A	AC+ II	825B
B	DELAY RELAY COMM	55B
C	DELAY RELAY NO	6A
D	CH 12 RED	825A
E	CH 11 RED	826A
F	CH 9 RED	828A
G	CH 8 RED ø8	248A
H	CH 7 RED ø7	242A
J	CH 6 RED ø6	236A
K	CH 5 RED ø5	230A
L	CH 4 RED ø4	224A
M	CH 2 RED ø2	212A
N	CH 1 RED ø1	206A
P	SPARE 1	145A
R	+24V MONITOR II	58B
S	SPARE 2	146A
T	SPARE 3	147A
U	DELAY RELAY NC	1005B
V	CH 10 RED	827A
W	SPARE 4	1006B
X	SPARE 5	1007B
Y	SPARE 6	1008B
Z	CH 3 RED ø3	218A
a	RED ENABLE	846A
b	SPARE 7	1009B
c	SPARE 8	1010B

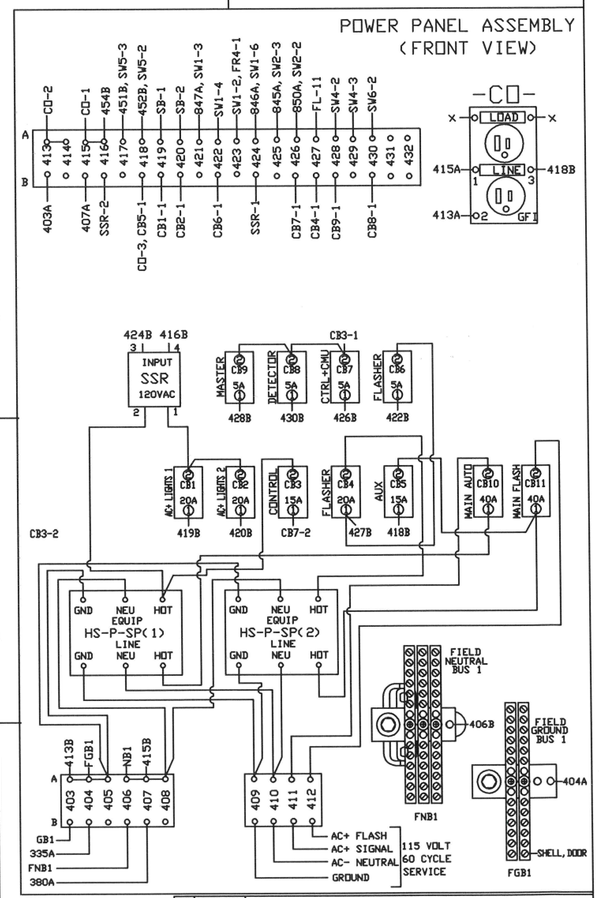
CONFLICT MONITOR MATRIX PROGRAMMING INSTRUCTIONS

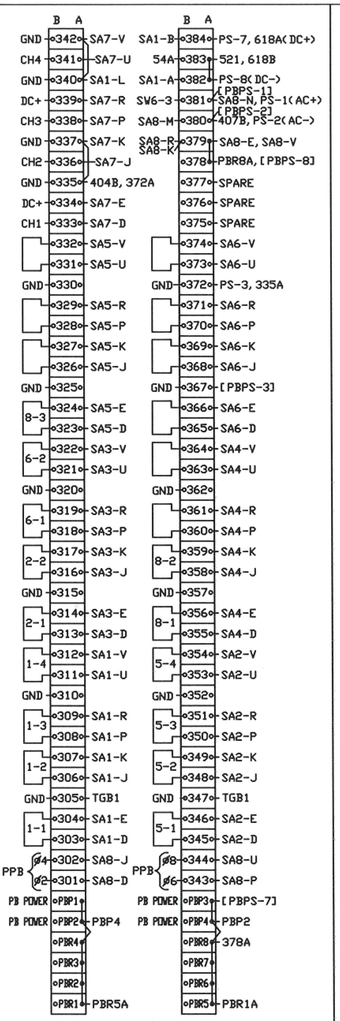
1-2 2-3 3-4 4-5 5-6 6-7 7-8 8-9 9-10 10-11 11-12
1-3 2-4 3-5 4-6 5-7 6-8 7-9 8-10 9-11 10-12
1-4 2-5 3-6 4-7 5-8 6-9 7-10 8-11 9-12
1-5 2-6 3-7 4-8 5-9 6-10 7-11 8-12
1-6 2-7 3-8 4-9 5-10 6-11 7-12
1-7 2-8 3-9 4-10 5-11 6-12
1-8 2-9 3-10 4-11 5-12
1-9 2-10 3-11 4-12
1-10 2-11 3-12
1-11 2-12
1-12

CH1-ø 1 CH2-ø 2 CH3-ø 3 CH4-ø 4 CH5-ø 5 CH6-ø 6 CH7-ø 7 CH8-ø 8 CH9-ø___ CH10-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.

POWER PANEL ASSEMBLY (FRONT VIEW)





NOTES:
1. PED BUTTON RETURNS MUST BE TERMINATED AT PBR1-PBR8.
2. JUMPERS 335A-337A AND 340A-342A, ARE TO BE ADDED AS NEEDED FOR EVP.
3. 305, 310, 315, 320, 325, 330, 335, 340, 347, 352, 357, 362, 367 AND 372 ARE INTERCONNECTED BY THE MOUNTING RAIL.
4. [ ]=FUTURE CONNECTIONS FOR POWER SUPPLY TO SENSITOUCH PPB'S.

TIGHTENING TORQUE SPECIFICATIONS

SCREW SIZE	6-32	8-32	10-32
POUND INCHES	12	16	25. 9
BLOCK TYPE	SAKS6	RK6-10	SAK35N
POUND INCHES	10. 5	16	35
BLOCK TYPE	ND-36		
POUND INCHES	35		

EVP SENSORS

CABLE	DISCR. CHAN.	PHASES	POLE#	TERMINAL SIGNAL	TERMINAL DC(+)	TERMINAL GND
24	1	1-6	3	333	334	337
20	2	2-5	1	336	334	337
26	3	8	4	338	339	342

EVP VERIFY LIGHTS

CABLE	CONTR. CHAN.	PHASES	POLE#	TERM
23	3	1-6	3	251
19	4	2-5	1	257
25	5	8	4	263

EVP TYPICAL SENSOR WIRE COLORS

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

VEHICLE SIGNALS

CABLE	SIGNAL	TERMINAL G←	Y←	R←	G	Y	R
6	1-1	201	203	205			
3	1-2	202	204	206			
1, 2	2-1, 2-3				207	209	211
1	2-2				208	210	212
2	5-1	225	227	229			
8	5-2	226	228	230			
6, 5	6-1, 6-3				231	233	235
6	6-2				232	234	236
8, 5	8-1, 8-3				243	245	247
8	8-2				244	246	248

SIGNAL HEAD NEUTRALS TO BE TERMINATED ON FNB1

VEH DETECTORS

CABLE	DET	TERMINAL
38	1-1	303, 304
39	1-2	306, 307
40	1-3	308, 309
41	1-4	311, 312
30	2-1	313, 314
31	2-2	316, 317
32	5-1	345, 346
33	5-2	348, 349
34	5-3	350, 351
35	5-4	353, 354
36	6-1	318, 319
37	6-2	321, 322
29	8-1	355, 356
27	8-2	358, 359
28	8-3	323, 324

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

PED PUSHBUTTONS

CABLE	PPB	TERMINAL	RETURN
12	PB6-1	343	PBP3
11	PB6-2	343	PBP3
9	PB8-1	344	PBP4
12	PB8-2	344	PBP4

VEH DETECTORS

CABLE	DET	TERMINAL

PED SIGNALS

CABLE	SIGNAL	TERMINAL WK	TERMINAL DW
7	P6-1	261	265
16	P6-2	262	266
13	P8-1	267	271
18	P8-2	268	272

PED HEAD NEUTRALS TO BE TERMINATED ON FNB1

REV. STATUS

SHEET	1	2	3			
REV						

REV	DATE	REVISION

DATE 10/26/01
DRAWN MPD

ACT Electronics, Inc.

#14 AT OTTER LAKE RD

TITLE: MNDOT 2002 'R' & 'P' CABINET

SIZE D | PART# | SCALE

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FILE: ACT8002P1 | REV | SHEET 1 OF 3

CONTROLLER INTERFACE PANEL

1

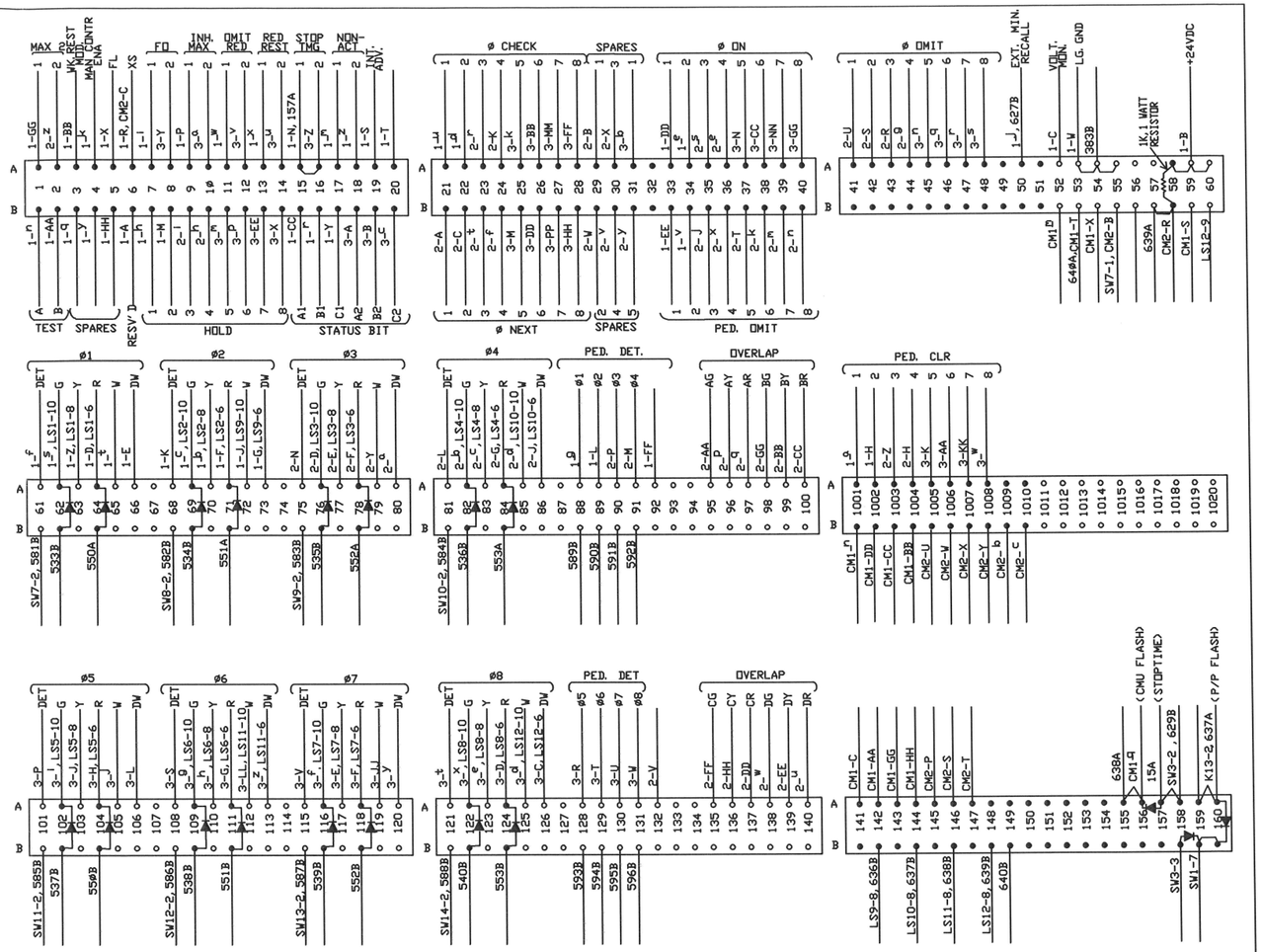
SH	SHELL GROUND	1-V
A	RESV.	6B
B	24VDC+	59A
C	VOLTAGE MONITOR	52A
D	ø1 RED	64A
E	ø1 DWK	66A
F	ø2 RED	71A
G	ø2 DWK	73A
H	ø2 PCL	1002A
J	ø2 WK	72A
K	ø2 VEH DET	68A
L	ø2 PED DET	89A
M	ø2 HOLD	8B
N	STOP TIMING 1	15A
P	INHIBIT MAX TERM 1	9A
R	EXTERNAL START	6A
S	INTERVAL ADVANCE	19A
T	INDICATOR LAMP CONT	20A
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	1001A
b	ø2 YEL	70A
c	ø2 GRN	69A
d	ø2 CHECK	22A
e	ø2 PHASE ON	34A
f	ø1 VEH DET	61A
g	ø1 PED DET	61A
h	ø1 HOLD	88A
i	FORCE OFF 1	7B
j	EXT MIN RECALL ALL ø	7A
k	MAN. CONTROL ENABLE	50A
m	CALL TO NON-ACT 1	4A
n	TEST INPUT A	17A
p	AC+ CONTROL	1B
q	SPARE 1	846B
r	STATUS BIT B1	3B
s	ø1 GRN	16B
t	ø1 WK	62A
u	ø1 CHECK	65A
v	ø2 PED OMIT	21A
w	OMIT RED CLR	34B
x	RED REST MODE 1	11A
y	SPARE 2	13A
z	CALL TO NON-ACT II	4B
AA	TEST INPUT B	18A
BB	WALK REST MODIFIER	2B
CC	STATUS BIT A1	3A
DD	ø1 PHASE ON	15B
EE	ø1 PED OMIT	33A
FF	PED RECYCLE 1	33B
GG	MAX 2 SELECT	92A
HH	SPARE 3	1A

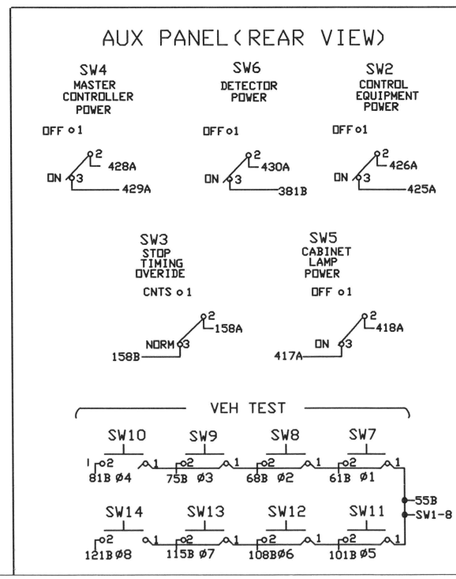
2

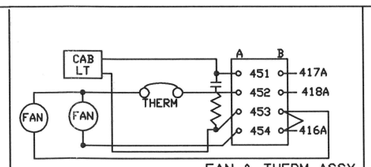
A	ø1 PHASE NEXT	5B
B	SPARE 1	21B
C	ø2 PHASE NEXT	29A
D	ø3 GRN	22B
E	ø3 YEL	76A
F	ø3 RED	77A
G	ø4 RED	78A
H	ø4 PCL	84A
J	ø4 DWK	1004A
K	ø4 CHECK	86A
L	ø4 VEH DET	24A
M	ø4 PED DET	81A
N	ø3 VEH DET	91A
P	ø3 PED DET	75A
R	ø3 PHASE OMIT	90A
S	ø2 PHASE OMIT	43A
T	ø5 PED OMIT	42A
U	ø1 PHASE OMIT	37B
V	PED RECYCLE 2	41A
W	SPARE 2	132A
X	SPARE 3	29B
Y	ø3 WK	30A
Z	ø3 PCL	79A
a	ø3 DWK	1003A
b	ø4 GRN	80A
c	ø4 YEL	82A
d	ø4 WALK	83A
e	ø4 PHASE ON	85A
f	ø4 PHASE NEXT	36A
g	ø4 PHASE OMIT	24B
h	ø4 HOLD	44A
i	ø3 HOLD	10B
j	ø3 PED OMIT	9B
k	ø6 PED OMIT	35B
m	ø7 PED OMIT	38B
n	ø8 PED OMIT	39B
p	OL A YEL	40B
q	OL A RED	96A
r	ø3 CHECK	97A
s	ø3 PHASE ON	23A
t	ø3 PHASE NEXT	35A
u	OL D RED	23B
v	SPARE 4	140A
w	OL D GRN	30B
x	ø4 PED OMIT	138A
y	SPARE 5	36B
z	MAX 2 SELECT 2	31B
AA	OL A GRN	2A
BB	OL B YEL	95A
CC	OL B RED	99A
DD	OL C RED	100A
EE	OL D YEL	137A
FF	OL C GRN	139A
GG	OL B GRN	135A
HH	OL C YEL	98A

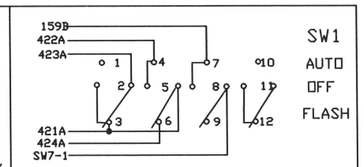
3

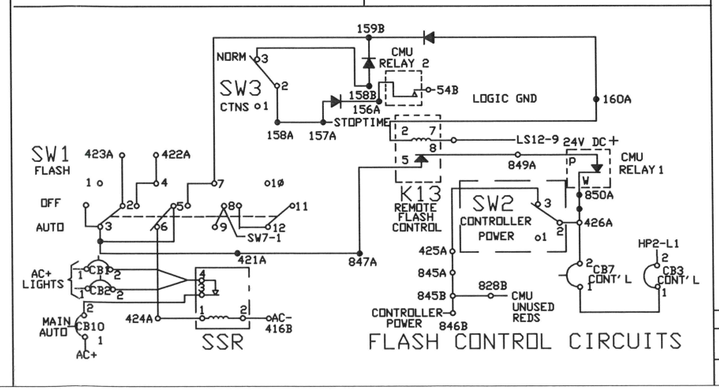
A	STATUS BIT A2	136A
B	STATUS BIT B2	18B
C	ø8 DWK	19B
D	ø8 RED	126A
E	ø7 YEL	124A
F	ø7 RED	117A
G	ø6 RED	118A
H	ø5 RED	111A
J	ø5 YEL	104A
K	ø5 PCL	103A
L	ø5 DWK	1005A
M	ø5 PHASE NEXT	106A
N	ø5 PHASE ON	25B
P	ø5 VEH DET	37A
R	ø5 PED DET	101A
S	ø6 VEH DET	128A
T	ø6 PED DET	108A
U	ø7 PED DET	129A
V	ø7 VEH DET	130A
W	ø8 PED DET	115A
X	ø8 HOLD	131A
Y	FORCE OFF 2	14B
Z	STOP TIME 2	8A
a	INHIBIT MAX TERM 2	16A
b	SPARE 1	10A
c	STATUS BIT C2	31A
d	ø8 WK	20B
e	ø8 YEL	125A
f	ø7 GRN	123A
g	ø6 GRN	116A
h	ø6 YEL	109A
j	ø5 GRN	110A
k	ø5 WK	102A
m	ø5 CHECK	105A
n	ø5 HOLD	25A
p	ø5 PHASE OMIT	11B
q	ø6 HOLD	45A
r	ø6 PHASE OMIT	12B
s	ø7 PHASE OMIT	46A
t	ø8 PHASE OMIT	47A
u	ø8 VEH DET	48A
v	RED REST MODE 2	121A
w	OMIT RED CLR 2	14A
x	ø8 PCL	12A
y	ø8 GRN	1008A
z	ø7 DWK	122A
AA	ø6 DWK	120A
BB	ø6 PCL	113A
CC	ø6 CHECK	1006A
DD	ø6 PHASE ON	26A
EE	ø6 PHASE NEXT	38A
FF	ø7 HOLD	26B
GG	ø8 CHECK	13B
HH	ø8 PHASE ON	28A
JJ	ø8 PHASE NEXT	40A
KK	ø7 WK	28B
LL	ø7 PCL	119A
MM	ø6 WK	1007A
NN	ø7 PHASE ON	112A
PP	ø7 PHASE NEXT	27A
		39A
		27B











REV.	STATUS				
SHEET	1	2	3		
REV					

REV	DATE	REVISION
DATE	10/31/01	#14 AT OTTER LAKE
DRAWN	MPD	

ACT Electronics, Inc.

TITLE: MNDOT 2002 'R' & 'P' CABINET

SIZE: D | PART#:

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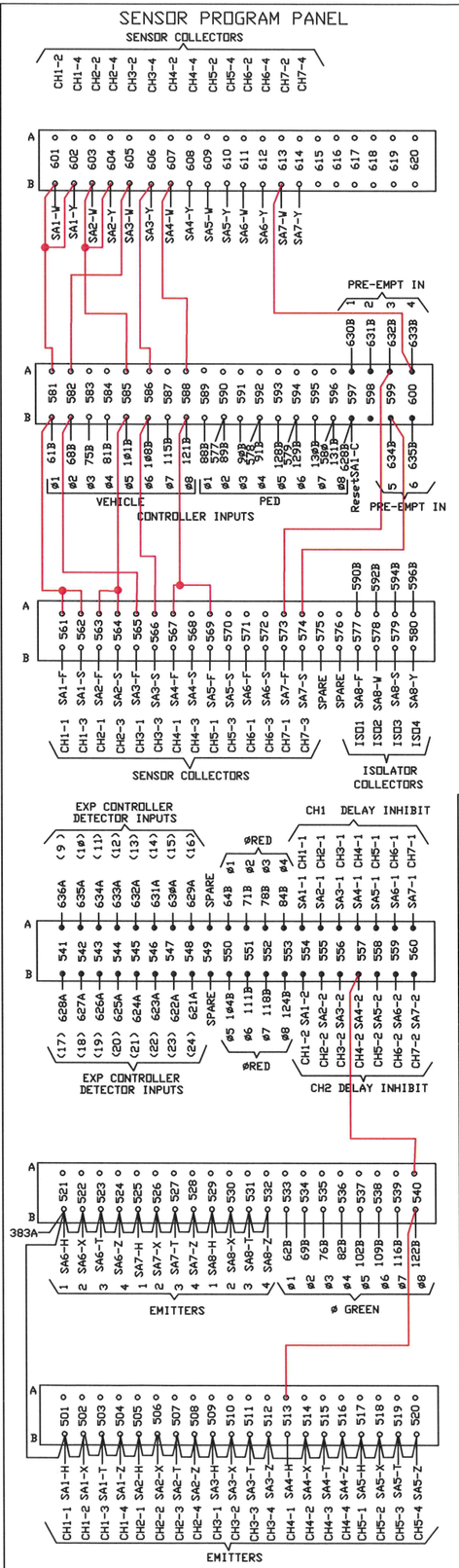
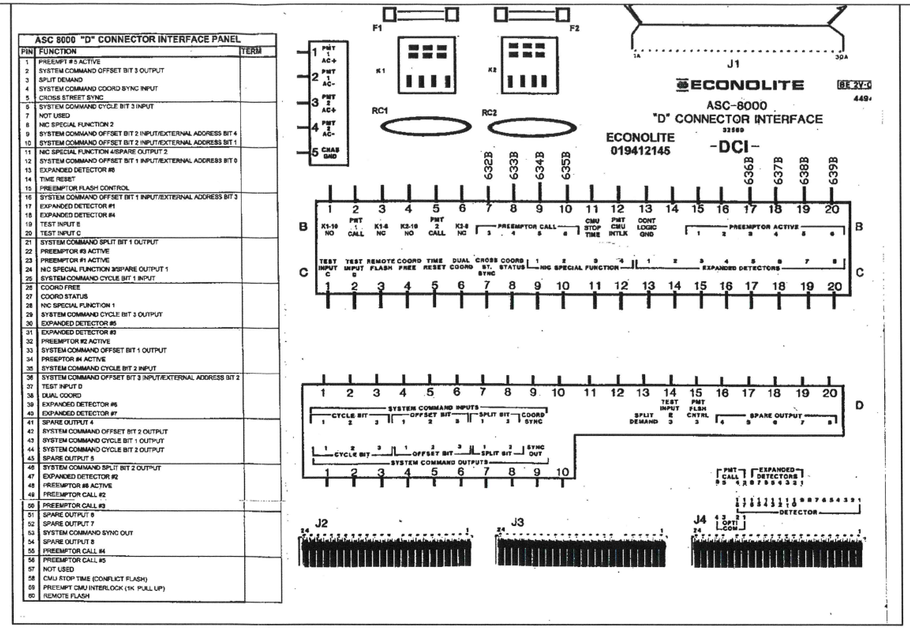
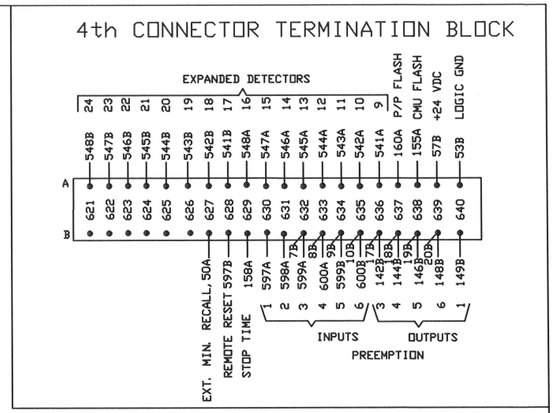
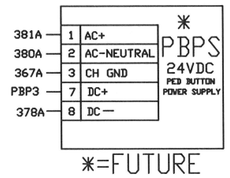
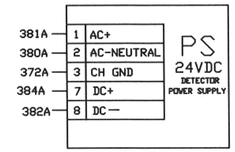
SCALE | FILE: ACT8RPE | REV | SHEET 2 OF 3











SA

DETECTORS AND PPB ISOLATION

⊕SA1 THROUGH SA7 ARE WIRED TO ACCEPT VEH DET. OR EVP DISCRIMINATOR OR PPB ISOLATOR.				SA1			SA2			SA3			SA4			SA5			SA6			SA7			SA8	FUNCTIONS 1-CALL&EXTEND 2-CALL ONLY 3-EXTEND ONLY 4-CALL ONLY DENS 5-DLY CALL ONLY 6-DLY CALL ONLY DENSITY 7-DLY CALL IMMED EXT. 8-CARRY OVER 9-ADVISORY 10-SAMPLING 11-EVP/SPECIAL		PED ISOLATOR PIN
				PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	DET	PHASE	FUNC	POLE	CONTR. CH	PPB ISOLATION PHASE			
MAIN I/O BLOCK	WIRE COLOR	SA I/O BLOCK	EDGE CONN.	☒Pin 10 of the edge conn. can be jumpered for use as CH4 delay inhibit. Jumpering will disable addressing.	CH 1	1	1	1-1	5	1	5-1	2	1	2-1	8	3/8	8-1	8	1	8-3				1-6	EVP	3	3	2	CH 1		
					CH 2	1	1	1-2	5	1	5-2	2	1	2-2	8	7	8-2							2-5	EVP	1	4	4	CH 2		
					CH 3	1	1	1-3	5	1	5-3	6	1	6-1										8	EVP	4	5	6	CH 3		
					CH 4	1	1	1-4	5	1	5-4	6	1	6-2											EVP			8	CH 4		
					MODEL	604			604			604			602T			602T						EVP			244	MODEL		
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
			6	ADDRESS BIT#0				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
			10	ADDRESS BIT# 1				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
			19	DATA TRANSMIT																				NC					
			21	DATA RECEIVE																				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		

REV.	DATE	REVISION

ACT Electronics, Inc.

#14 AT OTTER LAKE RD

MNDOT 2002 'R' & 'P' CABINET

REV. STATUS						
SHEET	1	2	3			
REV						

FSR: MNDOT

SIZE: D | PART#:

SCALE:

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