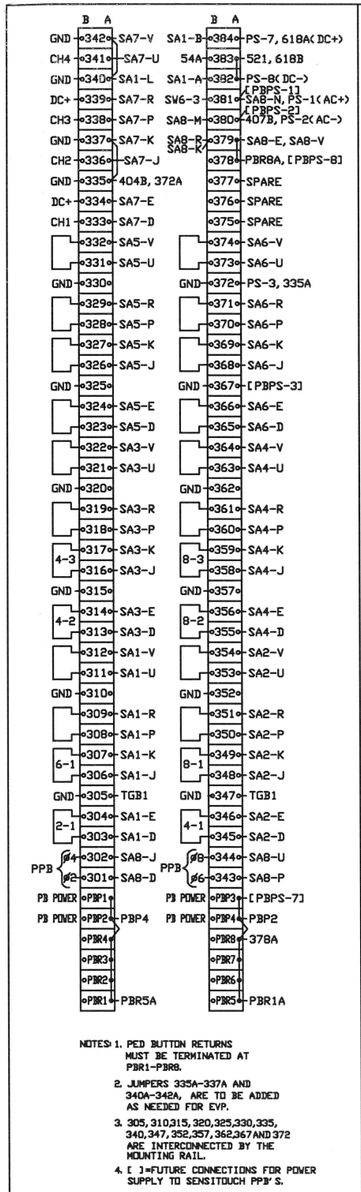


NOTES: 1. PED BUTTON RETURNS MUST BE TERMINATED AT PBR1-PBR8.

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

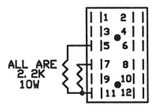
3. 305, 310, 315, 320, 325, 330, 335, 340, 347, 352, 357, 362, 367 AND 372 ARE INTERCONNECTED BY THE MOUNTING RAIL.

4. [ ]=FUTURE CONNECTIONS FOR POWER SUPPLY TO SENSITOUCH PPB'S.

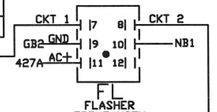
LOAD SWITCH PANEL ASSEMBLY

	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	NB1	NB1	
POWER	115 VAC	1	SB1	SB1	SB2	SB2	SB1	SB1	SB2	SB2	SB2	SB1	SB2 FP8-8			

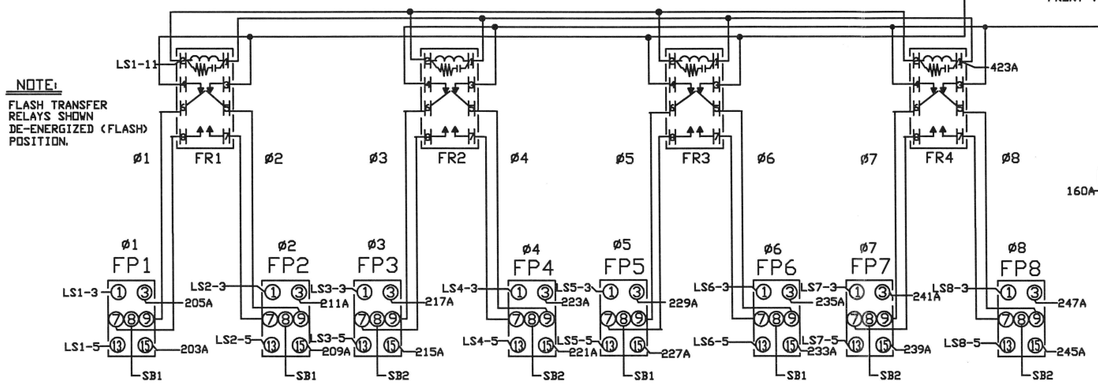
PED SOCKETS HAVE ONE RESISTOR FROM 11-7 ONLY.



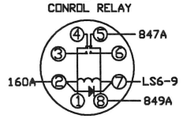
TYPICAL ALL LOAD SWITCH BASES FRONT VIEW



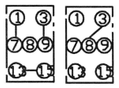
NOTE: FLASH TRANSFER RELAYS SHOWN DE-ENERGIZED (FLASH) POSITION.

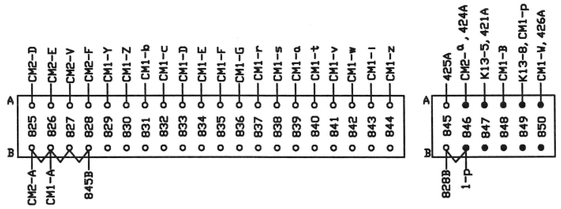


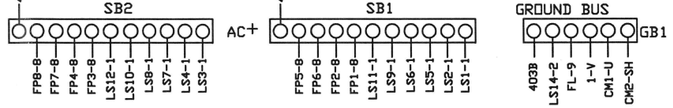
K13 REMOTE FLASH CONROL RELAY

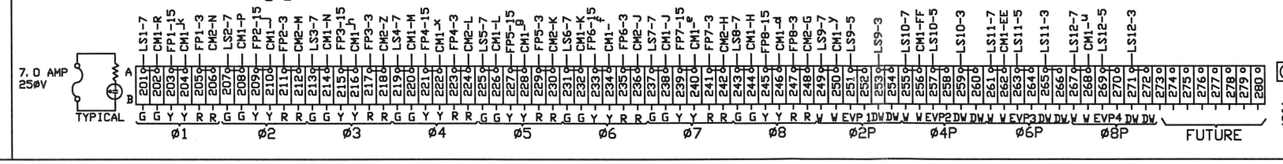


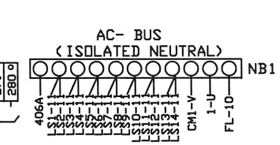
FLASH PLUG JUMPERING











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
j	CH 3 WK	843A
k	CH 2 YEL Ø2	210A
m	CH 1 YEL Ø1	204A
n	CONT. VOLT. MON.	52B
p	+24V MONITOR INHIBIT	1001B
q	RELAY 1 NC	849A
r	RELAY 2 NO	156A
s	CH 12 WK	837A
t	CH 11 WK	838A
u	CH 9 WK	840A
v	CH 8 WK Ø8	268A
w	CH 7 WK	841A
x	CH 5 WK	842A
y	CH 4 YEL Ø4	222A
z	CH 2 WK Ø2	250A
AA	CH 1 WK	250A
BB	SPARE 1	844A
CC	RESET	142A
DD	CAB INTERLOCK A	1004B
EE	CAB INTERLOCK B	1003B
FF	CH 6 WK Ø6	1002B
GG	CH 4 WK Ø4	262A
HH	SPARE 2	256A
	SPARE 3	143A
		144A

CM2

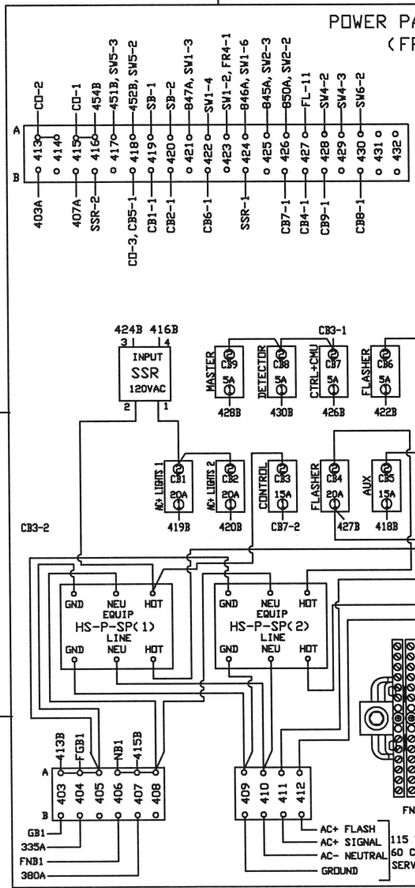
A	AC+ II	825B
B	DELAY RELAY COMM	55B
C	DELAY RELAY NO	6A
D	CH 12 RED	825A
E	CH 11 RED	826A
F	CH 9 RED	828A
G	CH 8 RED Ø8	248A
H	CH 7 RED Ø7	242A
J	CH 6 RED Ø6	236A
K	CH 5 RED Ø5	230A
L	CH 4 RED Ø4	224A
M	CH 2 RED Ø2	212A
N	CH 1 RED Ø1	206A
P	SPARE 1	145A
R	+24V MONITOR II	58B
S	SPARE 2	146A
T	SPARE 3	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		CH5-Ø 5
1-7 2-8 3-9 4-10 5-11 6-12		CH6-Ø 6
1-8 2-9 3-10 4-11 5-12		CH7-Ø 7
1-9 2-10 3-11 4-12		CH8-Ø 8
1-10 2-11 3-12		CH9-Ø___
1-11 2-12	CH1-Ø 1	CH10-Ø___
1-12	CH2-Ø 2	CH11-Ø___
	CH3-Ø 3	CH12-Ø___
	CH4-Ø 4	

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)



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 TYPICAL SENSOR WIRE COLORS

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

EVP SENSORS

CABLE	DISCR. CHAN.	PHASES	POLE#	TERMINAL SIGNAL	TERMINAL DC(+)	TERMINAL GND
31	1	6	1	333	334	337
36, 39	2	2	3	336	334	337
34, 38	3	8	4	338	339	342
33, 40	4	4	2	341	339	342

EVP VERIFY LIGHTS

CABLE	CONTR. CHAN.	PHASES	POLE#	TERM
30	3	6	1	251
35	4	2	3	257
37	5	8	4	263
32	6	4	2	269

VEHICLE SIGNALS

CABLE	SIGNAL	TERMINAL G◁	TERMINAL Y◁	TERMINAL R◁	TERMINAL G	TERMINAL Y	TERMINAL R
24, 7	2-1, 2-2				207	209	211
5, 4	2-3, 2-4				208	210	212
5, 6	4-1, 4-2				219	221	223
3	4-3				220	222	224
3, 4	6-1, 6-2				231	233	235
2	6-3				232	234	236
2, 1	8-1, 8-2				243	245	247
24	8-3				244	246	248

SIGNAL HEAD NEUTRALS TO BE TERMINATED ON FNB1

VEH DETECTORS

CABLE	DET	TERMINAL
13	2-1	303, 304
14	4-1	345, 346
15	4-2	313, 314
16	4-3	316, 317
17	6-1	306, 307
18	8-1	348, 349
19	8-2	355, 356
20	8-3	358, 359

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

PED PUSHBUTTONS

CABLE	PPB	TERMINAL	RETURN
11	PB2-1	301	PBP1
8	PB2-2	301	PBP1
10	PB4-1	302	PBP2
11	PB4-2	302	PBP2
9	PB6-1	343	PBP3
10	PB6-2	343	PBP3
8	PB8-1	344	PBP4
9	PB8-2	344	PBP4

VEH DETECTORS

CABLE	DET	TERMINAL

PED SIGNALS

CABLE	SIGNAL	TERMINAL WK	TERMINAL DW
7	P2-1	249	253
7	P2-2	250	254
6	P4-1	255	259
7	P4-2	256	260
4	P6-1	261	265
6	P6-2	262	266
1	P8-1	267	271
12	P8-2	268	272

PED HEAD NEUTRALS TO BE TERMINATED ON FNB1

REV	DATE	REVISION

DATE 10/26/11
DRAWN MPD

ACT Electronics, Inc.

FOLEY AT 121ST

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

REV. STATUS						
SHEET	1	2	3			
REV						

SIZE D
PART#
SCALE
FORM

FILE: ACTCMP1 REV SHEET 1 OF 3

CONTROLLER INTERFACE PANEL

1

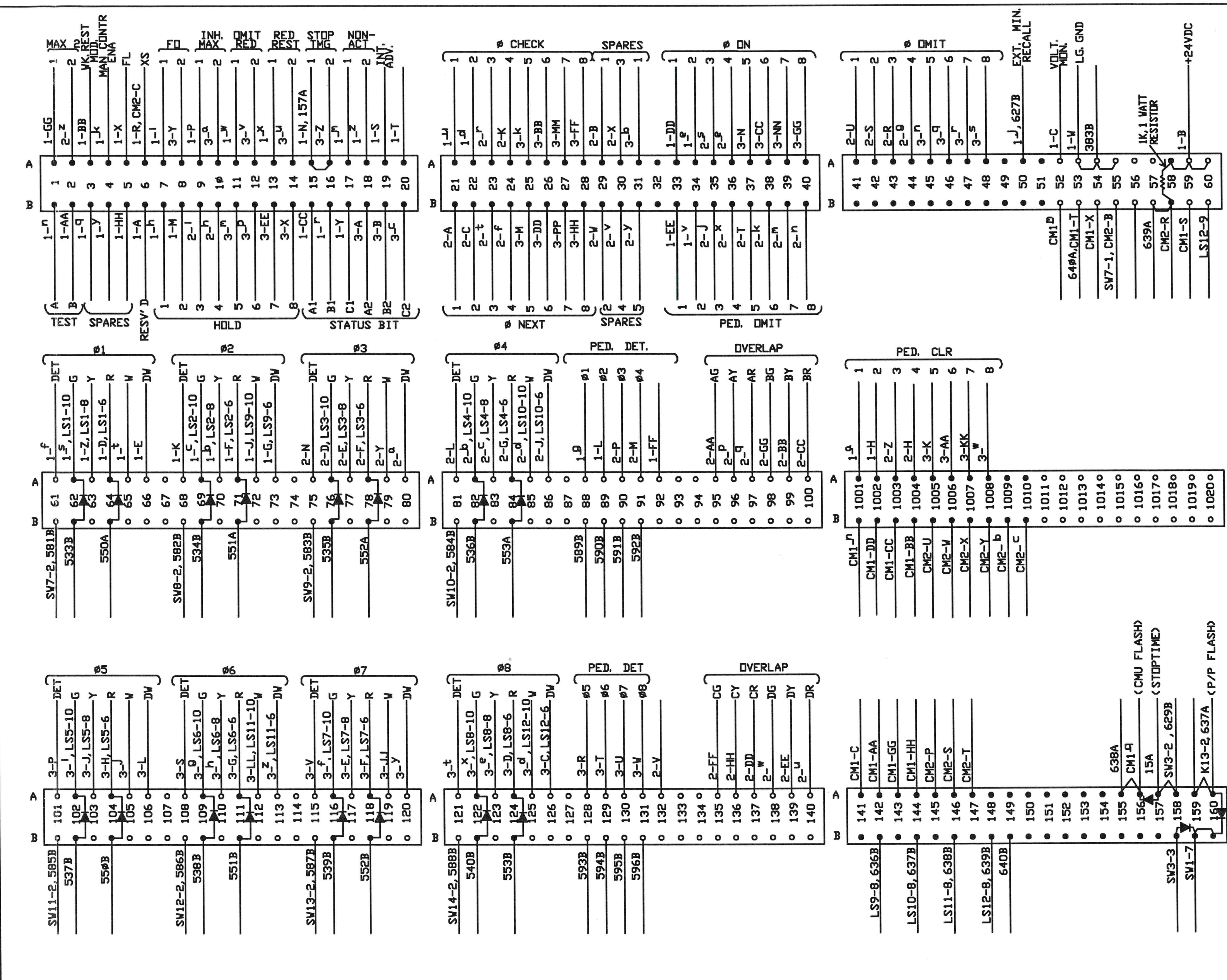
SH	SHELL GROUND	1-V
A	RESV.	6B
B	24VDC+	59A
C	VOLTAGE MONITOR	52A
D	ø1 RED	64A
E	ø1 DWK	66A
F	ø2 RED	71A
G	ø2 DWK	73A
H	ø2 PCL	1002A
J	ø2 WK	72A
K	ø2 VEH DET	68A
L	ø2 PED DET	89A
M	ø2 HOLD	8B
N	STOP TIMING 1	15A
P	INHIBIT MAX TERM 1	9A
R	EXTERNAL START	6A
S	INTERVAL ADVANCE	19A
T	INDICATOR LAMP CONT	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	88A
h	ø1 HOLD	7B
i	FORCE OFF 1	7A
j	EXT MIN RECALL ALL ø	50A
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

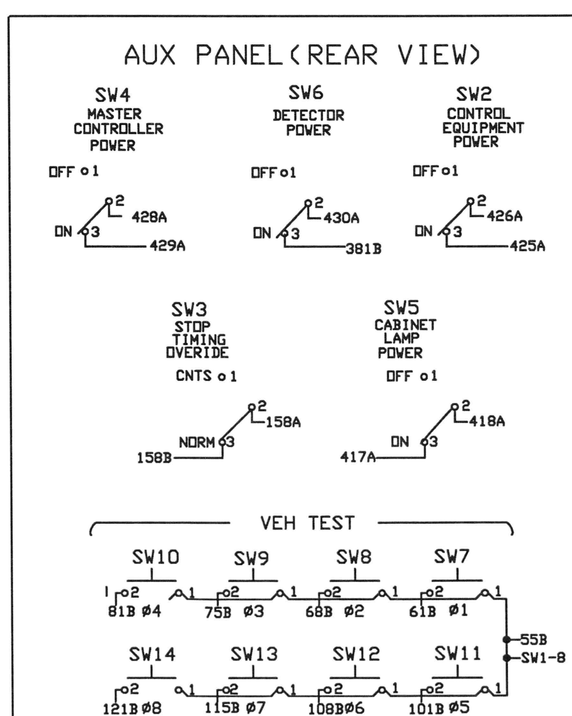
2

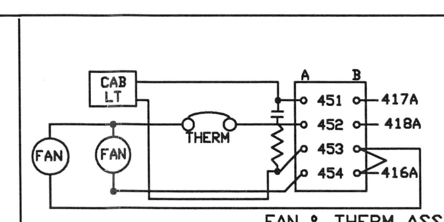
A	ø1 PHASE NEXT	21B
B	SPARE 1	29A
C	ø2 PHASE NEXT	22B
D	ø3 GRN	76A
E	ø3 YEL	77A
F	ø3 RED	78A
G	ø4 RED	84A
H	ø4 PCL	1004A
J	ø4 DWK	86A
K	ø4 CHECK	24A
L	ø4 VEH DET	81A
M	ø4 PED DET	91A
N	ø3 VEH DET	75A
P	ø3 PED DET	90A
R	ø3 PHASE OMIT	43A
S	ø2 PHASE OMIT	42A
T	ø5 PED OMIT	37B
U	ø1 PHASE OMIT	41A
V	PED RECYCLE 2	132A
W	SPARE 2	29B
X	SPARE 3	30A
Y	ø3 WK	79A
Z	ø3 PCL	1003A
a	ø3 DWK	80A
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	10B
i	ø3 HOLD	9B
j	ø3 PED OMIT	35B
k	ø6 PED OMIT	38B
m	ø7 PED OMIT	39B
n	ø8 PED OMIT	40B
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	140A
v	SPARE 4	30B
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	100A
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

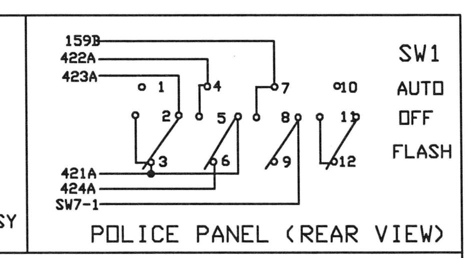
3

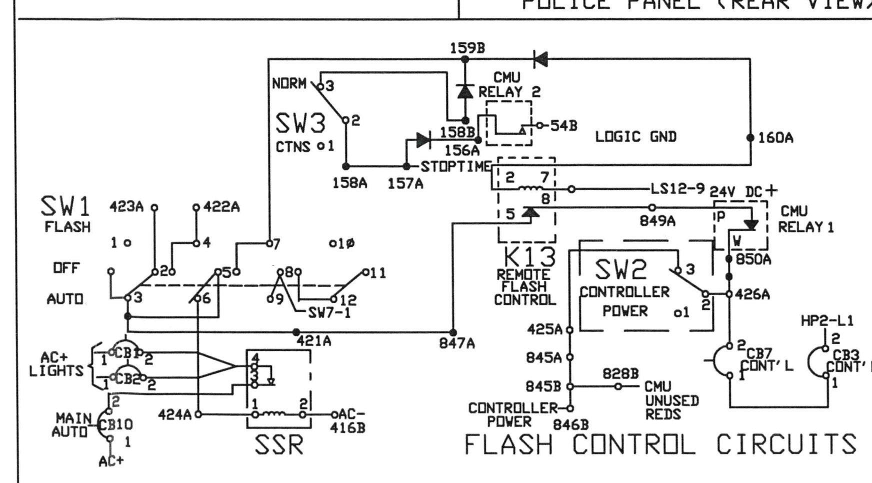
A	STATUS BIT A2	18B
B	STATUS BIT B2	19B
C	ø8 DWK	126A
D	ø8 RED	124A
E	ø7 YEL	117A
F	ø7 RED	118A
G	ø6 RED	111A
H	ø5 RED	104A
J	ø5 YEL	103A
K	ø5 PCL	1005A
L	ø5 DWK	106A
M	ø5 PHASE NEXT	25B
N	ø5 PHASE ON	37A
P	ø5 VEH DET	101A
R	ø5 PED DET	128A
S	ø6 VEH DET	108A
T	ø6 PED DET	129A
U	ø7 PED DET	130A
V	ø7 VEH 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	10A
b	SPARE 1	31A
c	STATUS BIT C2	20B
d	ø8 WK	125A
e	ø8 YEL	123A
f	ø7 GRN	116A
g	ø6 GRN	109A
h	ø6 YEL	110A
i	ø5 GRN	102A
j	ø5 WK	105A
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	1008A
x	ø8 GRN	122A
y	ø7 DWK	120A
z	ø6 DWK	113A
AA	ø6 PCL	1006A
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	40A
HH	ø8 PHASE NEXT	28B
JJ	ø7 WK	119A
KK	ø7 PCL	1007A
LL	ø6 WK	112A
MM	ø7 CHECK	27A
NN	ø7 PHASE ON	39A
PP	ø7 PHASE NEXT	27B











FOLEY AT 121ST

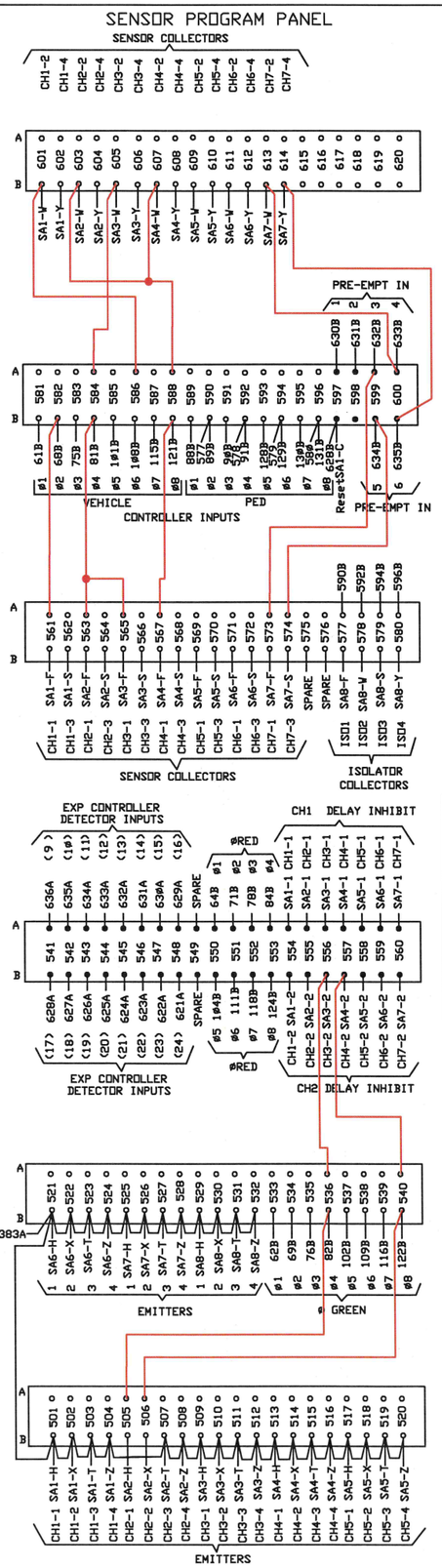
ACT Electronics, Inc.

MNDOT 2002 'R' & 'P' CABINET

REV. STATUS

SHEET	1	2	3
REV			

SIZE D



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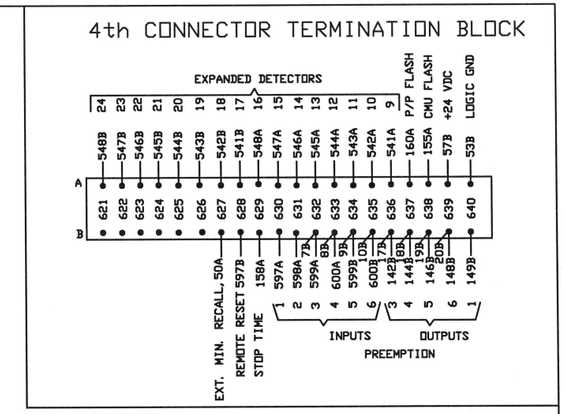

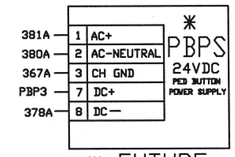

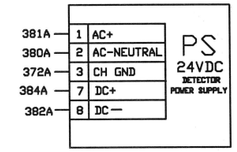

SA

DETECTORS AND PPB ISOLATION

MAIN I/O BLOCK	WIRE COLOR	SA I/O BLOCK	EDGE CONN.	⊕ 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 POLE	SA7 CONTR. CH	SA8 PPB ISOLATION PHASE	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
					CH 1	2	1	2-1	4	3/8	4-1	4	1	4-2	8	1	8-2									6	EVP	1	3	2	CH 1		
					CH 2	6	1	6-1	8	3/8	8-1	4	7	4-3	8	7	8-3									2	EVP	3	4	4	CH 2		
					CH 3																					8	EVP	4	5	6	CH 3		
					CH 4																					4	EVP	2	6	8	CH 4		
					MODEL	602			602T			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.

DATE 10/25/05
DRAWN MPG

FOLEY AT 121ST

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

REV. STATUS					
SHEET	1	2	3		
REV					

FOR: MNDOT

SIZE D | PART#

SCALE | FILE ACT09RP3 | REV | SHEET 3 OF 3