	LS	1	2	3	4	5	6	7	8	9	10	11	12
	CONT Ø	1	2	3	4	5	6	7	8	2P	4P	6P	8P
	PLAN Ø	1	2	3	4	5	6	7	8	2P	4P	6P	8P
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	LS2-9	LS1-9 LS3-9	LS2-9 LS4-9	LS3-9 LS5-9	LS4-9 K13-7 LS6-9	LS5-9 LS7-9	LS6-9 LS8-9	LS7-9 LS9-9	LS8-9 LS10-9	LS9-9 LS11-9	LS10-9 LS12-9	LS11-9 60B
POWER	CHASSIS GROUND	2	LS2-2	LS1-2 LS3-2	LS2-2 LS4-2	LS3-2 LS5-2	LS4-2 LS6-2	LS5-2 LS7-2	LS6-2 LS8-2	LS7-2 LS9-2	LS8-2 LS10-2	LS9-2 LS11-2	LS10-2 LS12-2	LS11-2 GB3
POWER	AC COMMON	11	NB3 FR1-2	NB3	NB3	NB3	NB3	NB3	NB3	NB3	NB3	NB3	NB3	NB3
POWER	115 VAC	1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1 FP8-8

TYPICAL ALL LOAD SWITCH BASES

2.5K 10W

LOAD SWITCH PANEL ASSEMBLY (REAR VIEW)

FL FLASHER

422A AC+ GB3 GND CKT 1 NB3 CKT 2

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

K13 REMOTE FLASH CONROL RELAY

160A 847A LS5-9 849A

FLASH PLUG JUMPERING

RED YEL WHT

6 1/4 AMP 250V SLO BLO TYPICAL

NB3 AC- BUS (ISOLATED NEUTRAL)

VEHICLE SIGNALS

SIGNAL	TERMINAL ←G	←Y	←R	G	Y	R
1-1	201	203	205			
1-2	202	204	206			
2-1				207	209	211
2-2				208	210	212
3-1	213	215	217			
3-2	214	216	218			
4-1				219	221	223
4-2				220	222	224
5-1	225	227	229			
5-2	226	228	230			
6-1				231	233	235
6-2				232	234	236
7-1	237	239	241			
7-2	238	240	242			
8-1				243	245	247
8-2				244	246	248

VEH DETECTORS

DET	TERMINAL
D1-1	306B,307B
D1-2	303B,304B
D2-1	345B,346B
D3-1	323B,324B
D3-2	326B,327B
D4-1	316B,317B
D4-2	313B,314B
D4-3	318B,319B
D5-1	311B,312B
D5-2	308B,309B
D6-1	348B,349B
D7-1	331B,332B
D7-2	328B,329B
D8-1	321B,322B
D8-2	355B,356B
D8-3	358B,359B

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
P8-1	267	271
P8-2	268	272

PED PUSHBUTTONS

PPB	TERMINAL
PB2-1,2	301B,NB2
PB4-1,2	302B,NB2
PB6-1,2	343B,NB2
PB8-1,2	344B,NB2

NOTES

1) IF A SIGNAL SERVICE CABINET IS USED REMOVE JUMPER FROM 409A TO 410A.
2) 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	1	365B	366B	369B
2	2,5	3	368B	366B	369B
3	3,8	2	333B	334B	337B
4	4,7	4	336B	334B	337B

EVP CONFIRMATORY LIGHTS

CONTR. CHAN.	PHASES	POLE #	TERM
1	1,6	1	251
2	2,5	3	257
3	3,8	2	263
4	4,7	4	269

EVP TYPICAL SENSOR WIRE COLORS

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

TIGHTENING TORQUE SPECIFICATIONS

SCREW SIZE	6-32	8-32	10-32
POUND INCHES	12	16	25.9
WEIDMULLER			
BLOCK TYPE	SAK56	SAK6N	SAK35N
POUND INCHES	10.5	16	35

B A
342 SA7-V — SA1-B 384 PS-7 (DC+),618A
341 SA7-U — 383 521
GND 340 SA1-L — 382 54A
339 SA7-R — SA1-A 381 618B,PS-8 (DC-)
338 SA7-P — SW6-3 380 SA8-N,PS-1 (AC+)
GND 337 SA7-K — SA8-E 379 PS-2 (AC-),NB-2
CH2 336 SA7-J — SA8-K 378 SA8-M
GND 335 — SA8-R 377 SA8-V
DC+ 334 SA7-E — 376 SPARE
CH1 333 SA7-D — 375 SPARE
D7-1 332 SA5-V — 374 SA6-V
331 SA5-U — 373 SA6-U
GND 330 — GND 372 PS-3
D7-2 329 SA5-R — 371 SA6-R
328 SA5-P — 370 SA6-P
D3-2 327 SA5-K — GND 369 SA6-K
326 SA5-J — CH2 368 SA6-J
GND 325 — GND 367
D3-1 324 SA5-E — DC+ 366 SA6-E
323 SA5-D — CH1 365 SA6-D
D8-1 322 SA3-V — 364 SA4-V
321 SA3-U — 363 SA4-U
GND 320 — GND 362
D4-3 319 SA3-R — 361 SA4-R
318 SA3-P — 360 SA4-P
D4-1 317 SA3-K — 359 SA4-K
D8-3 316 SA3-J — 358 SA4-J
GND 315 — GND 357
D4-2 314 SA3-E — 356 SA4-E
D8-2 313 SA3-D — 355 SA4-D
D5-1 312 SA1-V — 354 SA2-V
311 SA1-U — 353 SA2-U
GND 310 — GND 352
D5-2 309 SA1-R — 351 SA2-R
308 SA1-P — 350 SA2-P
D1-1 307 SA1-K — 349 SA2-K
D6-1 306 SA1-J — 348 SA2-J
GND 305 GB2 — GND 347 GB2
D1-2 304 SA1-E — D2-1 346 SA2-E
303 SA1-D — 345 SA2-D
PPB Ø4 302 SA8-J — PPB Ø8 344 SA8-U
Ø2 301 SA8-D — Ø6 343 SA8-P

EQUIP. GND BUS — 305B, 347B — GB2 — 405B
AC- NEUTRAL ISOLATED BUS — 379B — NB2 — 407B

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

NEMA + 12CH CONFLICT MONITOR

CM1

SHL SHELL GROUND — GB3
AL AC+ I — 826B
BL RELAY 1 NO — 148A
CL RELAY 2 NC — 141A
DL CH 12 GRN — 833A
EL CH 11 GRN — 834A
FL CH 10 GRN — 835A
GL CH 9 GRN — 836A
HL CH 8 GRN Ø8 — 244A
JL CH 7 GRN Ø7 — 238A
KL CH 6 GRN Ø6 — 232A
LL CH 5 GRN Ø5 — 226A
ML CH 4 GRN Ø4 — 220A
NL CH 3 GRN Ø3 — 214A
PL CH 2 GRN Ø2 — 208A
RL CH 1 GRN Ø1 — 202A
SL +24V MONITOR I — 59B
TL LOGIC GROUND — 53B
UL CHASSIS GROUND — SHELL
VL AC- — 848A
WL RELAY 1 COMMON (AC+) — 850A
XL RELAY 2 COMMON (LG) — 54B
YL CH 12 YEL — 829A
ZL CH 11 YEL — 830A
aL CH 10 WK — 839A
bL CH 10 YEL — 831A
cL CH 9 YEL — 832A
dL CH 8 YEL Ø8 — 246A
eL CH 7 YEL Ø7 — 240A
fL CH 6 YEL Ø6 — 234A
gL CH 5 YEL Ø5 — 228A
hL CH 3 YEL Ø3 — 216A
iL CH 3 WK — 843A
jL CH 2 YEL Ø2 — 210A
kL CH 1 YEL Ø1 — 204A
mL CONT. VOLT. MON. — 52B
nL +24V MONITOR INHIBIT — 1001B
pL RELAY 1 NC — 849A
qL RELAY 2 NO — 157A
rL CH 12 WK — 837A
sL CH 11 WK — 838A
tL CH 9 WK — 840A
uL CH 8 WK Ø8 — 268A
vL CH 7 WK — 841A
wL CH 5 WK — 842A
xL CH 4 YEL Ø4 — 222A
yL CH 2 WK Ø2 — 250A
zL CH 1 WK — 844A
AAL SPARE 1 — 142A
BBL RESET — 1004B
CCL CAB INTERLOCK A — 1003B
DDL CAB INTERLOCK B — 1002B
EEL CH 6 WK Ø6 — 262A
FFL CH 4 WK Ø4 — 256A
GGL SPARE 2 — 143A
HHL SPARE 3 — 144A

CM2

AL AC+ II — 825B
BL DELAY RELAY COMM — 55B
CL DELAY RELAY NO — 6A
DL CH 12 RED — 825A
EL CH 11 RED — 826A
FL CH 9 RED — 828A
GL CH 8 RED Ø8 — 248A
HL CH 7 RED Ø7 — 242A
JL CH 6 RED Ø6 — 236A
KL CH 5 RED Ø5 — 230A
LL CH 4 RED Ø4 — 224A
ML CH 2 RED Ø2 — 212A
NL CH 1 RED Ø1 — 206A
PL SPARE 1 — 145A
RL +24V MONITOR II — 58B
SL SPARE 2 — 146A
TL SPARE 3 — 147A
UL DELAY RELAY NC — 1005B
VL CH 10 RED — 827A
WL SPARE 4 — 1006B
XL SPARE 5 — 1007B
YL SPARE 6 — 1008B
ZL CH 3 RED Ø3 — 218A
aL RED ENABLE — 846A
bL SPARE 7 — 1009B
cL 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 — CH5-Ø 5
CH2-Ø 2 — CH6-Ø 6
CH3-Ø 3 — CH7-Ø 7
CH4-Ø 4 — 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)

-CO- LOAD LINE GFI 415A 424A 413A

CO-2 451B,SW5-3 CO-1 454B SW1-2,FR4-1 SB1 846A,SW1-6 847A,SW1-3 845A,SW2-3 FL-11 452B,SW5-2 CO-3 SW4-2 SW6-2 SW2-2 850A SW4-3 SW1-4
GB1 NB1 MC-2 MC-4 MC-1 RIS2 LOAD CB3-2 CB8-2 CB7-2 CB6-2 CB5-2

RIS 1 CTRL — LOAD — GB1
RIS 2 FLASH — LOAD — 422B — GB1
RIS 3 AUTO — LOAD — NB1 — GB1

-MC- 418B 415B 419B RC1

423B 15A CTRL CB4 — 15A AUX CB3 — 20A FLASH CB2 — 40A AC- (LIGHTS) CB1 — 409A

848B
EQUIPMENT LINE IN — LINE NEUT. OUT — LA SURRESTOR — GND
MAIN LINE — MAIN NEUT.

CB3-1 409 410 411 412

425B 5A MASTER CB8 — 426B 5A DETECTOR CB7 — 427B 5A CONTROL CB6 — 430B 5A FLASH CB5

SEE NOTE 1 AC+ SIGNAL
AC+ CONV (OPTIONAL)
115 VOLT 60 CYCLE SERVICE
AC-

MOV1 MOV2 415B MOV3 — DOOR + SHELL
GB1 GROUND BUS GB3 AC-BUS (ISOLATED) NB3 NB2 415B NB3 RIS-3 NB1
405 406 GB2 407 408 NB2

INTERSECTION
PRINT FILE
CABINET PRINT
DISTRICT PRINT

PLEASE DESTROY OLD PRINTS

REV	DESCRIPTION

MINNESOTA DEPARTMENT OF TRANSPORTATION

REV. STATUS OF SHEETS					
SHEET	1	2	3		
REV	0	0	0		

TMP390 TELCONT.,(12) LOAD RELAY, NEMA+ CONFLICT MONITOR,(16) LOOP DETECTORS NEMA FLASHER, TELEMETRY, EVP

LINO LAKES-T.H. 49 AT LAKE DRIVE & HOGSON RD

DRAWN BY-T.F. PALM	ESU-951108	REV-0
CHECKED BY-	DRAWING NO. -ACT92R-390-1465	Sheet No. 1 of 3 Sheets

CONTROLLER INTERFACE PANEL

1

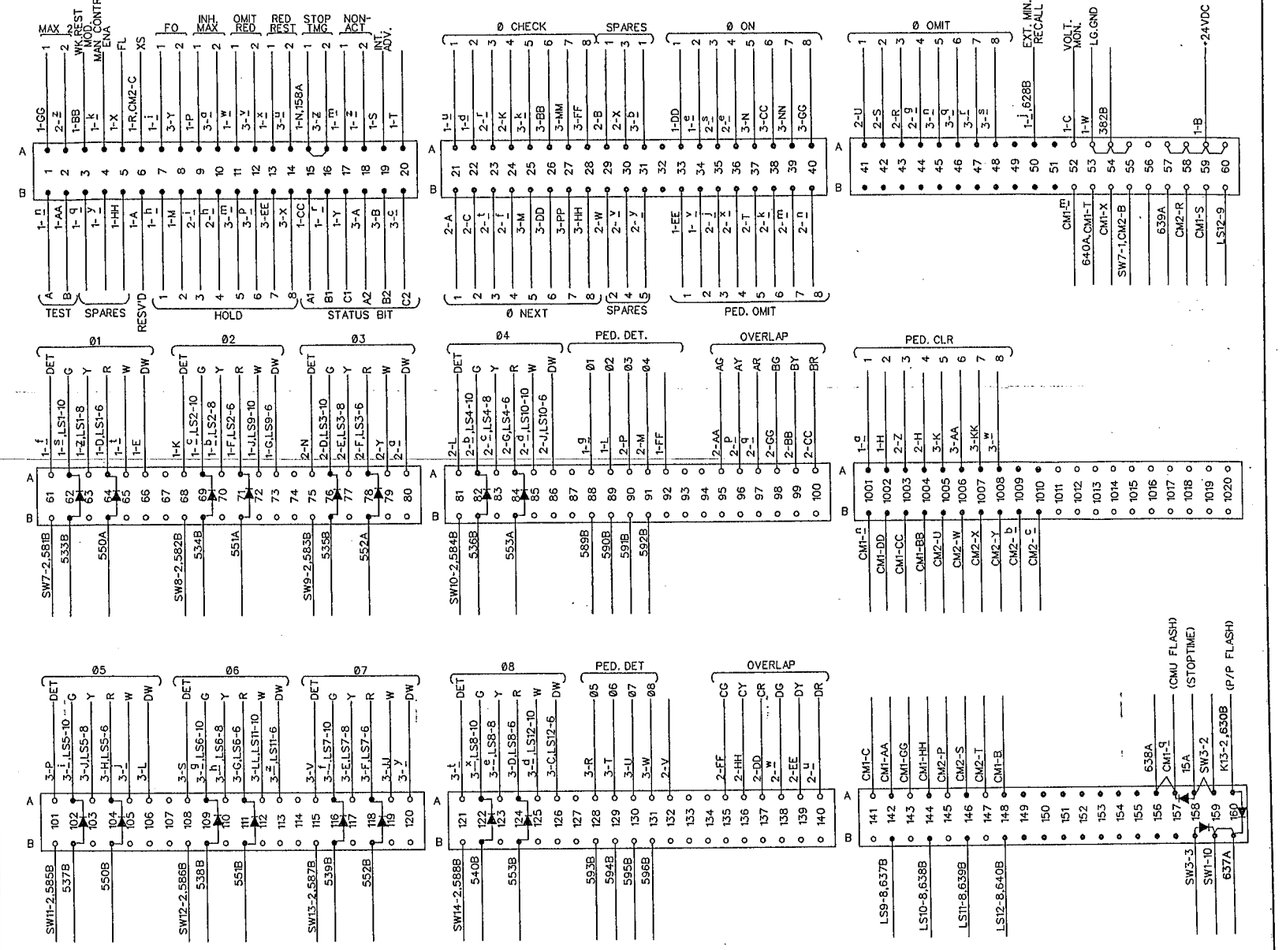
SH	SHELL GROUND	GB3
A	RESV.	6B
B	24VDC+	59A
C	VOLTAGE MONITOR	52A
D	Ø1 RED	64A
E	Ø1 DWK	66A
F	Ø2 RED	71A
G	Ø2 DWK	73A
H	Ø2 PCL	1002A
J	Ø2 WK	72A
K	Ø2 VEH DET	68A
L	Ø2 PED DET	89A
M	Ø2 HOLD	8B
N	STOP TIMING 1	15A
P	INHIBIT MAX TERM 1	9A
R	EXTERNAL START	6A
S	INTERVAL ADVANCE	19A
T	INDICATOR LAMP CONT	20A
U	AC- COMMON	84BA
V	CHASSIS GROUND	SHELL
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 1	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

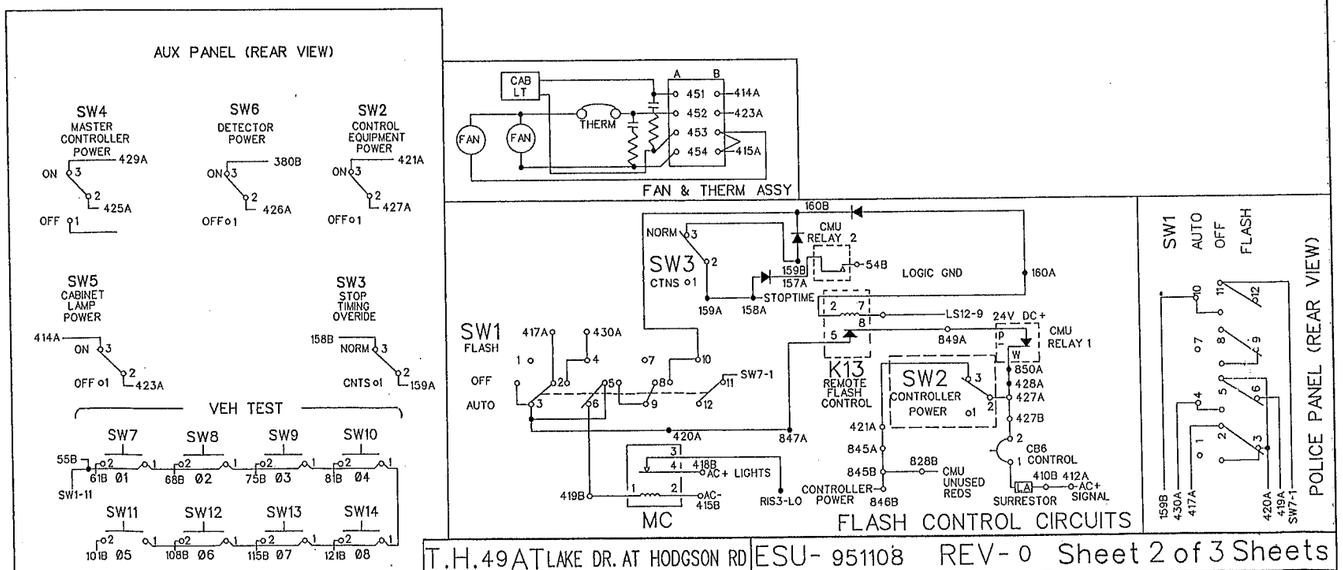
2

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

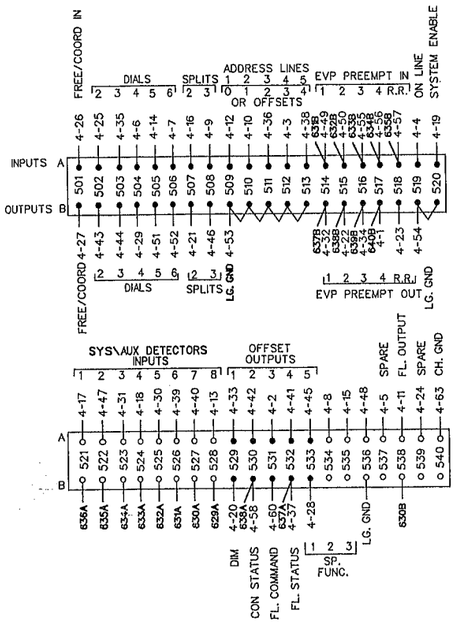
A	STATUS BIT A2	
B	STATUS BIT B2	18B
C	Ø8 DWK	19B
D	Ø8 RED	126A
E	Ø7 YEL	124A
F	Ø7 RED	117A
G	Ø6 RED	118A
H	Ø5 RED	111A
J	Ø5 YEL	104A
K	Ø5 PCL	103A
L	Ø5 DWK	1005A
M	Ø5 PHASE NEXT	106A
N	Ø5 PHASE ON	25B
P	Ø5 VEH DET	37A
R	Ø5 PED DET	101A
S	Ø6 VEH DET	128A
T	Ø6 PED DET	108A
U	Ø7 PED DET	129A
V	Ø7 VEH DET	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 PHASE OMIT	25A
p	Ø6 HOLD	11B
q	Ø6 PHASE OMIT	45A
r	Ø7 PHASE OMIT	46A
s	Ø8 PHASE OMIT	47A
t	Ø8 VEH DET	48A
u	RED REST MODE 2	121A
v	ØMIT RED CLR 2	14A
w	Ø8 PCL	12A
x	Ø8 GRN	1008A
y	Ø7 DWK	122A
z	Ø6 DWK	120A
AA	Ø6 PCL	113A
BB	Ø6 CHECK	1006A
CC	Ø6 PHASE ON	26A
DD	Ø6 PHASE NEXT	38A
EE	Ø7 HOLD	26B
FF	Ø8 CHECK	13B
GG	Ø8 PHASE ON	28A
HH	Ø8 PHASE NEXT	40A
JJ	Ø7 WK	28B
KK	Ø7 PCL	119A
LL	Ø6 WK	1007A
MM	Ø7 CHECK	112A
NN	Ø7 PHASE ON	27A
PP	Ø7 PHASE NEXT	39A



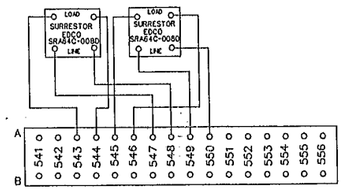


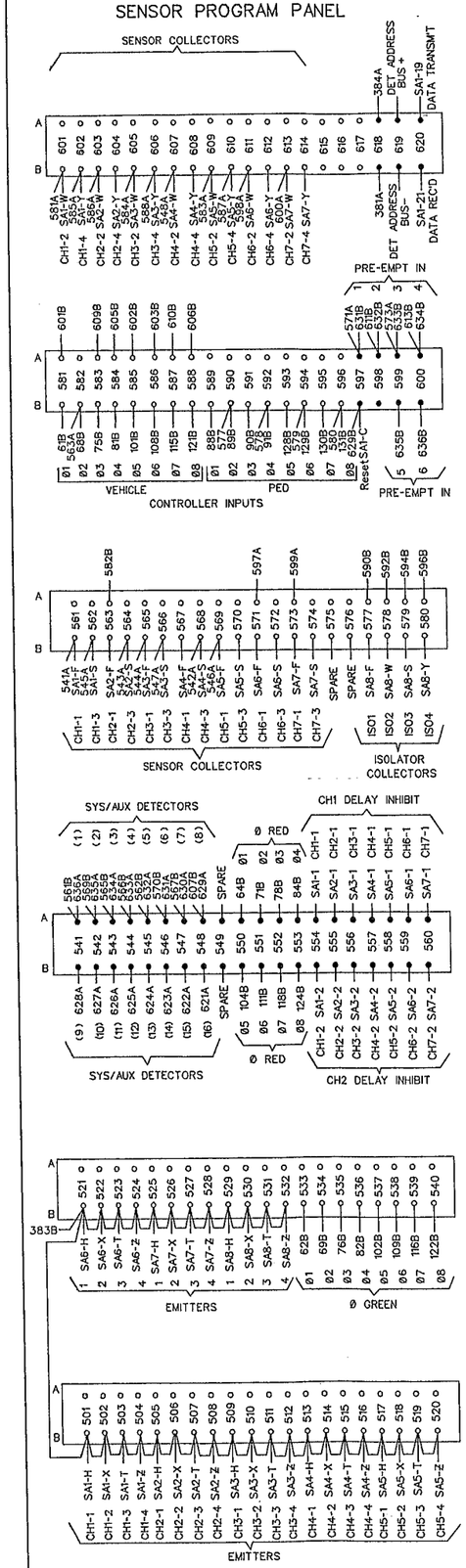
4

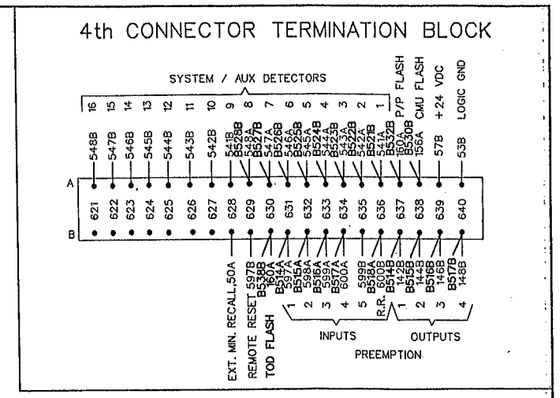
1	EVP 4 OUT	B517B
2	OFFSET 3 OUT	B531A
3	OFFSET 4 IN (ADD BIT 3)	B512A
4	ON LINE	B519A
5	SPARE	B537A
6	DIAL 4 IN	B504A
7	DIAL 6 IN	B506A
8	SPC FUNCTION 2 OUT	B534A
9	SPLIT 3 IN	B508A
10	OFFSET 2 IN (ADD BIT 1)	B510A
11	FLASH OUT	B538A
12	OFFSET 1 IN (ADD BIT 0)	B509A
13	SYSTEM DETECTOR 8	B528A
14	DIAL 5 IN	B505A
15	SPC FUNCTION 3 OUT	B535A
16	SPLIT 2 IN	B507A
17	SYSTEM DETECTOR 1 (SEQ 1)	B521A
18	SYSTEM DETECTOR 4 (SEQ 4)	B524A
19	SYSTEM ENABLE	B520A
20	DIMMING ON	B529B
21	SPLIT 2 OUT	B507B
22	EVP 2 OUT	B515B
23	RR PREEMPT OUT	B518B
24	SPARE	B539A
25	DIAL 2 IN(SPC FUNCTON 2)	B502A
26	COORD ON (SPC FUNCTON 1)	B501A
27	COORDINATION OUT	B501B
28	SPC FUNCTION 1 OUT	B533B
29	DIAL 4 OUT	B504B
30	SYSTEM DETECTOR 5	B525A
31	SYSTEM DETECTOR 3 (SEQ 3)	B523A
32	EVP 1 OUT	B514B
33	OFFSET 1 OUT	B529A
34	EVP 3 OUT	B516B
35	DIAL 3 IN (SPC FUNCTON 3)	B503A
36	OFFSET 3 IN (ADD BIT 2)	B511A
37	FLASH STATUS IN	B532B
38	OFFSET 5 IN (ADD BIT 4)	B513A
39	SYSTEM DETECTOR 6	B526A
40	SYSTEM DETECTOR 7	B527A
41	OFFSET 4 OUT	B532A
42	OFFSET 2 OUT	B530A
43	DIAL 2 OUT	B502B
44	DIAL 3 OUT	B503B
45	OFFSET 5 OUT	B533A
46	SPLIT 3 OUT	B508B
47	SYSTEM DETECTOR 2 (SEQ 2)	B522A
48	LOGIC GROUND	B536A
49	EVP 1 IN	B514A
50	EVP 2 IN	B515A
51	DIAL 5 OUT	B505B
52	DIAL 6 OUT	B506B
53	LOGIC GROUND	B509B
54	LOGIC GROUND	B519B
55	EVP 3 IN	B516A
56	EVP 4 IN	B517A
57	RR PREEMPT IN	B518A
58	CONFLICT STATUS IN	B530B
59	RESERVED	T
60	FLASH COMMAND IN	B531B
61	RESERVED	T
62	RESERVED	T
63	CHASSIS GROUND	B540A



B

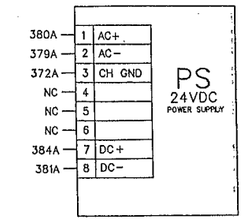






AUX DET ASSIGNMENTS

A1 - D1-2 C/E
A2 - D3-1 C/E
A3 - D4-2 DLY
A4 - D4-3 C/E
A5 - D5-2 C/E
A6 - D7-2 C/E
A7 - D8-2 DLY
A8 - D8-3 C/E



SA

✳NOTE: ALL DETECTOR FUNCTIONS DONE THROUGH CONTROLLER

DETECTORS AND PPB ISOLATION

⊕ SA6 AND SA7 ARE WIRED TO ACCEPT VEH DET. OR EVP DISCRIMINATOR OR PPB ISOLATER.

RACK PIN	HARNESS SA-PIN		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	D1-2	2	1	D2-1	4	7	D4-2	8	7	D8-2	3	1	D3-1	1/6		EVP	3/8		EVP	2	CH 1
		CH 2	1	1	D1-1	6	1	D6-1	4	1	D4-1	8	1	D8-3	3	1	D3-2	2/5		EVP	4/7		EVP	4	CH 2
		CH 3	5	1	D5-2				4	1	D4-3				7	1	D7-2							6	CH 3
		CH 4	5	1	D5-1				8	1	D8-1				7	1	D7-1							8	CH 4
		MODEL	222/222		- /222			224			- /222			224			- /562			- /562			- /562	T-400A	MODEL
1	A	DC GROUND	381B ⊲																					NC	SPARE	A
1	B	24V DC+	384B ⊲																					NC	SPARE	B
1	C	REMOTE RESET	597B ⊲																					NC	SPARE	C
3	D-4	CH 1 LOOP	303A			345A			313A			355A			323A			365A			333A			301A	INPUT CH 1	D
4	E-5	CH 1 LOOP	304A			346A			314A			356A			324A			366A			334A			379B	INPUT COMMON	E
	6	ADDRESS BIT #0	619B			SA1-15			SA2-10			SA3-15			SA4-15			SA5-10			SA6-15			NC		
5	F	CH 1 OUTPUT (+)	561B			563B			565B			567B			569B			571B			573B			577B	OUTPUT CH 1 (+)	F
6	H	CH 1 OUTPUT (-)	501B			505B			509B			513B			517B			521B			525B			529B	OUTPUT CH 1 (-)	H
7	J-8	CH 2 LOOP	306A			348A			316A			358A			326A			368A			336A			302A	INPUT CH 2	J
8	K-9	CH 2 LOOP	307A			349A			317A			359A			327A			369A			337A			378B	INPUT COMMON	K
	10	ADDRESS BIT #1	619A			SA1-6			SA3-6			SA4-6			SA4-10			SA5-15			SA7-6			NC		
—	L	CHASSIS GROUND	340A ⊲																						CHASSIS GROUND	L
—	M	SPARE	NC			NC			NC			NC			NC			SA7-M			SA6-M/SA8-M			SA7-M/378A	AC-	M
—	N	SPARE	NC			NC			NC			NC			NC			SA7-N			SA6-N/SA8-N			SA7-N/380A	115V AC+	N
9	P-13	LOOP CH 3	308A			350A			318A			360A			328A			370A			338A			343A	INPUT CH 3	P
10	R-14	LOOP CH 3	309A			351A			319A			361A			329A			371A			339A			377B	INPUT COMMON	R
	15	ADDRESS BIT #2	SA1-10			SA2-6			SA2-15			SA3-10			SA5-6			SA6-10			SA7-10			NC		
11	S	CH 3 OUTPUT (+)	562B			564B			566B			568B			570B			572B			574B			579B	OUTPUT CH 3 (+)	S
12	T	CH 3 OUTPUT (-)	503B			507B			511B			515B			519B			523B			527B			531B	OUTPUT CH 3 (-)	T
13	U-17	CH 4 LOOP	311A			353A			321A			363A			331A			373A			341A			344A	INPUT CH 4	U
14	V-18	CH 4 LOOP	312A			354A			322A			364A			332A			374A			342A			377A	INPUT COMMON	V
	19	DATA TRANSMIT	620A ⊲																					NC		
	21	DATA RECEIVE	620B ⊲																					NC		
15	W	CH 2 OUTPUT (+)	601B			603B			605B			607B			609B			611B			613B			578B	OUTPUT CH 2 (+)	W
16	X	CH 2 OUTPUT (-)	502B			506B			510B			514B			518B			522B			526B			530B	OUTPUT CH 2 (-)	X
17	Y	CH 4 OUTPUT (+)	602B			604B			606B			608B			610B			612B			614B			580B	OUTPUT CH 4 (+)	Y
18	Z	CH 4 OUTPUT (-)	504B			508B			512B			516B			520B			524B			528B			532B	OUTPUT CH 4 (-)	Z
1	1	CH 1 GREEN	554A			555A			556A			557A			558A			559A			560A			——	SPARE	
2	2	CH 2 GREEN	554B			555B			556B			557B			558B			559B			560B			——	SPARE	

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 EXTEND
8-CARRY OVER
9-ADVISORY
10-SAMPLING
11-SPECIAL -SEE NOTE-