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													
IN	GREEN / WALK	10	62A	69A	76A	82A	102A	109A	116A	122A	72A	85A	112A	125A
	YELLOW/PED CLR	8	63A	70A	77A	83A	103A	110A	117A	123A	142B	144B	146B	148B
	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
	YELLOW	5	FP1-13	FP2-13	FP3-13	FP4-13	FP5-13	FP6-13	FP7-13	FP8-13	251A	257A	263A	269A
	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 LS6-9 K13-7	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
	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
	AC COMMON	11	NB3 LS1-11	NB3	NB3	NB3	NB3	NB3	NB3	NB3	NB3	NB3	NB3	NB3
	115 VAC	1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1	SB1

LOAD SWITCH PANEL ASSEMBLY (REAR VIEW)

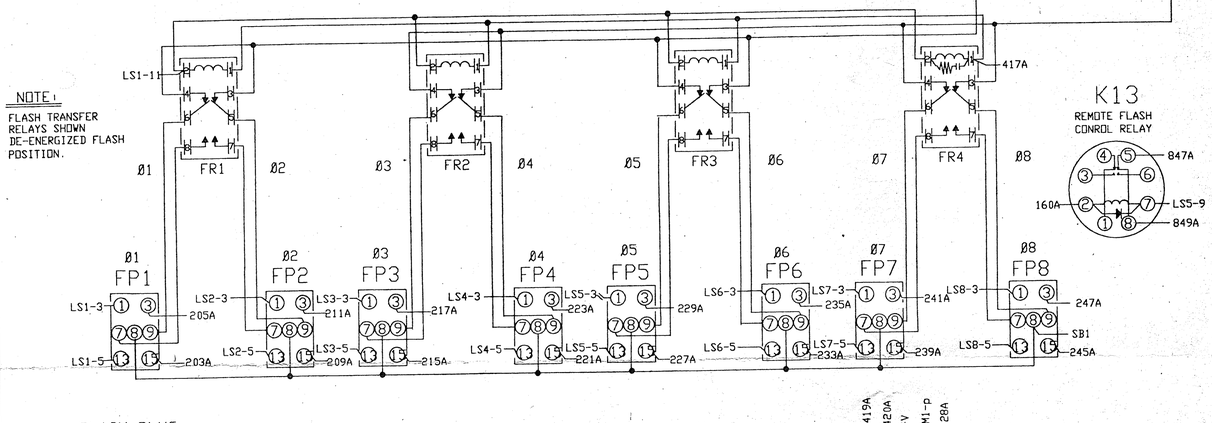
TYPICAL ALL LOAD SWITCH BASES

2.5K 10W

FL FLASHER

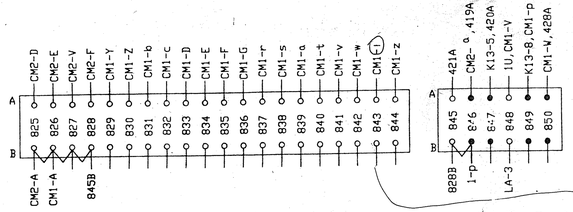
422A AC+ GB3 GND CKT 1 NB3 CKT 2

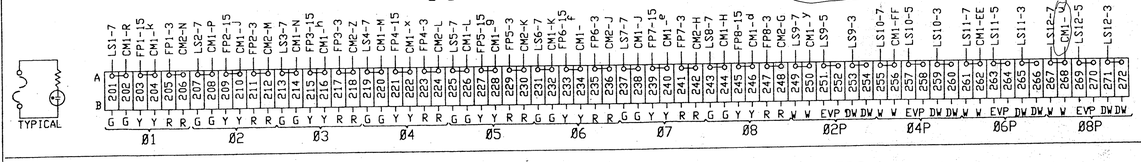
NOTE:
FLASH TRANSFER RELAYS SHOWN DE-ENERGIZED FLASH POSITION.

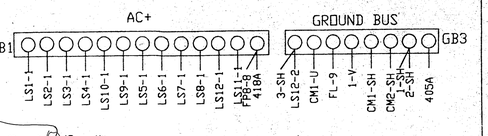


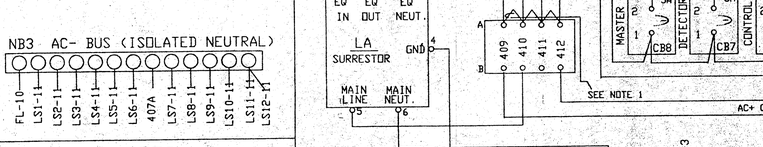
FLASH PLUG JUMPERING

RED	1+7 3+9 13+5
YEL	1+3 7+3 9+5
WHT	1+8









NEMA+ 12CH CONFLICT MONITOR

CM1

SH	SHELL GROUND	GB3
A	AC+ +1	826B
B	RELAY 1 NO	148A
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 08	244A
J	CH 7 GRN 07	238A
K	CH 6 GRN 06	232A
L	CH 5 GRN 05	226A
M	CH 4 GRN 04	220A
N	CH 3 GRN 03	214A
P	CH 2 GRN 02	208A
R	CH 1 GRN /01	202A
S	+24 MONITOR	59B
T	LOGIC GROUND	53B
U	CHASSIS GROUND	SHELL
V	AC-	848A
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 08	246A
e	CH 7 YEL 07	240A
f	CH 6 YEL 06	234A
g	CH 5 YEL 05	228A
h	CH 3 YEL 03	216A
j	CH 3 WK	843A
k	CH 2 YEL 02	210A
l	CH 1 YEL /01	204A
m	CONT. VOLT. MON.	52B
n	+24V MONITOR INHIBIT	1001B
P	RELAY 1 NC	849A
q	RELAY 2 NO	157A
r	CH 12 WK	837A
s	CH 11 WK	838A
t	CH 9 WK	840A
u	CH 8 WK 08	268A
v	CH 7 WK	841A
w	CH 5 WK	842A
x	CH 4 YEL 04	222A
y	CH 2 WK 02	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 06	262A
FF	CH 4 WK 04	256A
GG	SPARE 2	143A
HH	SPARE 3	144A

CM2

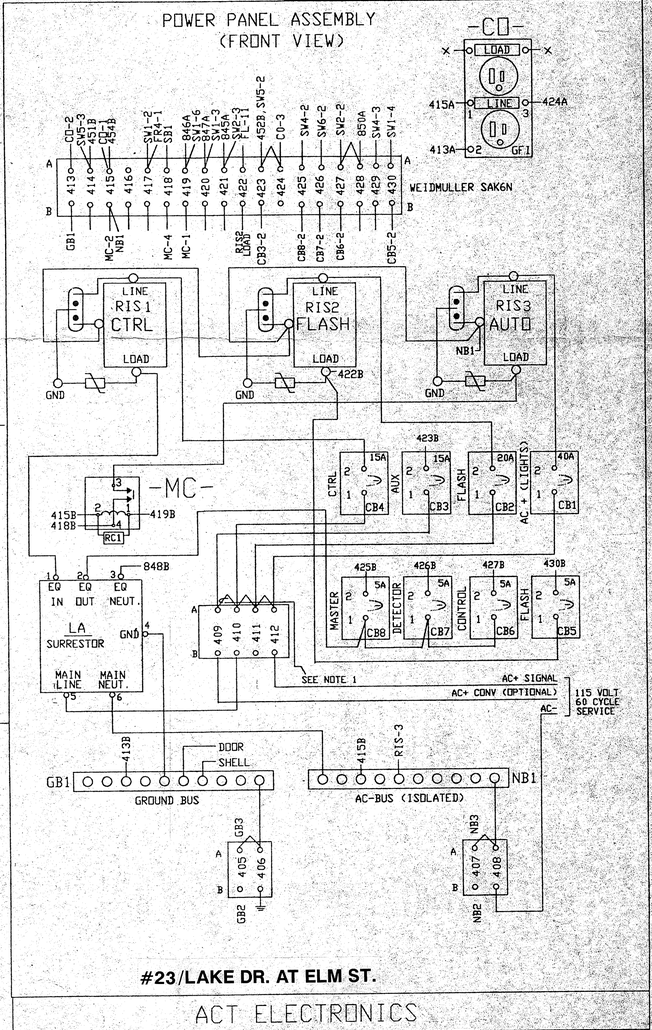
SH	SHELL GROUND	GB3
A	AC+ 11	825B
B	DELAY RELAY COMM	55B
C	DELAY RELAY NO	6A
D	CH 12 RED	825A
E	CH 11 RED	826A
F	CH 9 RED	828A
G	CH 8 RED 08	248A
H	CH 7 RED 07	242A
J	CH 6 RED 06	236A
K	CH 5 RED 05	230A
L	CH 4 RED 04	224A
M	CH 2 RED 02	212A
N	CH 1 RED /01	206A
P	SPARE 1	145A
R	+24 V MONITOR 11	58B
S	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 03	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)



#23/LAKE DR. AT ELM ST.

TIGHTENING TORQUE SPECIFICATIONS

SCREW SIZE	6-32	8-32	10-32
POUND INCHES	12	16	25.9

WEIDMULLER

BLOCK TYPE	SAK6S	SAK6N	SAK35N
POUND INCHES	10.5	16	35

REV	DESCRIPTION

VEHICLE SIGNALS

SIGNAL	TERMINAL					
	G	Y	R	G	Y	R
2-1				207	209	211
2-2				208	210	212
4-1				219	221	223
4-2				220	222	224
4-3				219	221	223
5-1	225	227	229			
5-2	226	228	230			
6-1				231	233	235
6-2				232	234	236

VEH DETECTORS

DET	TERMINAL
D2-1	345-346
D4-1	313-314
D4-2	316-317
D4-3	355-356
D4-4	358-359
D5-1	303-304
D5-2	306-307
D6-1	348-349

PED SIGNALS

SIGNAL	TERMINAL	
	WK	DW
PB4-1	255	259
PB4-2	255	259
PB4-3	256	260
PB4-3	256	260
PB6-1	261	265
PB6-2	262	266

PED PUSHBUTTONS

PPB	TERMINAL
PB4-1, 2, 3, 4	302
PB6-1, 2	343

EVP TYPICAL SENSOR WIRE COLORS

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

EVP SENSORS

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

EVP CONFIRMATORY LIGHTS

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

NOTES

1) IF A SIGNAL SERVICE CABINET IS USED REMOVE JUMPER 409A, 410A, CONV AC+.

2) IF EVP HEADS ARE INSTALLED JUMPER 363A TO 365A AND / OR 375A TO 377A

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

CONT.,( ) LOAD RELAY, NEMA+ CONFLICT MONITOR,( ) LOOP DETECTORS
NEMA FLASHER

1992

ACT ELECTRONICS

DRAWN BY-

CHECKED BY-

DRAWING NO.

REV-D

SHEET NO. 1 OF 3

CONTROLLER INTERFACE PANEL

1

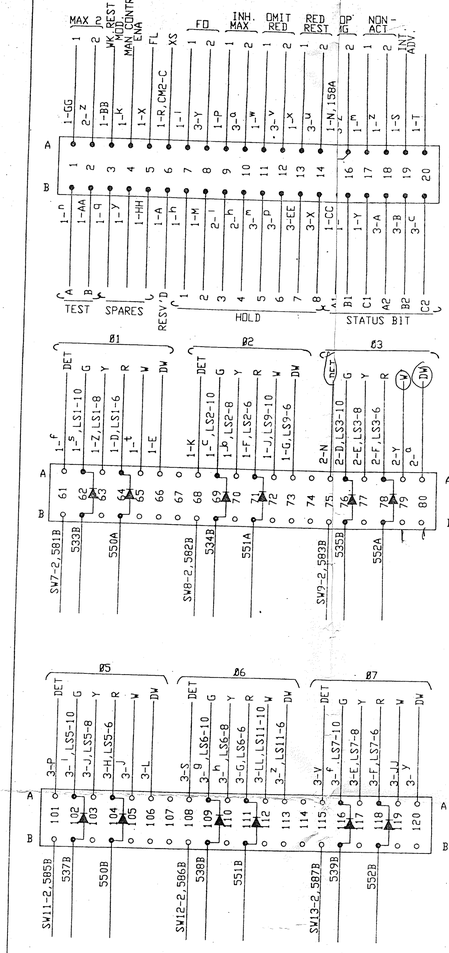
SH	SHELL GROUND	GB3
A	RESV.	6B
B	24VDC+	59A
C	VOLTAGE MONITOR	52A
D	Ø1 RED	64A
E	Ø1 DWK	66A
F	Ø2 RED	71A
G	Ø2 DWK	73A
H	Ø2 PCL	1002A
J	Ø2 WK	72A
K	Ø2 VEH DET	68A
L	Ø2 PED DET	89A
M	Ø2 HOLD	8B
N	STOP TIMING 1	15A
P	INHIBIT MAX TERM 1	9A
R	EXTERNAL START	6A
S	INTERVAL ADVANCE	19A
T	INDICATOR LAMP CONT	20A
U	AC- COMMON	848A
V	CHASSIS GROUND	GB3
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

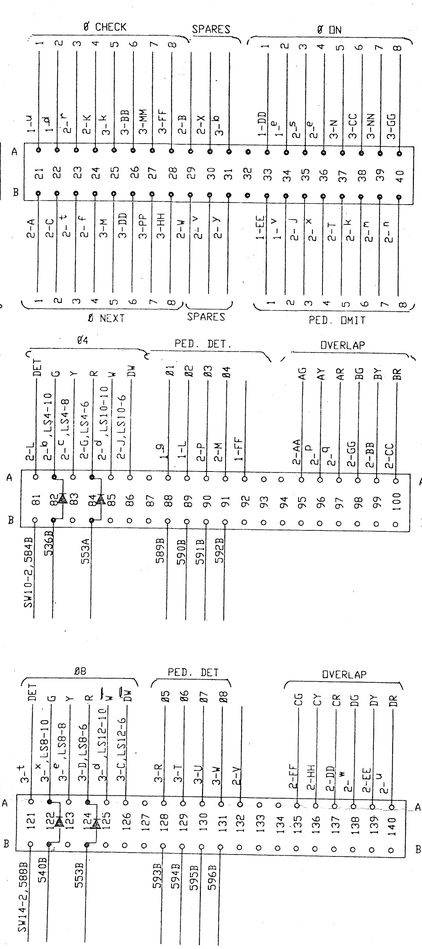
2

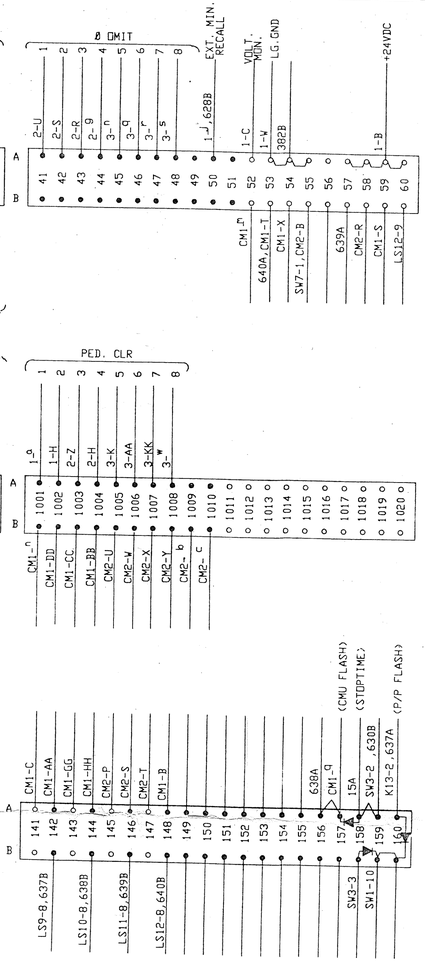
SH	SHELL GROUND	GB3
A	Ø1 PHASE NEXT	21B
B	SPARE 1	29A
C	Ø2 PHASE NEXT	22B
D	Ø3 GRN	76A
E	Ø3 YEL	77A
F	Ø3 RED	78A
G	Ø4 RED	84A
H	Ø4 PCL	1004A
J	Ø4 DWK	86A
K	Ø4 CHECK	24A
L	Ø4 VEH DET	81A
M	Ø4 PED DET	91A
N	Ø3 VEH DET	75A
P	Ø3 PED DET	90A
R	Ø3 PHASE OMIT	43A
S	Ø2 PHASE OMIT	42A
T	Ø5 PED OMIT	37B
U	Ø1 PHASE 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

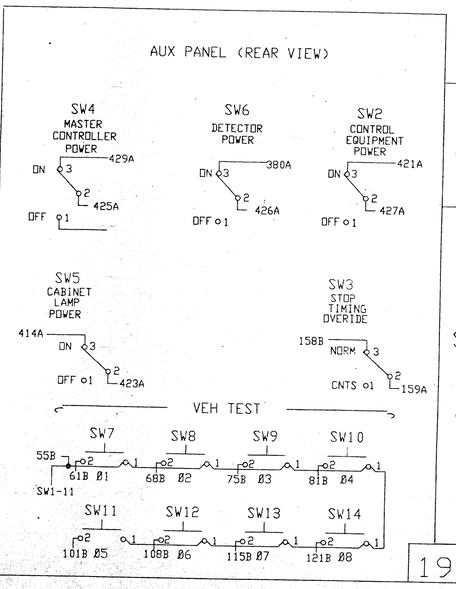
3

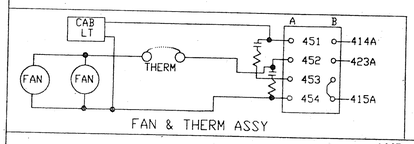
SH	SHELL GROUND	GB3
A	STATUS BIT A2	18B
B	STATUS BIT B2	19B
C	Ø8 DWK	126A
D	Ø8 RED	124A
E	Ø7 YEL	117A
F	Ø7 RED	118A
G	Ø6 RED	111A
H	Ø5 RED	104A
J	Ø5 YEL	103A
K	Ø5 PCL	1005A
L	Ø5 DWK	106A
M	Ø5 PHASE NEXT	25B
N	Ø5 PHASE ON	37A
P	Ø5 VEH DET	101A
R	Ø5 PED DET	128A
S	Ø6 VEH DET	108A
T	Ø6 PED DET	129A
U	Ø7 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	ØMIT 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

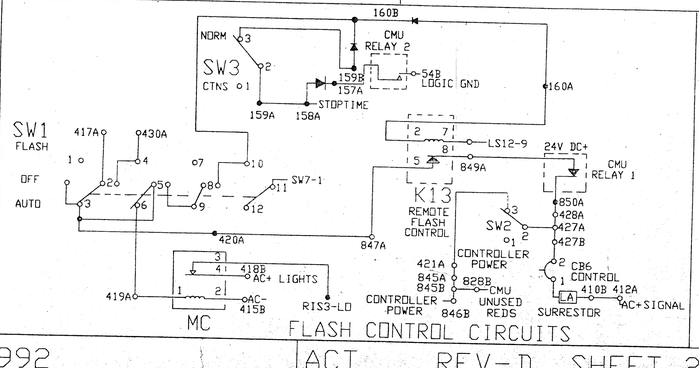


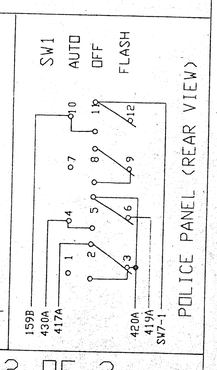


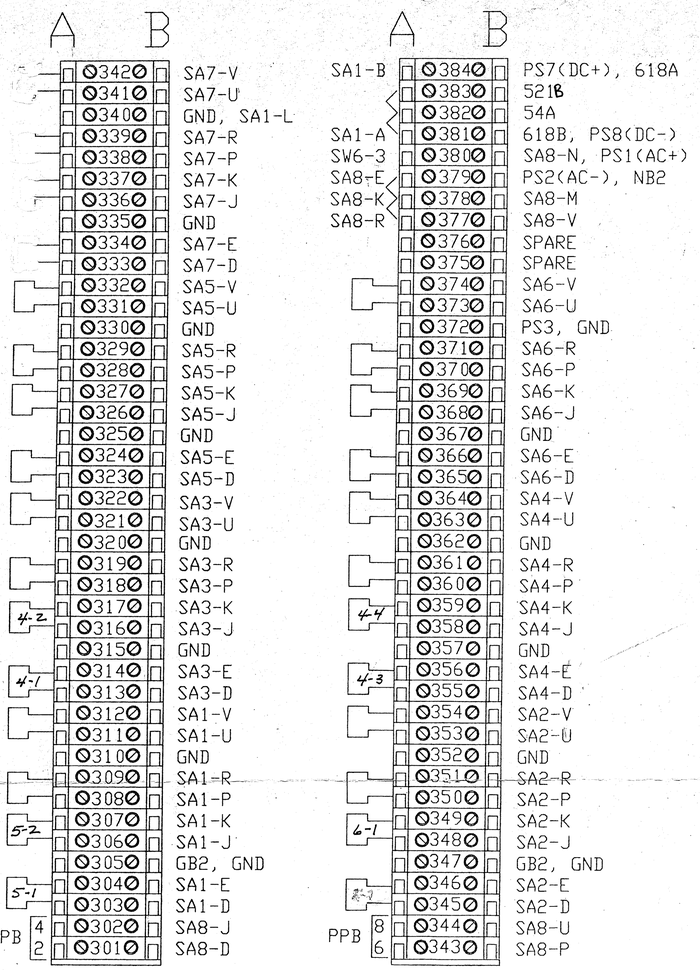


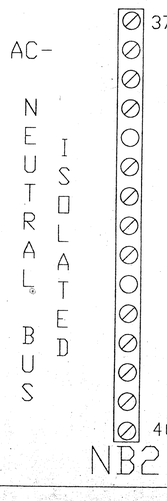




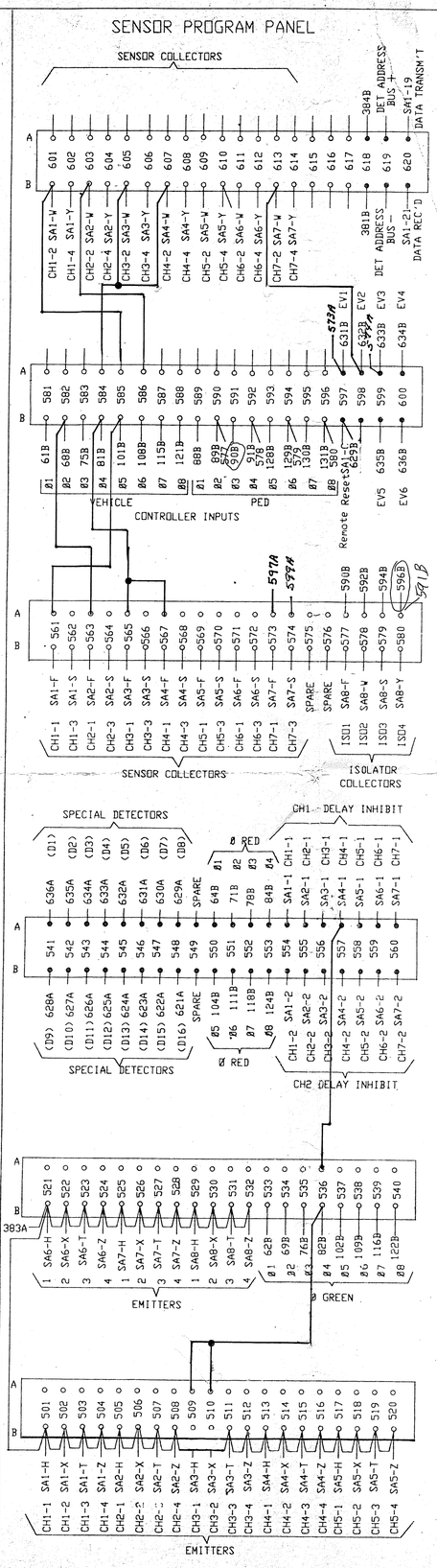








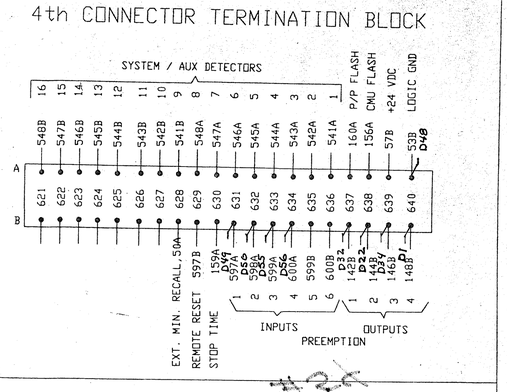
NOTE: 305, 310, 315, 320, 325, 330, 335, 340, 347, 352, 357, 362 AND 372 ARE INTERCONNECTED THROUGH THE WEIDMULLER RAIL.

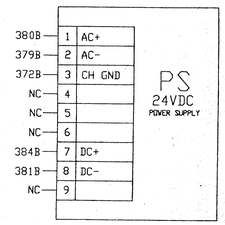


"D"
SPECIAL FUNCTION CONNECTOR PIN ASSIGNMENT

PIN	FUNCTION	I/O	
1	Emergency Preempt 4 Out	O	640B
2	Offset 3 Out	O	
3	Offset 4 In (Add Bit 3)	I	
4	ON LINE	I	
5	Spare	I	
6	Dial 4 In	I	
7	Dial 6 In	I	
8	Special Function 2 Out	O	
9	Split 3 In	I	
10	Offset 2 In (Add Bit 1)	I	
11	Flash Out	O	
12	Offset 1 In (Add Bit 0)	I	
13	System Detector 8	I	
14	Dial 5 In	I	
15	Special Function 3 Out	O	
16	Split 2 In	I	
17	System Detector 1 (Seq #1)	I	
18	System Detector 4 (Seq #4)	I	
19	System Enable	I	
20	Dimming On	I	
21	Split 2 Out	O	
22	Emergency Preempt 2 Out	O	638B
23	Railroad Prsempt Out	O	
24	Spare	O	
25	Dial 2 In (Special Function 2)	I	
26	Coordination On (Special Function 1)	I	
27	Coordination Out	O	
28	Special Function 1 Out	O	
29	Dial 4 Out	O	
30	System Detector 5 In	I	
31	System Detector 3 (Seq #3)	I	
32	Emergency Preempt 1 Out	O	637B
33	Offset 1 Out	O	
34	Emergency Preempt 3 Out	O	639B
35	Dial 3 In (Special Function 3)	I	
36	Offset 3 In (Add Bit 2)	I	
37	Flash Status In	I	
38	Offset 5 In (Add Bit 4)	I	
39	System Detector 6 In	I	
40	System Detector 7 In	I	
41	Offset 4 Out	O	
42	Offset 2 Out	O	
43	Dial 2 Out	O	
44	Dial 3 Out	O	
45	Offset 5 Out	O	
46	Split 3 Out	O	
47	System Detector 2 (Seq #2)	I	
48	Logic Ground		640A
49	Emergency Preempt 1 In	I	631B
50	Emergency Preempt 2 In	I	632B
51	Dial 5 Out	O	
52	Dial 6 Out	O	
53	Logic Ground		
54	Logic Ground		
55	Emergency Preempt 3 In	I	633B
56	Emergency Preempt 4 In	I	634B
57	Railroad Preempt In	I	
58	Conflict Status In	I	
59	Reserved		
60	Flash Command In	I	
61	Reserved		
62	Reserved		
63	Chassis Ground		

4th CONNECTOR TERMINATION BLOCK





SA

DETECTORS AND PPB ISOLATION

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

PIN	RACK 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	5	1	5-1	2	1	2-1	4	3/8	4-1	4	7	4-3							3/5	EVP	2	CH 1	
			CH 2	5	1	5-2	6	1	6-1	4	3/8	4-2	4	1	4-4							6	EVP	4	CH 2	
			CH 3																			4	EVP	6	CH 3	
			CH 4																					8	CH 4	
			MODEL	222			222			222T			222T											T-400A	MODEL	
—		A	DC GROUND	381A ⇦																				NC	SPARE	A
—		B	24V DC+	384A ⇦																				NC	SPARE	B
—		C	REMOTE RESET	597B ⇦																				NC	SPARE	C
3		D-4	CH 1 LOOP	303B			345B			313B			355B			323B			365B			333B		301B	INPUT CH 1	D
4		E-5	CH 1 LOOP	304B			346B			314B			356B			324B			366B			334B		379A	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	306B			348B			316B			358B			326B			368B			336B		302B	INPUT CH 2	J
8		K-9	CH 2 LOOP	307B			349B			317B			359B			327B			369B			337B		378A	INPUT COMMON	K
		10	ADDRESS BIT #1	619A			SA1-6			SA3-6			SA4-6			SA4-10			SA5-15			SA7-6		NC		
—		L	CHASSIS GROUND	340B ⇦																				⇨	CHASSIS GROUND	L
—		M	SPARE	NC			NC			NC			NC			NC			SA7/SA8			SA6/SA8		SA7/378B	AC-	M
—		N	SPARE	NC			NC			NC			NC			NC			SA7/SA8			SA6/SA8		SA7/380B	115V AC+	N
9		P-13	LOOP CH 3	308B			350B			318B			360B			328B			370B			338B		343B	INPUT CH 3	P
10		R-14	LOOP CH 3	309B			351B			319B			361B			329B			371B			339B		377A	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	311B			353B			321B			363B			331B			373B			341B		344B	INPUT CH 4	U
14		V-18	CH 4 LOOP	312B			354B			322B			364B			332B			374B			342B		377B	INPUT COMMON	V
		19	DATA TRANSMIT	620A ⇦																				⇨	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	
		21	DATA RECEIVE	620B ⇦																				⇨	NC		

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