

CONTROLLER INTERFACE PANEL

P1	P2	P3
SH SHELL GROUND 6B3	SH SHELL GROUND 6B3	SH SHELL GROUND 6B3
A RESV. 6B	A 01 PHASE NEXT 21B	A STATUS BIT A 2 18B
B 24V DC+ 59A	B SPARE 1 29A	B STATUS BIT B 2 18B
C VOLTAGE MONITOR 54A	C 0 2 PHASE NEXT 22B	C 0 8 DWK 19B
D 01 RED 64A	D 0 3 GRN 76A	D 0 8 RED 126A
E 0 3 YEL 66A	E 0 7 YEL 77A	E 0 7 YEL 124A
F 0 2 RED 71A	F 0 3 RED 77A	F 0 7 RED 117A
G 0 2 DWK 73A	G 0 4 RED 78A	G 0 6 RED 118A
H 0 2 PCL 142A	H 0 4 PCL 84A	H 0 5 RED 111A
J 0 2 WK 72A	J 0 4 PCL 142A	J 0 5 YEL 104A
K 0 2 VEH DET 68A	K 0 4 CHECK 24A	K 0 5 PCL 103A
L 0 2 PED DET 89A	L 0 4 VEH DET 81A	L 0 5 DWK 106A
M 0 2 HOLD 8B	M 0 4 PED DET 91A	M 0 5 PHASE NEXT 25B
N STOP TIMING I 15A	N 0 3 VEH DET 75A	N 0 5 PHASE ON 37A
O INHIBIT MAX TERM I 9A	O 0 3 PED DET 90A	O 5 VEH DET 37A
P EXTERNAL START 6A	P 0 3 PHASE OMIT 43A	P 0 5 PED DET 101A
R INTERVAL ADVANCE 19A	R 0 2 PHASE OMIT 42A	R 0 6 VEH DET 128A
S INDICATOR LAMP CONT 20A	S 0 5 PED OMIT 42A	S 0 6 VEH DET 109A
T AC-COMMON 37B	T 0 1 PHASE OMIT 41A	T 0 6 PED DET 129A
U CHASSIS GROUND NB3	U PED RECYCLE 2 132A	U 0 7 PED DET 130A
V LOGIC GROUND 6B3	V SPARE 2 29B	V 0 7 VEH DET 130A
X FLASH LOGIC OUT 55A	X SPARE 3 29B	X 0 8 PED DET 131A
Y STATUS BIT C I 17B	Y 0 3 WK 79A	Y 0 8 HOLD 14B
Z 0 1 YEL 63A	Z 0 3 PCL 143A	Z FORCE OFF 2 8A
a 0 1 PCL 141A	a 0 3 DWK 80A	Z STOP TIME 2 16A
b 0 2 YEL 70A	b 0 4 GRN 82A	a INHIBIT MAX TERM 2 10A
c 0 2 GRN 69A	c 0 4 YEL 83A	d STATUS BIT C 2 20B
d 0 2 CHECK 22A	d 0 4 WK 85A	e 0 8 WK 125A
e 0 2 PHASE ON 34A	e 0 4 PHASE ON 36A	f 0 8 YEL 123A
f 0 1 VEH DET 61A	f 0 4 PHASE NEXT 24B	g 0 7 GRN 116A
g 0 1 PED DET 88A	g 0 4 PHASE OMIT 44A	h 0 6 GRN 109A
h 0 1 HOLD 7B	h 0 4 HOLD 10B	h 0 6 YEL 109A
i FORCE OFF I 7A	i 0 3 HOLD 9B	i 0 5 GRN 102A
j EXT MIN RECALL ALL 50A	j 0 3 PED OMIT 35B	k 0 5 WK 105A
k MAN. CONTROL ENABLE 4A	k 0 6 PED OMIT 39B	m 0 5 CHECK 25A
l CALL TO NON-ACT I 17A	l 0 7 PED OMIT 40B	n 0 5 HOLD 11B
m AC-CONTROL 846B	m OL A YEL 96A	o 0 5 PHASE OMIT 45A
n SPARE 1 3B	n OL A RED 97A	p 0 6 HOLD 12B
o STATUS BIT B I 16B	o 3 CHECK 23A	q 0 6 PHASE OMIT 46A
p 0 1 GRN 62A	p 0 3 PHASE ON 35A	r 0 7 PHASE OMIT 47A
q 0 1 WK 65A	q OL D RED 140A	s 0 8 PHASE OMIT 48A
r 0 1 CHECK 21A	r SPARE 4 30B	t 0 8 VEH DET 121A
s 0 2 PED OMIT 34B	s OL D GRN 138A	u RED REST MODE 2 14A
t OMIT RED CLR 11A	t 0 4 PED OMIT 36B	v OMIT RED CLR 2 14A
x RED REST MODE I 13A	x SPARE 5 31B	w OL D PCL 12A
y SPARE 2 4B	y MAX 2 SELECT 2 2A	x 0 8 GRN 148A
z CALL TO NON-ACT II 18A	z OL A GRN 140A	y 0 7 DWK 122A
AA TEST INPUT B 2B	AA OL B YEL 95A	z 0 6 DWK 120A
BB WALK REST MODIFIER 3A	BB OL B RED 99A	AA 0 6 PCL 113A
CC STATUS BIT A I 15B	CC OL C RED 100A	BB 0 6 CHECK 146A
DD 0 1 PHASE ON 33A	DD OL C RED 137A	CC 0 6 PHASE ON 38A
EE 0 1 PED OMIT 33B	EE OL D YEL 139A	DD 0 6 PHASE NEXT 26B
FF PED RECYCLE 92A	FF OL C GRN 135A	EE 0 7 HOLD 13B
GG MAX 2 SELECT 1A	GG OL B GRN 98A	FF 0 8 CHECK 28A
HH SPARE 3 5B	HH OL C YEL 136A	GG 0 8 PHASE ON 40A
		HH 0 8 PHASE NEXT 28B
		JJ 0 7 WK 119A
		KK 0 7 PCL 147A
		LL 0 6 WK 112A
		MM 0 7 CHECK 27A
		NN 0 7 PHASE ON 39A
		PP 0 7 PHASE NEXT 27B

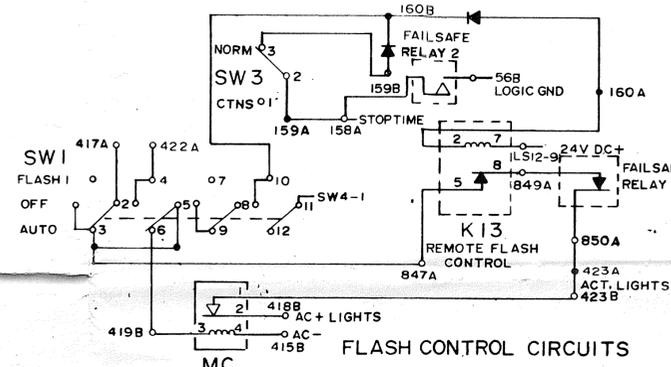
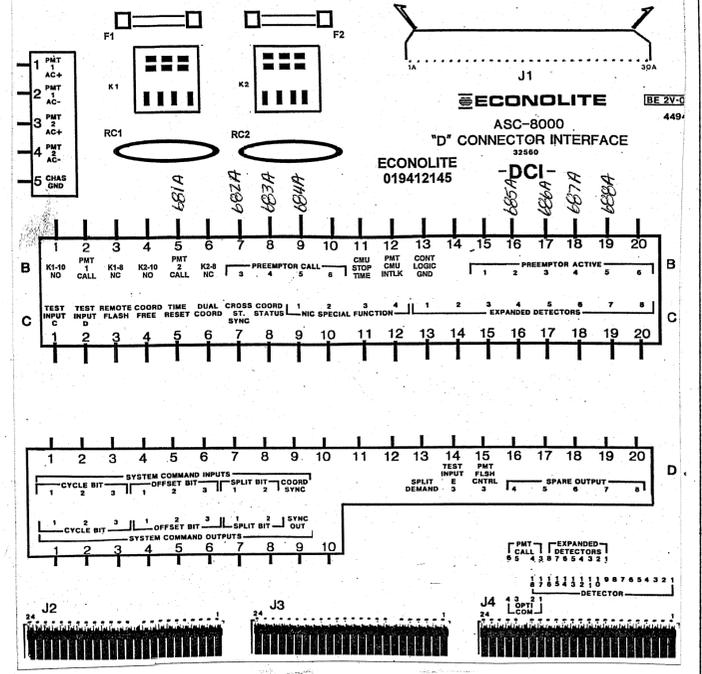
NEMA 12L CONFLICT MONITOR CM1 CM2

CM1	CM2
1 SPLIT (B) IN 658A	SH SHELL GROUND 6B3
2 SYNC IN 658A	A AC+ I 826B
3 CALL DET A 662A	B DELAY RELAY COMM 825B
4 SPLIT (A) IN 671A	C DELAY RELAY NO 57B
5 CALL DET D 657A	D CH 12 GRN 6A
6 CALL DET C 674A	E CH 11 RED 825A
7 CYCLE B IN 673A	F CH 9 RED 826A
8 CYCLE A IN 652A	G CH 8 RED 08 248A
9 OFFSET 1 IN 665A	H CH 8 GRN 08 246A
10 OFFSET 2 IN 666A	I CH 7 GRN 07 240A
11 OFFSET 3 IN 667A	J CH 6 GRN 06 236A
12 PREEMPT 5 IN 676A	K CH 5 RED 05 230A
13 PREEMPT 1 IN 681A	L CH 4 RED 04 224A
14 PREEMPT 2 IN 682A	M CH 4 RED 02 212A
15 PREEMPT 3 IN 683A	N CH 1 RED 01 206A
16 PREEMPT 4 IN 684A	P SPARE 1 153A
17 FLASH STATUS QUT 684A	R +24V MONITOR II 58B
18 CHASSIS GROUND 679A	S SPARE 2 154A
19 N/C 689A	T SPARE 3 154A
20 MASTER SELECT IN 675B	U DELAY RELAY NC 153B
21 CALL DET B IN 672A	V CH TORQD 827A
22 RTC DISABLE 678A	W SPARE 4 154B
23 PREEMPT 2 OUT 686A	X SPARE 5 155B
24 PREEMPT 3 OUT 687A	Y SPARE 6 156B
25 SPARE 6 OUT 685B	Z CH 3 RED 03 218A
26 OFFSET 3 OUT 670A	a RED ENABLE 846A
27 R12 STATUS OUT 669B	b SPARE 7 157B
28 OFFSET 2 OUT 669B	c SPARE 8 158B
29 SPARE 5 OUT 669A	
30 R34 STATUS OUT 686B	
31 SYNC OUT 670B	
32 CYCLE B OUT 661B	
33 FREE STATUS OUT 654A	
34 LOGIC GND 677B	
35 N/C 690A	
36 FLASH (MUTCD) IN 656A	
37 EXT. RESYNC IN 664B	
38 FREE IN 655A	
39 PREEMPT 1 OUT 685A	
40 PREEMPT 4 OUT 688A	
41 PREEMPT 5 OUT 677A	
42 OFFSET 1 OUT 668A	
43 SPLIT A OUT 659A	
44 SPLIT B OUT 660A	
45 SF 1 OUT 680A	
46 SF 2 OUT 681A	
47 SPARE 1 OUT 663B	
48 R78 STATUS OUT 664A	
49 R56 STATUS OUT 663A	
50 CYCLE A OUT 653A	

CONFLICT MONITOR MATRIX PROGRAMMING INSTRUCTIONS

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

CHANNEL-0 COMBINATION NOT PINNED WITH MATRIX JUMPERS CONSTITUTE CONFLICTING MOVEMENTS. TO PROGRAM, CIRCLE PERMISSIVE COMBINATIONS AND INSTALL JUMPERS ON CORRESPONDING PINS ON THE PROGRAM CARD



DOES NOT INCLUDE CONTROL EQUIPMENT HARNESS

COLOR	FUNCTIONAL *
BLACK	AC +
WHITE	AC NEUTRAL
GREEN	EARTH GROUND
RED	CONFLICT MONITOR WIRING
BLUE	
YELLOW	INTERCONNECT
ORANGE	
PURPLE	CALLING DETECTOR

SPECIAL FUNCTION MODULE PIN ASSIGNMENT 'D' CABLE 28022900-004

CONN.	FUNCTION	TERM.
1	EMERG. PR. 4 OUT	19B
2	OFFSET 3 OUT	9E
3	OFFSET 4 (ADD BIT 3)	13D
4	DN LINE	8D
5	SPARE	7C
6	DIAL 4	NC
7	DIAL 6	NC
8	SPECIAL FUNCTION 2 OUT	10C
9	SPLIT 3	8D
10	OFFSET 8 (ADD BIT 1)	5D
11	FLASH OUT	12C
12	OFFSET 1 (ADD BIT 0)	4D
13	SYSTEM DET. 8	20C
14	DIAL 5	6C
15	SPECIAL FUNCTION 3 OUT	15D
16	SPLIT 2	7D
17	SYSTEM DET. 1 (SECT. #3)	12C
18	SYSTEM DET. 4 (SECT. #4)	18C
19	SYSTEM ENABLE	14D
20	FLASHING ENABLE	1C
21	SPLIT 1 OUT	7B
22	EMERG. PR. 2 OUT	17B
23	RAILROAD PR. OUT	15B
24	SPARE	11C
25	DIAL 2 (SPECIAL FUNCTION 2)	1D
26	FREE/COORD (SPECIAL FUNCTION 1)	4C
27	SPECIAL FUNCTION 1 OUT	9C
28	DIAL 4 OUT	3C
29	SYSTEM DET. 5	17C
30	SYSTEM DET. 3 (SECT. #3)	16C
31	EMERG. PR. 1 OUT	18B
32	OFFSET 1 OUT	4E
33	EMERG. PR. 3 OUT	2D
34	DIAL 3 (SPECIAL FUNCTION 3)	8C
35	OFFSET 5 (ADD BIT 4)	18C
36	SYSTEM DET. 7	19C
37	OFFSET 3 (ADD BIT 2)	8D
38	FLASH STATUS	7C
39	SYSTEM DET. 6	6C
40	SYSTEM DET. 2	19C
41	OFFSET 4 OUT	16D
42	OFFSET 2 OUT	5E
43	DIAL 5 OUT	7E
44	DIAL 3 OUT	2E
45	OFFSET 5 OUT	17D
46	SPLIT 3 OUT	8E
47	SYSTEM DET. 2 (SECT. #2)	14C
48	LOGIC GND.	20B
49	EMERG. PREEMPT 1	5B
50	EMERG. PREEMPT 2	7B
51	DIAL 3 OUT	18D
52	DIAL 6 OUT	19D
53	LOGIC GND.	9E
54	LOGIC GND.	20D
55	EMERG. PREEMPT 3	8B
56	EMERG. PREEMPT 4	9B
57	RAILROAD PREEMPT	2B
58	CONFLICT STATUS	11B
59	RESERVED	12B
60	FLASH COMMAND	3C
61	RESERVED	10B
62	RESERVED	NC
63	CHASSIS GND.	NC

EVP CONFIRMATORY LIGHTS

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

VEHICLE SIGNALS

SIGNAL	TERMINAL
	G Y R G+ Y+ R+
1-1	201 202 203
1-2	204 205 206
2-1	207 208 209
2-2	210 211 212
4-1	219 220 221
4-2	222 223 224
4-3	225 226 227
5-2	228 229 230
6-1	231 232 233
6-2	234 235 236
8-1	243 244 245
8-2	248 249 248
8-3	242 242 248

VEH DETECTORS

DET	TERMINAL
1-1	301-302
5-1	304-305
4-1	313-314
4-2	325-326
4-3	328-329
8-1	306-307
6-1	309-310
8-1	316-317
8-2	337-338
8-3	340-341
8-4	344-350

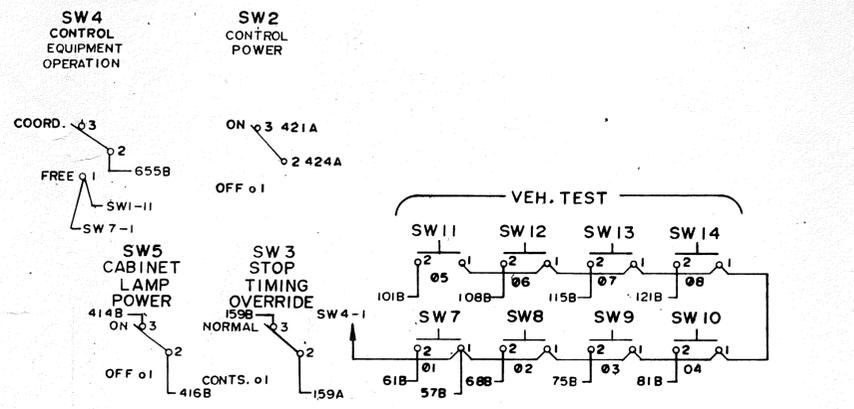
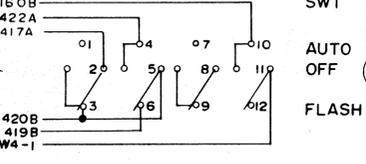
PED SIGNALS

SIGNAL	TERMINAL
	WK DW
P2-3	249 250
P2-5	253 254
P4-1	255 256
P4-5	259 260
P6-1	261 262
P6-2	263 264
P8-2	267 268
P8-3	271 272

PED PUSHBUTTONS

PPB	TERMINAL
PB 2-3,5	311
PB 4-1,5	312
PB 6-1,2	323
PB 8-2,3	324

POLICE PANEL (REAR VIEW)

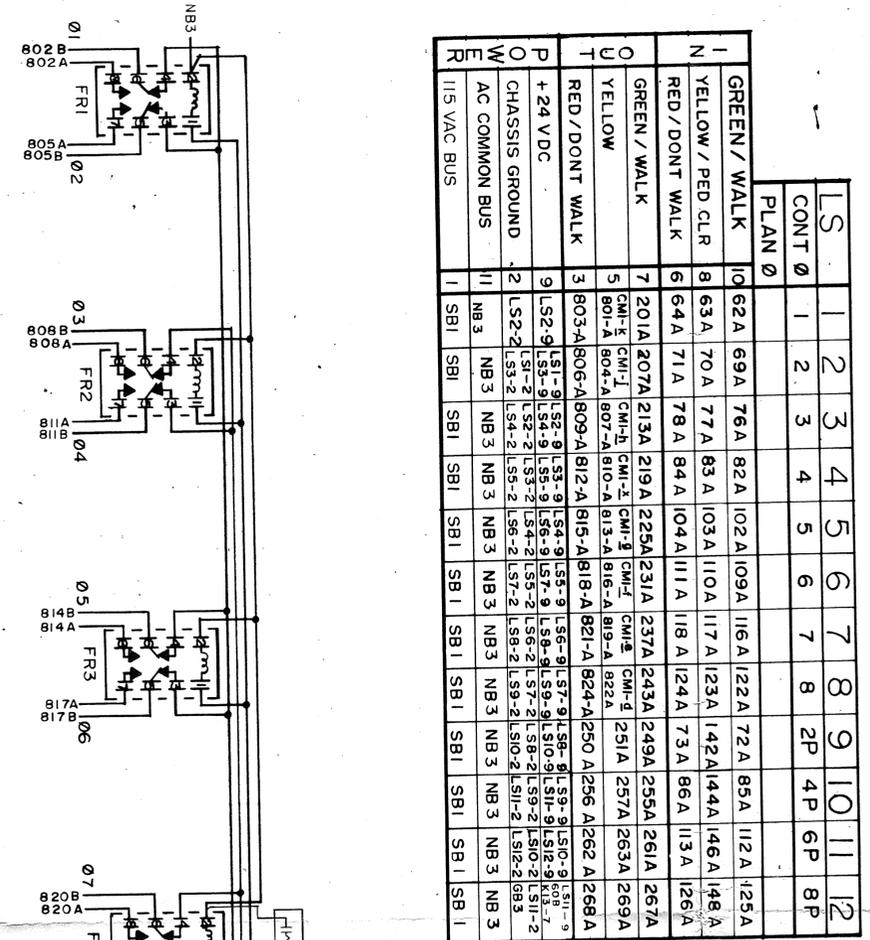
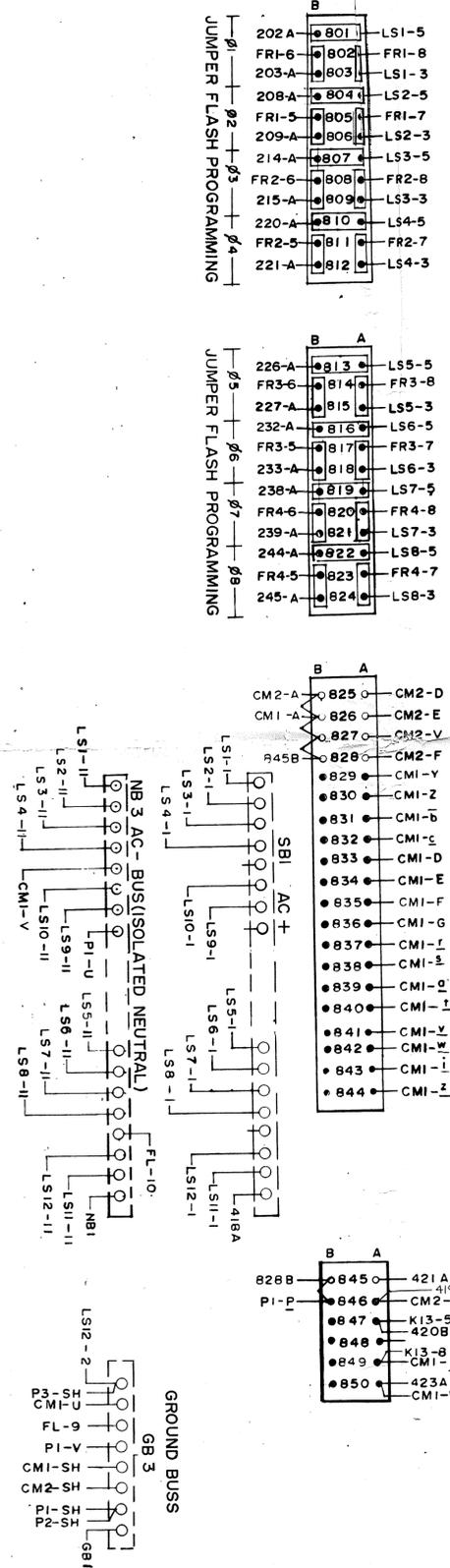
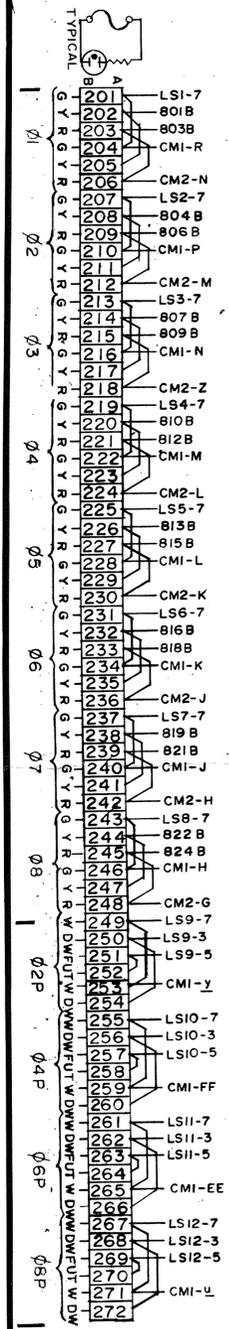


23 & PINE ST.

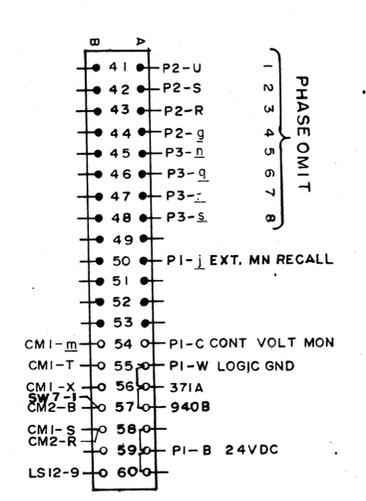
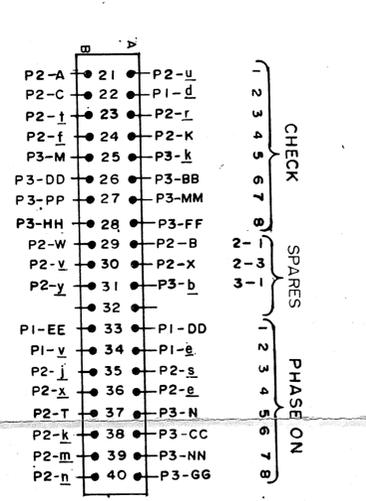
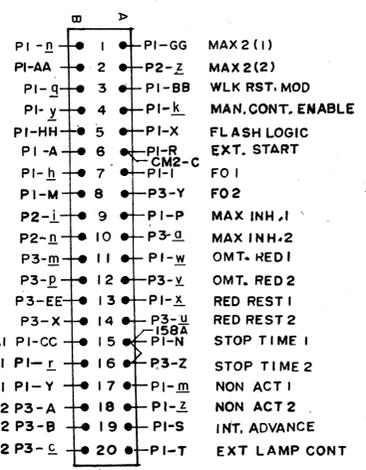
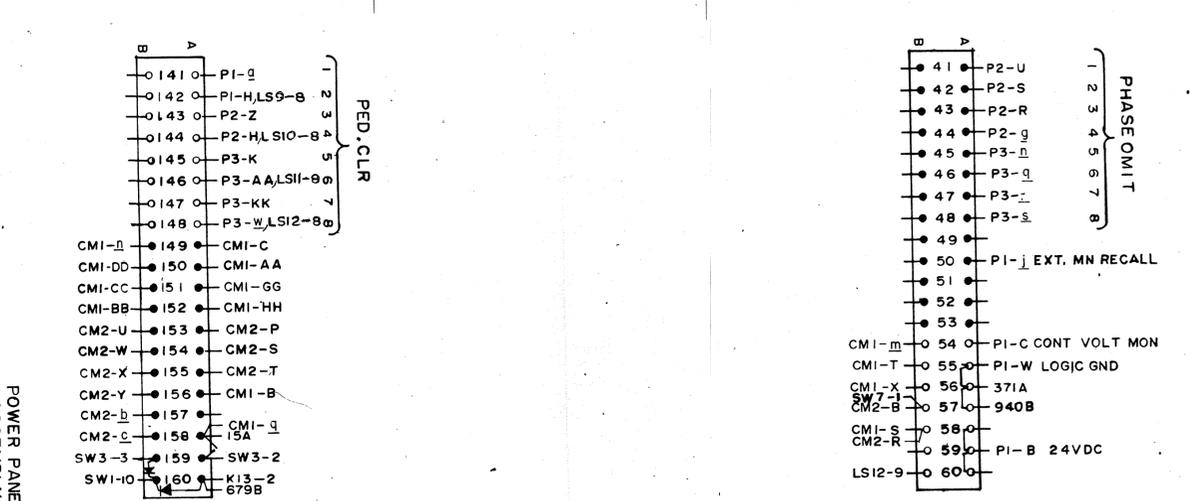
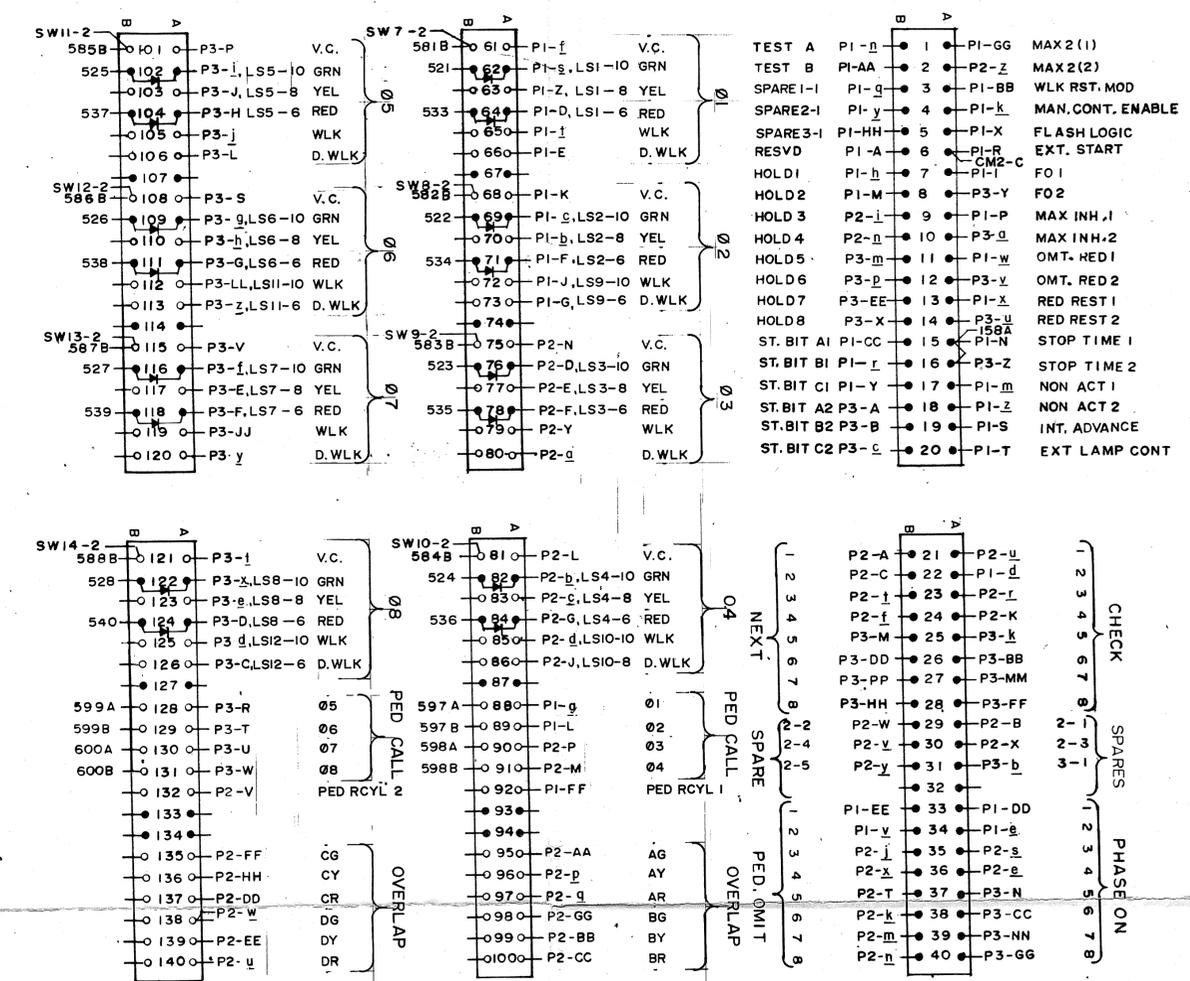
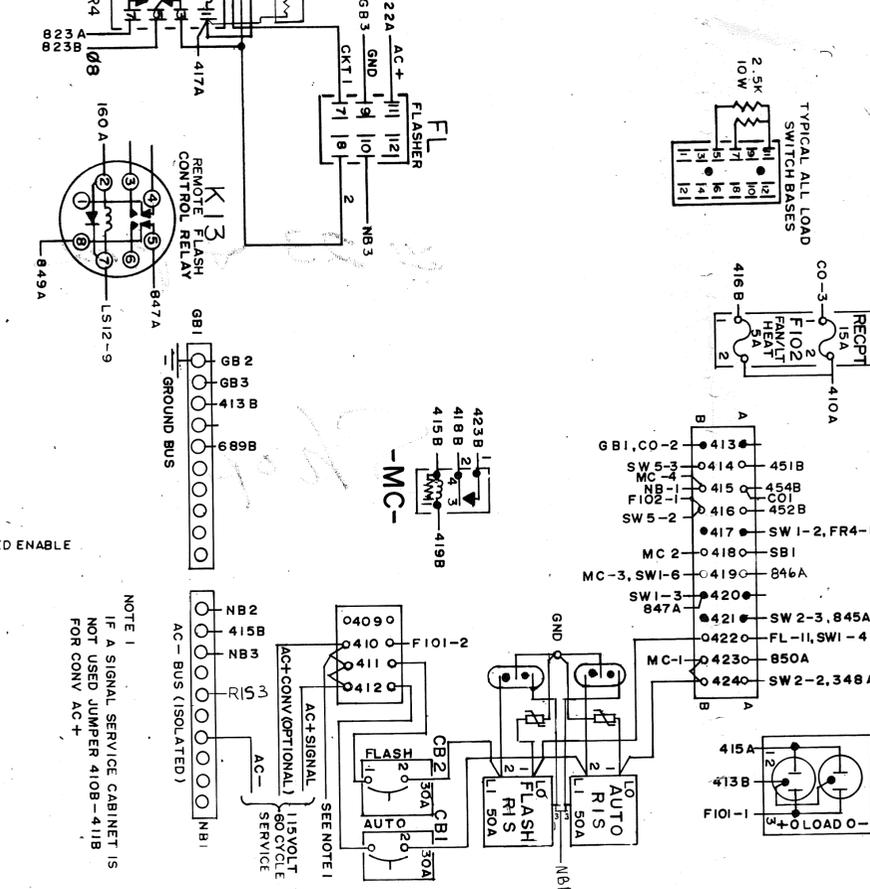
MINNESOTA DEPARTMENT OF TRANSPORTATION
80 CABINET FACILITY FOR MINNESOTA MICROTRONICS

TYPE 800 CONTROLLER
SUPPLIED BY RIDDLE CONTROL PRODUCTS INC.

ENGINEER R. R.	REV	ORDER	DATE
DRAFTSMAN D. W. L.	REV	DWG NO. 60-088	
APPR.	MNDOT		PAGE 1 OF 3



LS PLAN Ø	1	2	3	4	5	6	7	8	9	10	11	12
GREEN / WALK												
YELLOW / PED CLR												
RED / DONT WALK												
GREEN / WALK												
YELLOW												
RED / DONT WALK												
+24 VDC												
CHASSIS GROUND												
AC COMMON BUS												
115 VAC BUS												



8Ø FACILITY FOR MINNESOTA MICROTRONICS 800			
MINDOT 8500 CABINET		DWG. NO. 60-088	
APPR.	MNDOT	DATE	PAGE
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NOTE 1
IF A SIGNAL SERVICE CABINET IS NOT USED JUMPER 410B-411B FOR CONV AC+

NOTE 1
SEE NOTE 1