

ASC/2S-2100 CONTROLLER WITH:

- CONFIGURATION EEPROM 32790C1440
- SOFTWARE: V1.72
- SPECIAL SOFTWARE: SEE BELOW FUNCTION
- OVERLAPS
 - IN EEPROM
 - KEYBOARD ENTERED
- ANALOG TELEMETRY MODULE: 32825G1
- F/O TELEMETRY MODULE: 33525G1
- TEST INPUT A =
- TEST INPUT B =

A =
B =
C =
D =

LEGEND

| | |
|-------|----------------------|
| BIU | BUS INTERFACE UNIT |
| BU() | C/C, BIU () |
| CB() | CIRCUIT BREAKER () |
| C/C | CONNECTING CABLE |
| CCA | CONTROLLER CABLE "A" |
| CDP | C/C, DR POWER |
| CMA | MMU/CMU CABLE "A" |
| CMB | MMU/CMU CABLE "B" |
| CPO | C/C PRE-EMPT OUTPUTS |
| CPP | C/C PRE-EMPT POWER |
| DR | DETECTOR RACK |
| DS() | DOOR SWITCH () |
| FL() | FLASHER () |
| FR() | FLASH XFER. RELAY |
| LS() | LOAD SWITCH |
| MC | MERCURY CONTACTOR |
| MP | MAIN PANEL |
| PAP | POWER-AUX PANEL |
| PSP | CAB. PWR. SUPPLY |
| SA | SURGE ARRESTOR |
| TB-() | TERM. BLOCK () |

MAIN PANEL PLUG-IN REQUIREMENTS

| | | | | | | | | | |
|---------------------|---------------------|-------------------------|--------------------------|--------------------------|--------------------------|-----------------------|---------------|---------------|-----------------------|
| BIU2 T&F | BIU3 T&F | LS9 PED 2 BEACONS | LS10 PED 4 BEACONS | LS11 PED 6 BEACONS | LS12 PED 8 BEACONS | LS13 OL"A" | LS14 OL"B" | LS15 OL"C" | LS16 OL"D" |
| BIU1 T&F | LS1 VEH 1 | LS2 VEH 2 | LS3 VEH 3 | LS4 VEH 4 | LS5 VEH 5 | LS6 VEH 6 | LS7 VEH 7 | LS8 VEH 8 | FL1 □1CKT ■2CKT |
| FR1 L R V1 V5 | FR2 L R V2 V6 | FR3 L R V3 V7 | FR4 L R V4 V8 | ✕FR5 L R A C | ✕FR6 L R B D | K1 LS 24V CONT. | | | |

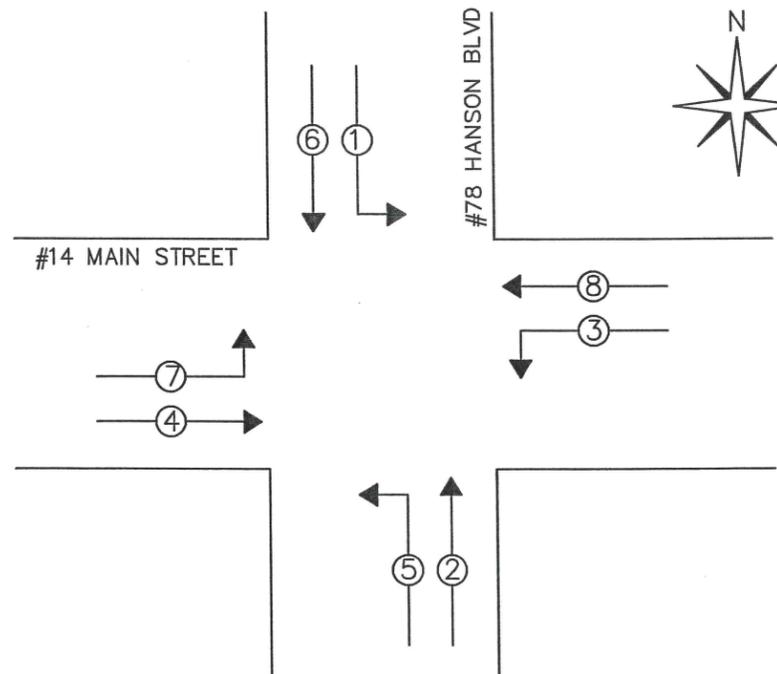
■ DENOTES TYPE OF OPERATION AND/OR WHERE PLUG-IN IS REQUIRED. L = LEFT, R = RIGHT.
 ✕ DENOTES WHERE "UNUSED RED" JUMPER PART NUMBER 32448G1 IS REQUIRED. INSTALL BETWEEN PINS 1 & 3 FOR LOAD SWITCH OR PINS 6 & 8 AND 5 & 7 FOR FLASH TRANSFER RELAY.

FLASH:
 □ ø2&6 YELLOW, ALL OTHERS RED.
 ■ ALL RED.
 ■ RELAYS DE-ENERGIZED FOR FLASH.
 □ RELAYS ENERGIZED FOR FLASH.

| FLASHER | |
|---------|-------------|
| PIN | FUNCTION |
| 7 | CIRCUIT #1 |
| 8 | CIRCUIT #2 |
| 9 | CHASSIS GND |
| 10 | AC COMMON |
| 11 | 115 VAC |
| 12 | ----- |

| LOAD SWITCH | |
|-------------|---------------|
| PIN | FUNCTION |
| 1 | 115 VAC |
| 2 | CHASSIS GND |
| 3 | RED/DW OUTPUT |
| 4 | ----- |
| 5 | YEL OUTPUT |
| 6 | RED/DW INPUT |
| 7 | GRN/W OUTPUT |
| 8 | YEL INPUT |
| 9 | +24 VDC |
| 10 | GRN/W INPUT |
| 11 | AC COMMON |
| 12 | ----- |

①
2.2K
10W

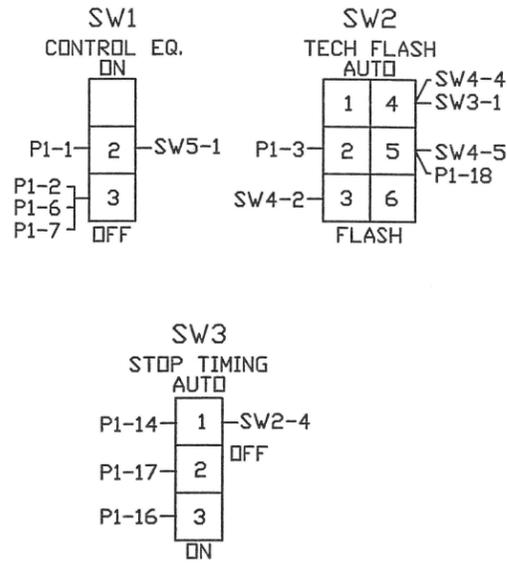


SHEET 1 OF 11

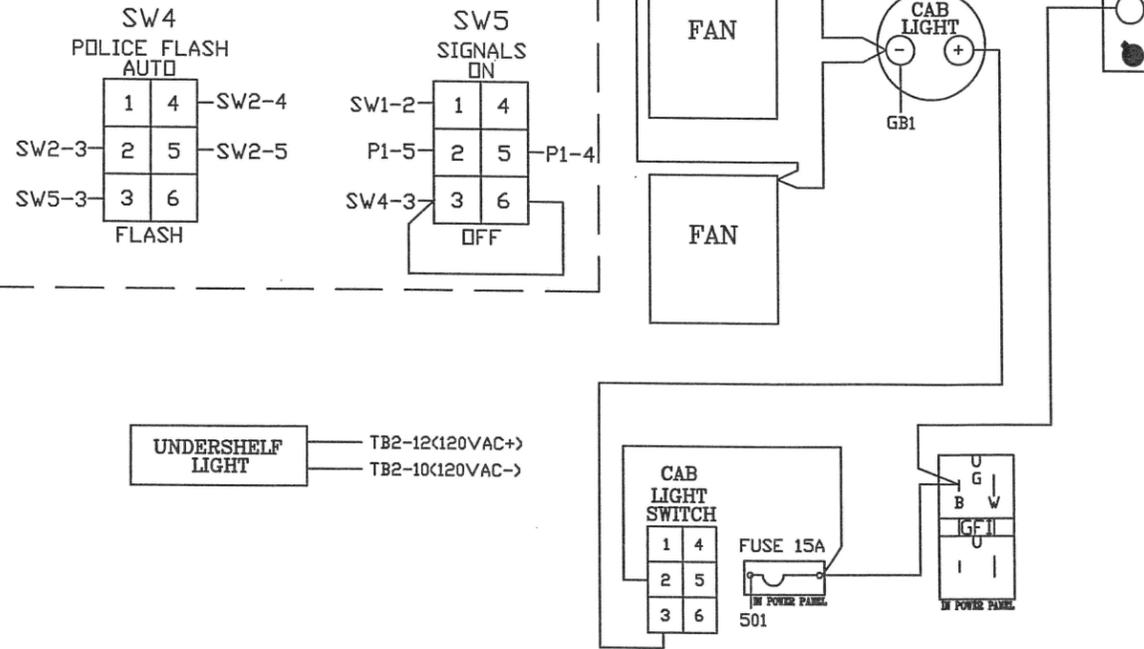
3 USE ONLY COPPER CONDUCTORS FOR FIELD AND SERVICE CONNECTIONS.
 2 CONNECT A.C. SERVICE TO TERMINAL BLOCK 501 (LINE), 502 (NEUTRAL) AND GB2 (EARTH) ON RIGHT SIDEWALL OF CABINET.
 ① INSTALL 2.2K, 10 WATT LOAD RESISTORS BETWEEN PINS 7 AND 11 ON LOAD SWITCHES 9, 10, 11 & 12.
 NOTES: UNLESS SPECIFIED OTHERWISE

| | | | | |
|-------------------------|------------------|---|------------------------------------|---|
| DESIGNER G.V. T.C.C. | DATE 02/03/97 | ECONOLITE CONTROL PRODUCTS INC. | TRAFFIC CONTROL CORPORATION | 5653 MEMORIAL AVE. OAK PARK HTS, MN 55082 |
| DRAWN MARK L. | 02/09/07 | | | CABINET SPECIFICATION: TS2TYPE1 2004 ANOKA COUNTY |
| CABINET SIZE | | CUSTOMER: ANOKA COUNTY HIGHWAY DEPARTMENT | | FLASHER |
| INSPECTED | | INTERSECTION: #14 AT #78 | | SW.PACKS |
| APPROVED | | LOCATION: COON RAPIDS | | |
| CUSTOMER P.O. | INSTALLED BY | SALES ORDER NO. | SIZE B | DRAWING #TS20216PG INTERC |

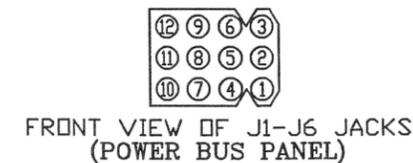
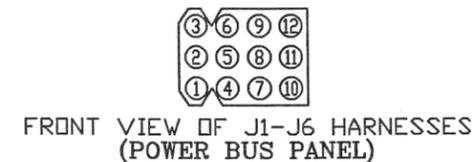
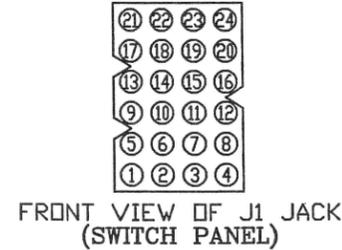
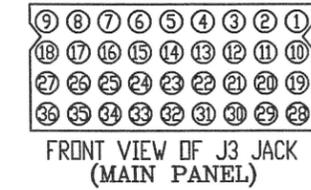
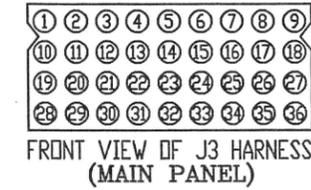
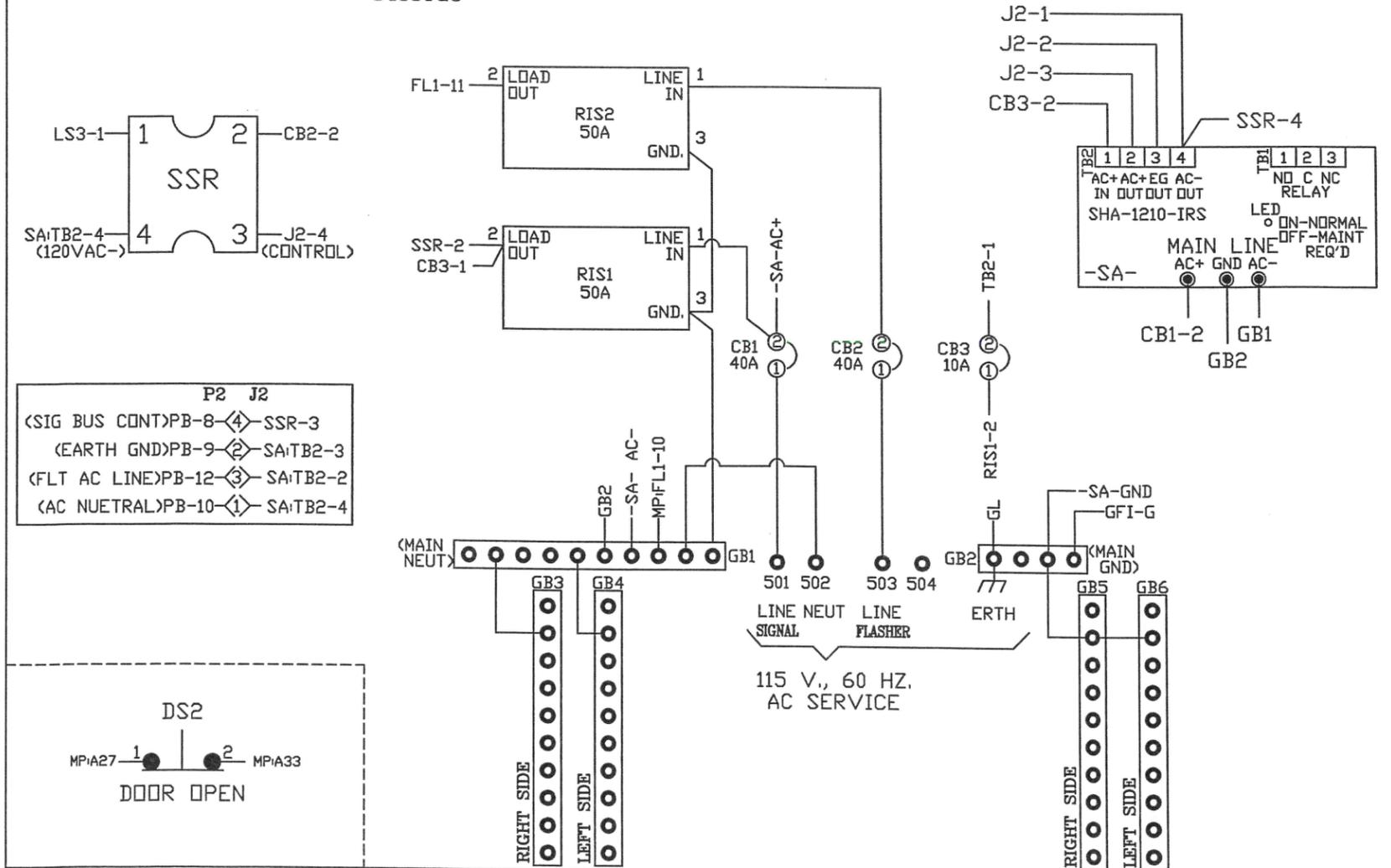
AUXILLARY SWITCH PANEL



POLICE SWITCH PANEL



POWER/AUX PANEL (PAP) 34830G5



| J3 | | P1 | | |
|--------|----|------------------------------|-------|-------|
| J3-36 | 1 | FILTER AC LINE (OUT) | P1-1 | SW1-2 |
| MMB-1 | 2 | SWITCHED AC LINE (IN) | P1-2 | SW1-3 |
| MMA-37 | 3 | FLASH CONTROL BUS (OUT) | P1-3 | SW2-3 |
| K1-10 | 4 | SIGNAL BUS CONTROL (IN) | P1-4 | SW5-5 |
| FR6-2 | 5 | FLASH RELAY CONTROL (IN) | P1-5 | SW5-2 |
| MMB-2 | 6 | START DELAY AC BUS (IN) | P1-6 | SW1-3 |
| MMA-20 | 7 | MMU FLASH CONTROL BUS (IN) | P1-7 | SW1-3 |
| | 8 | SPARE | P1-8 | ---- |
| | 9 | SPARE | P1-9 | ---- |
| | 10 | SPARE | P1-10 | ---- |
| | 11 | SPARE | P1-11 | ---- |
| | 12 | SPARE | P1-12 | ---- |
| A-39 | 13 | OPT-MANUAL CONT. ENABLE (IN) | P1-13 | ---- |
| A-35 | 14 | LOGIC GROUND | P1-14 | SW3-1 |
| A-40 | 15 | OPT-INTERVAL ADVANCE (IN) | P1-15 | ---- |
| A-31 | 16 | MMU STOP TIME (OUT) | P1-16 | SW3-3 |
| A-30 | 17 | CONTROLLER STOP TIME (IN) | P1-17 | SW3-2 |
| A-32 | 18 | LOCAL FLASH STATUS (IN) | P1-18 | SW2-5 |
| A-38 | 19 | OPT-COORD FREE (IN) | P1-19 | ---- |
| A-33 | 20 | OPT-ALARM 1 (IN) | P1-20 | ---- |
| A-34 | 21 | OPT-ALARM 2 (IN) | P1-21 | ---- |
| K1-9 | 22 | OPT-LOADSWITCH TEST (IN) | P1-22 | ---- |
| B-3 | 23 | MMU 24V MON. 2 (IN) | P1-23 | ---- |
| B-4 | 24 | +24 VDC | P1-24 | ---- |

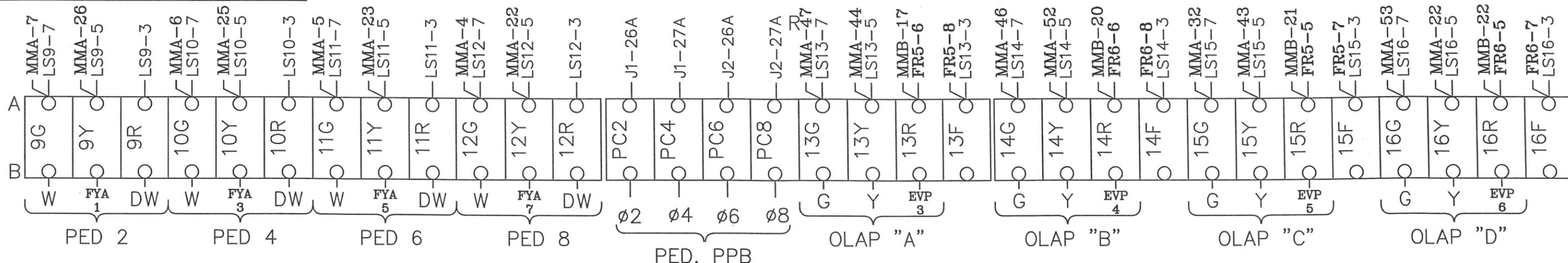
TO POL/AUX P1

TO PB J1

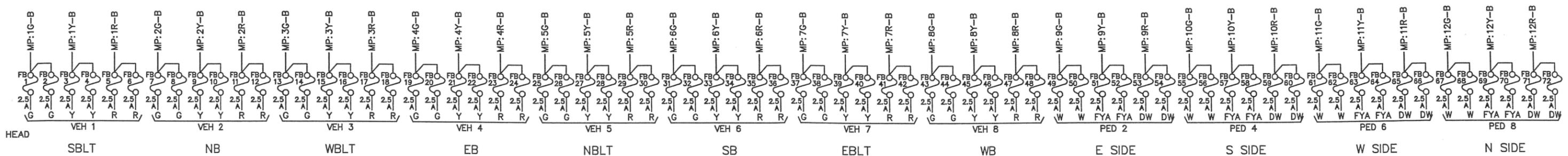
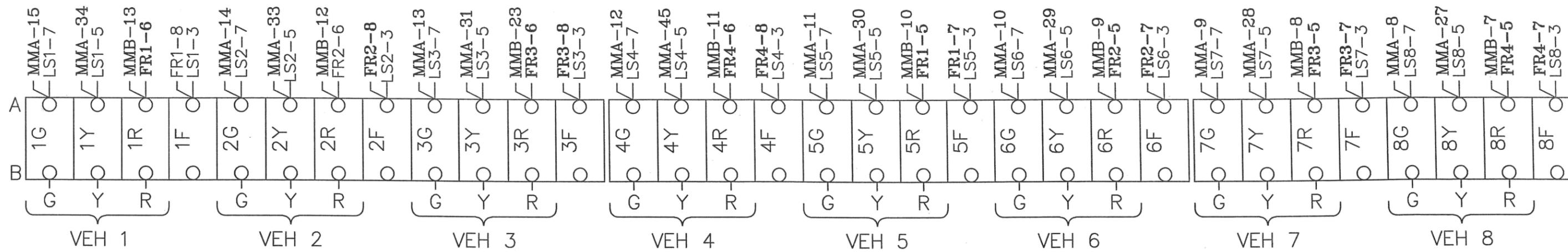
| J3 | | J1 | | |
|--------|----|----------------------------|-------|--------|
| A-35 | 25 | LOGIC GROUND | J1-1 | TB1-1 |
| K1-11 | 26 | +24 VDC (IN) | J1-2 | TB1-2 |
| | 27 | ---- | ---- | TB1-3 |
| B-5 | 28 | MMU FAULT MONITOR (IN) | J1-4 | TB1-4 |
| J1-31B | 29 | LINE FREQ. REFERENCE (IN) | J1-5 | TB1-5 |
| | 30 | ---- | ---- | TB1-6 |
| J1-27B | 31 | +12 VAC (IN) | J1-7 | TB1-7 |
| K1-10 | 32 | SIGNAL BUS CONTROL (IN) | J1-8 | TB1-8 |
| | 33 | ---- | ---- | TB1-9 |
| K1-2 | 34 | FILTERED AC NEUTRAL (IN) | J1-10 | TB1-10 |
| MMB-18 | 35 | CONT. EQUIP. AC LINE (OUT) | J1-11 | TB1-11 |
| J3-1 | 36 | FILTERED AC LINE (IN) | J1-12 | TB1-12 |

CONFIRMATION BEACONS

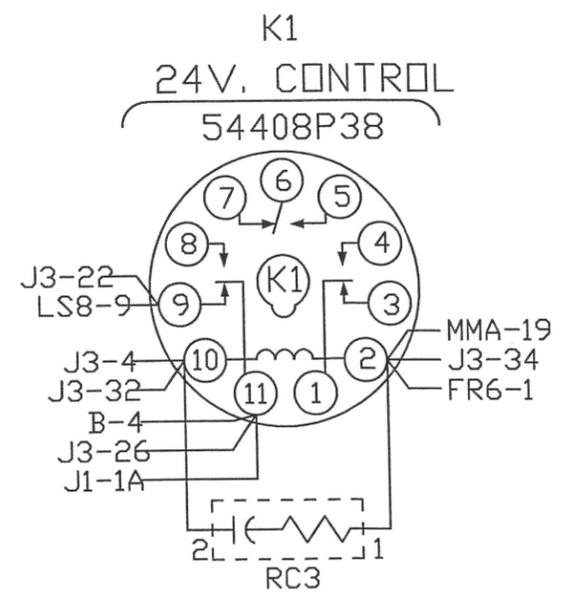
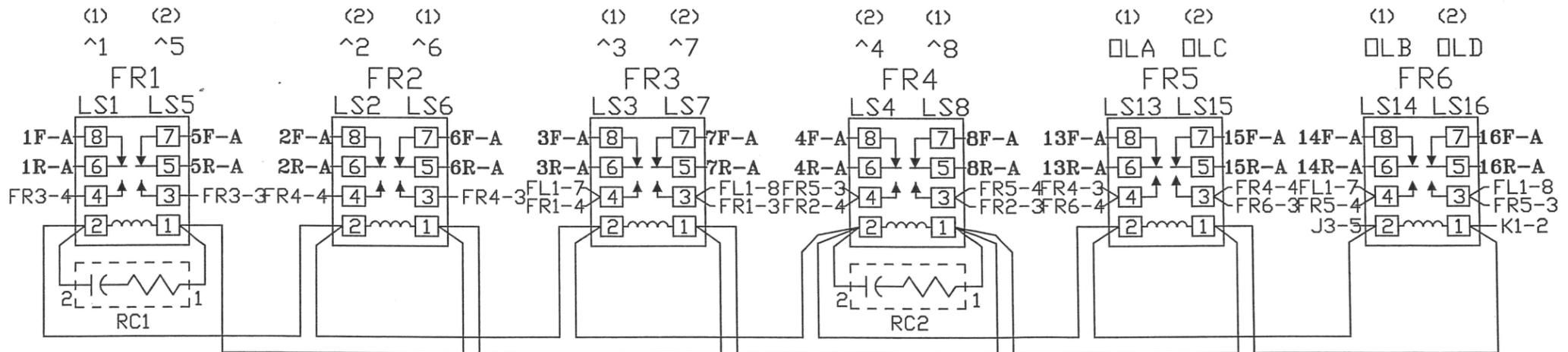
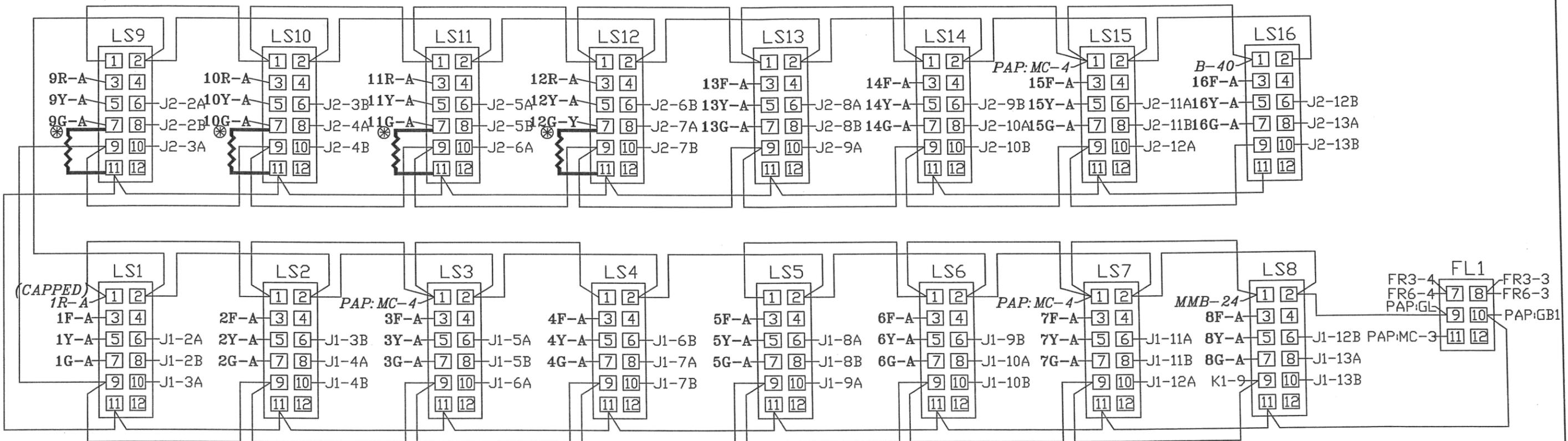
EVP 3 = 1-6 SB
 EVP 4 = 2-5 NB
 EVP 5 = 3-8 WB
 EVP 6 = 4-7 EB



(P.B. COMMON TO GB1)



2.2K
10W



LOADBAY AND FLASH RELAY'S

| | | | | | | | |
|--------|----|----------------------------|--------------------------|----------------|---|----|-------------------------|
| B | 1 | M.M.U. RESET | MMA-49 | J2-21B | A | 1 | RG. 1 INHBT. MAX. |
| | 2 | 24 V. MON. INHBT. | MMA-36 | J2-22A | | 2 | RG. 2 INHBT. MAX. |
| | 3 | M.M.U. +24 V. MON. 2 | J3-23 | J1-23B | | 3 | RG. 1 FORCE OFF |
| | 4 | M.M.U. +24 V. MON. 1 | K1-11 J3-24 | J1-24A | | 4 | RG. 2 FORCE OFF |
| | 5 | FAULT MON. | MMA-16 J3-28 | J1-22B | | 5 | RG. 1 MAX. 2 SEL. |
| | 6 | PC1 PED. DET. 1 | J1-25B | J1-23A | | 6 | RG. 2 MAX. 2 SEL. |
| | 7 | PC3 PED. DET. 3 | J1-26B | J1-24B | | 7 | CALL NON-AC |
| | 8 | PC5 PED. DET. 5 | J2-25B | J2-19A | | 8 | CALL NON-AC |
| | 9 | PC7 PED. DET. 7 | J2-26B | J1-25A | | 9 | WALK REST MDFR. |
| | 10 | B.I.U. SPR. 1 | J2-19B | J1-20A | | 10 | EXT. MIN. RECALL |
| | 11 | B.I.U. SPR. 2 | J2-20A | J1-20B | | 11 | EXT. START |
| | 12 | B.I.U. SPR. 3 | J2-20B | J1-17A | | 12 | TEST INPUT A |
| | 13 | B.I.U. SPR. 4 | J2-21A | J1-17B | | 13 | TEST INPUT B |
| | 14 | LOGIC GND. | MMA-17 J1-32A A-20 | J2-25A | | 14 | TEST INPUT C |
| | 15 | PMT. CALL 1 | J1-16A | J1-21A | | 15 | T.B.C. ON LINE |
| J16-19 | 16 | PMT. CALL 2 | J1-16B | J1-14A | | 16 | T.B.C. AUX. 1 |
| | 17 | PMT. CALL 3 | J2-17A | J1-14B | | 17 | T.B.C. AUX. 2 |
| J16-20 | 18 | PMT. CALL 4 | J2-17B | J2-14A | | 18 | T.B.C. AUX. 3 |
| J16-17 | 19 | PMT. CALL 5 | J2-18A | J2-14B | | 19 | COORD. STATUS OUT |
| J16-18 | 20 | PMT. CALL 6 | J2-18B | MMA-55 A-27 | | 20 | LOGIC GND. |

| | | | | | | | |
|--|----|--------------------|----------------------------------|---------------------------|--|----|---------------------------|
| | 21 | MMA AC+ I IN | MMA-1 | J1-15A | | 21 | PMT. 1 ACTV. |
| | 22 | DR1 OPEN | MMA-2 | J1-15B | | 22 | PMT. 2 ACTV. |
| | 23 | DR2 CLSD | MMA-3 | J2-15A | | 23 | PMT. 3 ACTV. |
| | 24 | MMA SPR 1 | MMA-48 | J2-15B | | 24 | PMT. 4 ACTV. |
| | 25 | CAB INTLK A | MMA-50 | J2-16A | | 25 | PMT. 5 ACTV. |
| | 26 | CAB INTLK B | MMA-51 | J2-16B | | 26 | PMT. 6 ACTV. |
| | 27 | MMA SPR 2 | MMA-21 MMA-54 A-20 A-35 | | | 27 | LOGIC GND |
| | 28 | SDR OPEN | MMB-3 | | | 28 | LOGIC GND |
| | 29 | MMB SPR 1 | MMB-14 | | | 29 | LOGIC GND |
| | 30 | MMB SPR 2 | MMB-16 | J1-21B J1-22A J3-17 | | 30 | STOP TIMING 1 & 2 |
| | 31 | MMB SPR 3 | MMB-25 | J2-23A J3-16 | | 31 | MMU STOP TIMING |
| | 32 | | J2-22B J3-18 | | | 32 | LOCAL FLASH STATUS |
| | 33 | | J2-23B J3-20 | | | 33 | ALARM 1 |
| | 34 | | J2-24A J3-21 | | | 34 | ALARM 2 |
| | 35 | | A-27 J3-25 J3-14 | | | 35 | LOGIC GND |
| | 36 | | J1-18B | | | 36 | DIM. ENABLE |
| | 37 | AC+ | MMB-6 | J1-18A | | 37 | AUTO FLASH |
| | 38 | AC+ | MMB-19 | J2-24B J3-19 | | 38 | COORD. FREE |
| | 39 | AC+ | MMB-5 | J1-19A J3-13 | | 39 | MANUAL CONT. ENABLE |
| | 40 | AC+ | MMB-4 LS16-1 | J1-19B J3-15 | | 40 | INTRV. ADV. |

INTERFACE TERMINAL BLOCKS

| J1 BIU #1 | | | J2 BIU #2 | | |
|-----------|------------------|--------|-----------|-----------------|---------|
| PIN | FUNCTION | TO | PIN | FUNCTION | TO |
| 1A | +24 VDC | K1-11 | 1A | +24 VDC | J2-1B |
| 1B | +24 VDC | J2-1B | 1B | +24 VDC | J1-1B |
| 2A | LS1 RED | LS1-6 | 2A | LS9 RED | LS9-6 |
| 2B | LS1 YELLOW | LS1-8 | 2B | LS9 YELLOW | LS9-8 |
| 3A | LS1 GREEN | LS1-10 | 3A | LS9 GREEN | LS9-10 |
| 3B | LS2 RED | LS2-6 | 3B | LS10 RED | LS10-6 |
| 4A | LS2 YELLOW | LS2-8 | 4A | LS10 YELLOW | LS10-8 |
| 4B | LS2 GREEN | LS2-10 | 4B | LS10 GREEN | LS10-10 |
| 5A | LS3 RED | LS3-6 | 5A | LS11 RED | LS11-6 |
| 5B | LS3 YELLOW | LS3-8 | 5B | LS11 YELLOW | LS11-8 |
| 6A | LS3 GREEN | LS3-10 | 6A | LS11 GREEN | LS11-10 |
| 6B | LS4 RED | LS4-6 | 6B | LS12 RED | LS12-6 |
| 7A | LS4 YELLOW | LS4-8 | 7A | LS12 YELLOW | LS12-8 |
| 7B | LS4 GREEN | LS4-10 | 7B | LS12 GREEN | LS12-10 |
| 8A | LS5 RED | LS5-6 | 8A | LS13 RED | LS13-6 |
| 8B | LS5 YELLOW | LS5-8 | 8B | LS13 YELLOW | LS13-8 |
| 9A | LS5 GREEN | LS5-10 | 9A | LS13 GREEN | LS13-10 |
| 9B | LS6 RED | LS6-6 | 9B | LS14 RED | LS14-6 |
| 10A | LS6 YELLOW | LS6-8 | 10A | LS14 YELLOW | LS14-8 |
| 10B | LS6 GREEN | LS6-10 | 10B | LS14 GREEN | LS14-10 |
| 11A | LS7 RED | LS7-6 | 11A | LS15 RED | LS15-6 |
| 11B | LS7 YELLOW | LS7-8 | 11B | LS15 YELLOW | LS15-8 |
| 12A | LS7 GREEN | LS7-10 | 12A | LS15 GREEN | LS15-10 |
| 12B | LS8 RED | LS8-6 | 12B | LS16-RED | LS16-6 |
| 13A | LS8 YELLOW | LS8-8 | 13A | LS16-YELLOW | LS16-8 |
| 13B | LS8 GREEN | LS8-10 | 13B | LS16-GREEN | LS16-10 |
| 14A | TBC AUX 1 | A-16 | 14A | TBC AUX 3 | A-18 |
| 14B | TBC AUX 2 | A-17 | 14B | COORD. STATUS | A-19 |
| 15A | PMT ACT 1 | A-21 | 15A | PMT ACT 3 | A-23 |
| 15B | PMT ACT 2 | A-22 | 15B | PMT ACT 4 | A-24 |
| 16A | PMT CALL 1 | B-15 | 16A | PMT ACT 5 | A-25 |
| 16B | PMT CALL 2 | B-16 | 16B | PMT ACT 6 | A-26 |
| 17A | TEST A | A-12 | 17A | PMT CALL 3 | B-17 |
| 17B | TEST B | A-13 | 17B | PMT CALL 4 | B-18 |
| 18A | AUTO FLASH | A-37 | 18A | PMT CALL 5 | B-19 |
| 18B | DIM. ENABLE | A-36 | 18B | PMT CALL 6 | B-20 |
| 19A | MANUAL CON.T. | A-39 | 19A | CNA 2 | A-8 |
| 19B | INT. ADVANCE | A-40 | 19B | SPARE 1 | B-10 |
| 20A | EXT. MIN. RECALL | A-10 | 20A | SPARE 2 | B-11 |
| 20B | EXT. START | A-11 | 20B | SPARE 3 | B-12 |
| 21A | TBC ONLINE | A-15 | 21A | SPARE 4 | B-13 |
| 21B | STOP TIME (1) | A-30 | 21B | INHIBIT MAX (1) | A-1 |
| 22A | STOP TIME (2) | A-30 | 22A | INHIBIT MAX (2) | A-2 |
| 22B | MAX. 2 (1) | A-5 | 22B | LOCAL FLASH | A-32 |
| 23A | MAX. 2 (2) | A-6 | 23A | MMU FLASH | A-31 |
| 23B | FORCE OFF (1) | A-3 | 23B | ALARM 1 | A-33 |
| 24A | FORCE OFF (2) | A-4 | 24A | ALARM 2 | A-34 |
| 24B | CNA 1 | A-7 | 24B | COORD FREE IN | A-38 |
| 25A | WALK REST MOD. | A-9 | 25A | TEST C | A-14 |
| 25B | PED. ISO. 1 | B-6 | 25B | PED. ISO. 5 | B-8 |
| 26A | PED. ISO. 2 | PC2-A | 26A | PED. ISO. 6 | PC6-A |
| 26B | PED. ISO. 3 | B-7 | 26B | PED. ISO. 7 | B-9 |
| 27A | PED. ISO. 4 | PC4-A | 27A | PED. ISO. 8 | PC8-A |
| 27B | PED. ISO. COMN. | J3-31 | 27B | PED. ISO. COMN. | J1-27B |
| 28A | ADDR. SEL. 0 | ----- | 28A | ADDR. SEL. 0 | J2-32A |
| 28B | ADDR. SEL. 1 | ----- | 28B | ADDR. SEL. 1 | ----- |
| 29A | ADDR. SEL. 2 | ----- | 29A | ADDR. SEL. 2 | ----- |
| 29B | ADDR. SEL. 3 | ----- | 29B | ADDR. SEL. 3 | ----- |
| 30A | RESERVED | ----- | 30A | RESERVED | ----- |
| 30B | RESERVED | ----- | 30B | RESERVED | ----- |
| 31A | EARTH GND. | LS12-2 | 31A | EARTH GND. | J1-31A |
| 31B | LINE FREQ. REF. | J3-29 | 31B | LINE FREQ. REF. | J1-31B |
| 32A | LOGIC GND. | B-14 | 32A | LOGIC GND. | J1-32B |
| 32B | LOGIC GND. | J2-32A | 32B | LOGIC GND. | J2-32A |

| MAIN PANEL CONTROL POWER C/C 34842G4 | |
|---|-----------------------------|
| PIN | FUNCTION |
| 1 | LOGIC GROUND |
| 2 | +24 VDC (IN) |
| 3 | ----- |
| 4 | MMU FAULT MONITOR (IN) |
| 5 | LINE FREQ. REFERENCE (IN) |
| 6 | ----- |
| 7 | +12 VAC (IN) |
| 8 | SIGNAL BUS CONTROL (IN) |
| 9 | ----- |
| 10 | FILTERED AC NEUTRAL (IN) |
| 11 | CON.T. EQUIP. AC LINE (OUT) |
| 12 | FILTERED AC LINE (IN) |

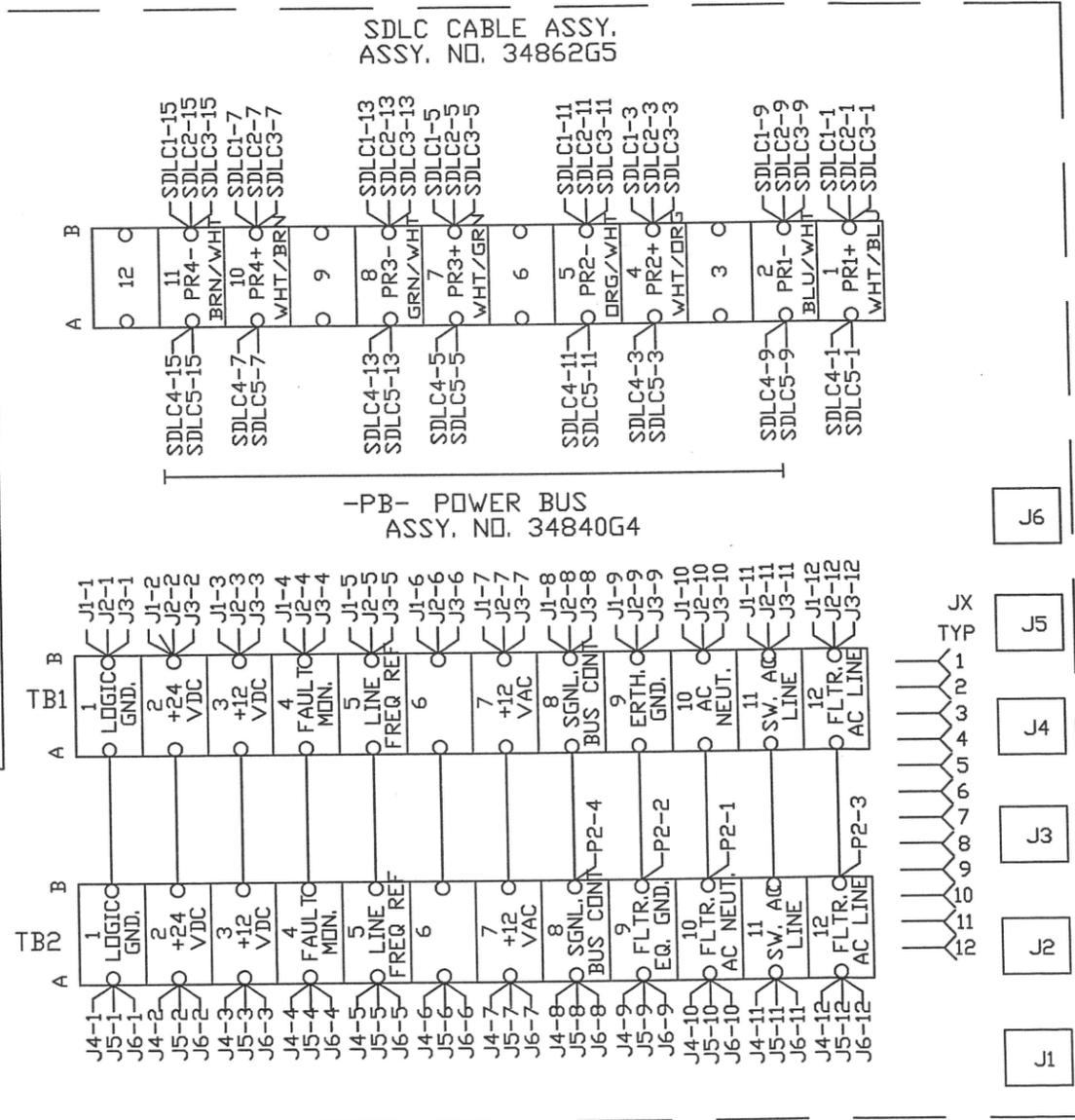
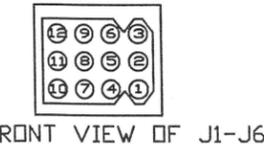
| CONTROLLER POWER (CCA2) C/C 34842G3 | | | |
|--|-----|---------------|--------|
| WIRE | PIN | SIGNAL | TO |
| 1 | A | FAULT MONITOR | PB-4 |
| 2 | U | AC NEUTRAL | PB-10 |
| 3 | V | EARTH GROUND | PB-9 |
| 4 | W | LOGIC GROUND | PB-1 |
| 5 | P | AC LINE | PB-11 |
| 6 | SHL | EARTH GROUND | CCA2-V |

| TYPE 1 CONTROLLER POWER C/C 34842G2 | | |
|--|------------|-------|
| PIN | FUNCTION | TO |
| A | AC NEUTRAL | PB-10 |
| B | ----- | ----- |
| C | AC LINE | PB-11 |
| D | ----- | ----- |
| E | ----- | ----- |
| F | ----- | ----- |
| G | FAULT MON. | PB-4 |
| H | LOGIC GND. | PB-1 |
| I | EARTH GND. | PB-9 |
| J | ----- | ----- |
| SHL | EARTH GND. | PIN H |

| CABINET POWER SUPPLY C/C 34842G1 | | |
|-------------------------------------|---------------------|-------|
| PIN | FUNCTION | TO |
| A | AC NEUTRAL | PB-10 |
| B | LINE FREQUENCY REF. | PB-5 |
| C | AC LINE | PB-11 |
| D | +12 VDC | PB-3 |
| E | +24 VDC | PB-2 |
| F | RESERVED | ----- |
| G | LOGIC GND. | PB-1 |
| H | EARTH GND. | PB-9 |
| I | +12 VAC | PB-7 |
| J | RESERVED | ----- |
| SHL | EARTH GND. | PIN H |

| CONTROLLER PORT 1 CONNECTOR | | | |
|-----------------------------|-----------------|-------------|-----------|
| PIN | SIGNAL | TO | FUNCTION |
| 1 | TWISTED PAIR 1+ | SDLC-1 | CONT TXD+ |
| 2 | LOGIC GND. | ----- | ----- |
| 3 | TWISTED PAIR 2+ | SDLC-4 | CONT TXC+ |
| 4 | LOGIC GND. | ----- | ----- |
| 5 | TWISTED PAIR 3+ | SDLC-7 | CONT RXD+ |
| 6 | LOGIC GND. | ----- | ----- |
| 7 | TWISTED PAIR 4+ | SDLC-10 | CONT RXC+ |
| 8 | LOGIC GND. | ----- | ----- |
| 9 | TWISTED PAIR 1- | SDLC-2 | CONT TXD- |
| 10 | PORT 1 DISABLE | ----- | ----- |
| 11 | TWISTED PAIR 2- | SDLC-5 | CONT TXC- |
| 12 | EARTH GND. | SHIELD WIRE | ----- |
| 13 | TWISTED PAIR 3- | SDLC-8 | CONT RXD- |
| 14 | RESERVED | ----- | ----- |
| 15 | TWISTED PAIR 4- | SDLC-11 | CONT RXC- |

| MMU & BIU PORT 1 CONNECTOR | | | |
|----------------------------|-----------------|-------------|----------|
| PIN | SIGNAL | TO | FUNCTION |
| 1 | TWISTED PAIR 1+ | SDLC-1 | BIU RXD+ |
| 2 | LOGIC GND. | ----- | ----- |
| 3 | TWISTED PAIR 2+ | SDLC-4 | BIU RXC+ |
| 4 | LOGIC GND. | ----- | ----- |
| 5 | TWISTED PAIR 3+ | SDLC-7 | BIU TXD+ |
| 6 | LOGIC GND. | ----- | ----- |
| 7 | TWISTED PAIR 4+ | SDLC-10 | BIU TXC+ |
| 8 | LOGIC GND. | ----- | ----- |
| 9 | TWISTED PAIR 1- | SDLC-2 | BIU RXD- |
| 10 | PORT 1 DISABLE | ----- | ----- |
| 11 | TWISTED PAIR 2- | SDLC-5 | BIU RXC- |
| 12 | EARTH GND. | SHIELD WIRE | ----- |
| 13 | TWISTED PAIR 3- | SDLC-8 | BIU TXD- |
| 14 | RESERVED | ----- | ----- |
| 15 | TWISTED PAIR 4- | SDLC-11 | BIU TXC- |

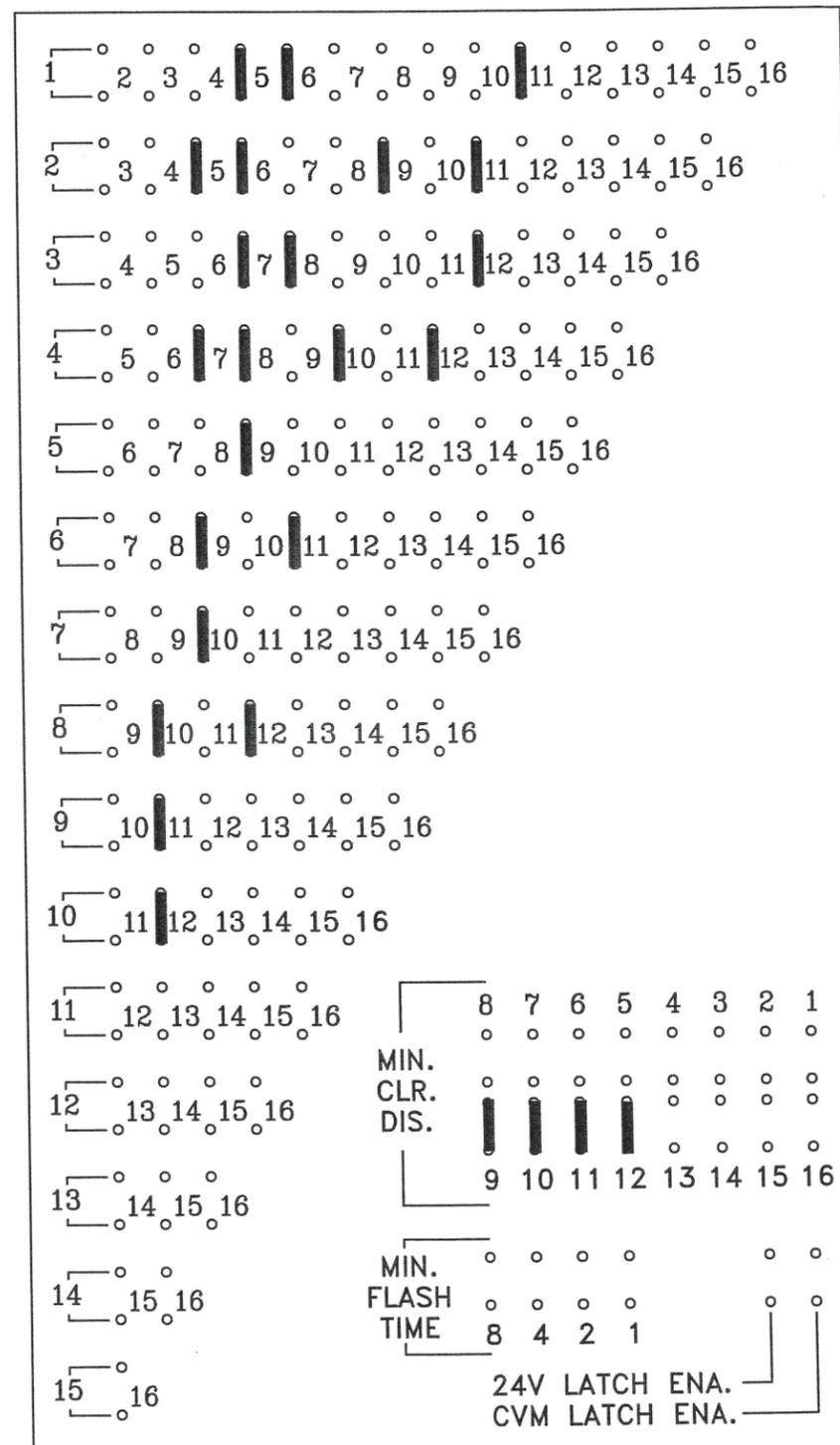


BIU AND CONNECTING CABLES

WIRE LIST FOR NEMA MALFUNCTION MANAGEMENT UNIT

| CONNECTOR "A" (MMA) | | | | CONNECTOR "B" (MMB) | | | | | | | | |
|---------------------|------|------------------|---------------|---|------|------------------|---------------|--------------|--|--|--|--|
| PIN | WIRE | MON. FUNCTION | SIG. FUNCTION | PIN | WIRE | MON. FUNCTION | SIG. FUNCTION | | | | | |
| A | A-1 | AC+ I INPUT | B21 | A | B-1 | AC+ II INPUT | J3-2 | MMU POWER | | | | |
| B | A-2 | OUT RLY 1 OPEN | B22 | B | B-2 | S. DLY RLY COMM. | J3-6 | MMU POWER | | | | |
| C | A-3 | OUT RLY 2 CLSD | B23 | C | B-3 | S. DLY RLY OPEN | B28 | | | | | |
| D | A-4 | CH. 12 GREEN | 12G-A | D | B-4 | CH. 12 RED | B40 | | | | | |
| E | A-5 | CH. 11 GREEN | 11G-A | E | B-5 | CH. 11 RED | B39 | | | | | |
| F | A-6 | CH. 10 GREEN | 10G-A | F | B-6 | CH. 9 RED | B37 | | | | | |
| G | A-7 | CH. 9 GREEN | 9G-A | G | B-7 | CH. 8 RED | 8R-A | ^8 RED | | | | |
| H | A-8 | CH. 8 GREEN | 8G-A | H | B-8 | CH. 7 RED | 7R-A | ^7 RED | | | | |
| J | A-9 | CH. 7 GREEN | 7G-A | J | B-9 | CH. 6 RED | 6R-A | ^6 RED | | | | |
| K | A-10 | CH. 6 GREEN | 6G-A | K | B-10 | CH. 5 RED | 5R-A | ^5 RED | | | | |
| L | A-11 | CH. 5 GREEN | 5G-A | L | B-11 | CH. 4 RED | 4R-A | ^4 RED | | | | |
| M | A-12 | CH. 4 GREEN | 4G-A | M | B-12 | CH. 2 RED | 2R-A | ^2 RED | | | | |
| N | A-13 | CH. 3 GREEN | 3G-A | N | B-13 | CH. 1 RED | 1R-A | ^1 RED | | | | |
| P | A-14 | CH. 2 GREEN | 2G-A | P | B-14 | (SPARE 1) | B29 | | | | | |
| R | A-15 | CH. 1 GREEN | 1G-A | R | B-15 | +24V MONITOR II | B-3 | +24V MON. II | | | | |
| S | A-16 | +24V MON. I | B-4 | S | B-16 | (SPARE 2) | B30 | | | | | |
| T | A-17 | LOGIC GND | B-14 | T | B-17 | CH. 13 RED | 13R-A | OLA RED | | | | |
| U | A-18 | CHASSIS GND | LS7-2 | U | B-18 | S. DLY RLY CLSD | J3-35 | CONT. POWER | | | | |
| V | A-19 | AC- (COMMON) | K1-2 | V | B-19 | CH. 10 RED | B38 | | | | | |
| W | A-20 | OUT RLY 1 COM. | J3-7 | W | B-20 | CH. 14 RED | 14R-A | OLB RED | | | | |
| X | A-21 | OUT RLY 2 COM. | A-27 | X | B-21 | CH. 15 RED | 15R-A | OLC RED | | | | |
| Y | A-22 | CH. 12 YELLOW | -T- | Y | B-22 | CH. 16 RED | 16R-A | OLD RED | | | | |
| Z | A-23 | CH. 11 YELLOW | -T- | Z | B-23 | CH. 3 RED | 3R-A | ^3 RED | | | | |
| a | A-24 | CH. 10 WALK | ---- | a | B-24 | RED ENABLE | LS8-1 | SIG BUS CON. | | | | |
| b | A-25 | CH. 10 YELLOW | -T- | b | B-25 | (SPARE 3) | B31 | | | | | |
| c | A-26 | CH. 9 YELLOW | -T- | c | B-26 | LOCAL FLASH IN | CAPPED | POL/AX FLSH | | | | |
| d | A-27 | CH. 8 YELLOW | 8Y-A | | B-27 | SHELL GROUND | LS6-2 | EARTH GND. | | | | |
| e | A-28 | CH. 7 YELLOW | 7Y-A | NOTES FOR 16 CHANNEL M.M.U. (1) RELAY CONTACT POSITIONS SPECIFIED ARE FOR NON-CONFLICT MODE. (2) TO PROGRAM MMU, SOLDER JUMPERS IN PROGRAMMING CARD FOR ALL PERMISSABLE PHASE MOVEMENTS, MINIMUM CHANGE DIS-ABLE FOR ALL PEDESTRIAN CHANNELS, AND MIN. FLASH, VOLTAGE MON., AND 24V. MON. LATCH OPTIONS AS DESIRED. M.M.U. CHANNEL ASSIGNMENTS CH. 1 = L/S 1 = ^1 VEH. CH. 2 = L/S 2 = ^2 VEH. CH. 3 = L/S 3 = ^3 VEH. CH. 4 = L/S 4 = ^4 VEH. CH. 5 = L/S 5 = ^5 VEH. CH. 6 = L/S 6 = ^6 VEH. CH. 7 = L/S 7 = ^7 VEH. CH. 8 = L/S 8 = ^8 VEH. CH. 9 = L/S 9 = ^2 PED. CH. 10 = L/S 10 = ^4 PED. CH. 11 = L/S 11 = ^6 PED. CH. 12 = L/S 12 = ^8 PED. CH. 13 = L/S 13 = OLAP A CH. 14 = L/S 14 = OLAP B CH. 15 = L/S 15 = OLAP C CH. 16 = L/S 16 = OLAP D | | | | | | | | |
| f | A-29 | CH. 6 YELLOW | 6Y-A | | | | | | | | | |
| g | A-30 | CH. 5 YELLOW | 5Y-A | | | | | | | | | |
| h | A-31 | CH. 3 YELLOW | 3Y-A | | | | | | | | | |
| i | A-32 | CH. 15 GREEN | 15G-A | | | | | | | | | |
| j | A-33 | CH. 2 YELLOW | 2Y-A | | | | | | | | | |
| k | A-34 | CH. 1 YELLOW | 1Y-A | | | | | | | | | |
| m | A-35 | CONT. VOLT. MON. | B-5 | | | | | | | | | |
| n | A-36 | +24V MON. INH. | B-2 | | | | | | | | | |
| p | A-37 | OUT RLY 1 CLSD | J3-3 | | | | | | | | | |
| q | A-38 | OUT RLY 2 OPEN | A-31 | | | | | | | | | |
| r | A-39 | CH. 12 WALK | ---- | | | | | | | | | |
| s | A-40 | CH. 11 WALK | ---- | | | | | | | | | |
| t | A-41 | CH. 9 WALK | ---- | | | | | | | | | |
| u | A-42 | CH. 16 YELLOW | 16Y-A | | | | | | | | | |
| v | A-43 | CH. 15 YELLOW | 15Y-A | | | | | | | | | |
| w | A-44 | CH. 13 YELLOW | 13Y-A | | | | | | | | | |
| x | A-45 | CH. 4 YELLOW | 4Y-A | | | | | | | | | |
| y | A-46 | CH. 14 GREEN | 14G-A | | | | | | | | | |
| z | A-47 | CH. 13 GREEN | 13G-A | | | | | | | | | |
| AA | A-48 | (SPARE 1) | B24 | | | | | | | | | |
| BB | A-49 | RESET | B-1 | | | | | | | | | |
| CC | A-50 | CAB. INTLK A | B25 | | | | | | | | | |
| DD | A-51 | CAB. INTLK B | B26 | | | | | | | | | |
| EE | A-52 | CH. 14 YELLOW | 14Y-A | | | | | | | | | |
| FF | A-53 | CH. 16 GREEN | 16G-A | | | | | | | | | |
| GG | A-54 | (SPARE 2) | B27 | | | | | | | | | |
| HH | A-55 | TYPE SELECT | A-20 | | | | | | | | | |
| | A-56 | SHELL GND | LS15-2 | | | | | | | | | |

MMU PROGRAM CARD



M.M.U. C/C'S AND PROGRAM CARD

DETECTOR RACK 34030G1

| | | | | | | | | | | | |
|------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|--|-----------|
| POWER SUPPLY OR B.I.U. | L3 | L1 | L7 | L5 | L11 | L9 | L15 | L13 | PMT 5 | PMT 3 | PGM. CARD |
| | 1-3 | 1-1 | 5-3 | 5-1 | 2-3 | 2-1 | 6-3 | 6-1 | 3-8 | 1-6 | |
| | <input type="checkbox"/> 2CH 1-4 | <input type="checkbox"/> 2CH 1-2 | <input type="checkbox"/> 2CH 5-4 | <input type="checkbox"/> 2CH 5-2 | <input type="checkbox"/> 2CH 2-4 | <input type="checkbox"/> 2CH 2-2 | <input type="checkbox"/> 2CH 6-4 | <input type="checkbox"/> 2CH 6-2 | OPTICOM/ OPIC CH. C CH. D | <input type="checkbox"/> 4CH <input type="checkbox"/> 2CH OPTICOM/ OPIC CH. A CH. B | |
| | L4 | L2 | L8 | L6 | L12 | L10 | L16 | L14 | PMT 6 | PMT 4 | |

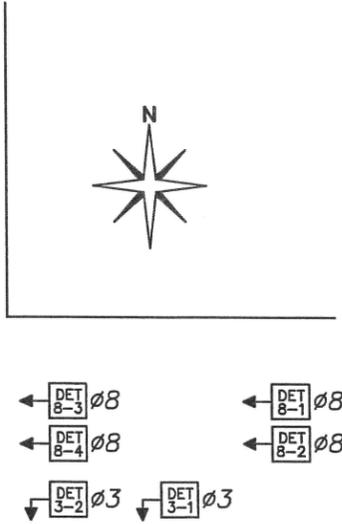
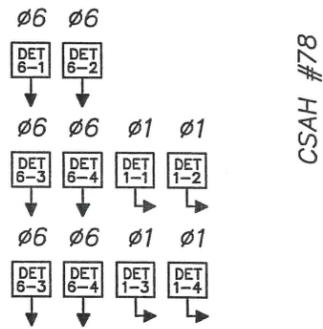
| | | | | | | |
|---------------------------------|------------------------------------|-------------------------------|------------------------------------|--------------------------------|--------------------------------|----------------------------------|
| J13 C/C 33284G10 DC POWER | J16 C/C 33284G8 EXP. OUTPUTS | J14 C/C 33284G2 LPS 1-8 | J18 C/C 33284G9 SYS. OUTPUTS | J15 C/C 33284G3 LPS 9-16 | J17 C/C 33284G6 AC POWER | J19 C/C 33284G17 PGM. CARD |
|---------------------------------|------------------------------------|-------------------------------|------------------------------------|--------------------------------|--------------------------------|----------------------------------|

①

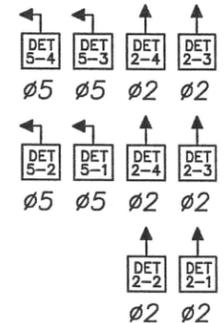
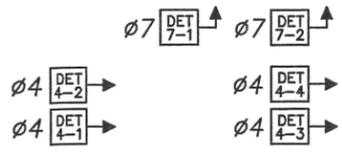
| ADDRESS TABLE | | | | | |
|---------------|------|----------|--------|------|----------|
| RACK # | JMPR | DET. #'S | RACK # | JMPR | DET. #'S |
| 1 | | 1-16 | 5 | | 65-80 |
| 2 | | 17-32 | 6 | | 81-96 |
| 3 | | 33-48 | 7 | | 97-112 |
| 4 | | 49-64 | 8 | | 113-128 |

| DETECTOR ASSIGNMENTS | | |
|----------------------|-------------|---------------|
| CONT. INPUT | PHASE ASGN. | DETECTOR TYPE |
| 1 | 1-1 | 1 |
| 2 | 1-2 | 1 |
| 3 | 1-3 | 1 |
| 4 | 1-4 | 1 |
| 5 | 5-1 | 1 |
| 6 | 5-2 | 1 |
| 7 | 5-3 | 1 |
| 8 | 5-4 | 1 |
| 9 | 2-1 | 1 |
| 10 | 2-2 | 1 |
| 11 | 2-3 | 1 |
| 12 | 2-4 | 1 |
| 13 | 6-1 | 1 |
| 14 | 6-2 | 1 |
| 15 | 6-3 | 1 |
| 16 | 6-4 | 1 |
| 17 | 3-1 | 1 |
| 18 | 3-2 | 1 |
| 19 | | |
| 20 | | |
| 21 | 7-1 | 1 |
| 22 | 7-2 | 1 |
| 23 | | |
| 24 | | |
| 25 | 4-1 | 1 |
| 26 | 4-2 | 1 |
| 27 | 4-3 | 1 |
| 28 | 4-4 | 1 |
| 29 | 8-1 | 1 |
| 30 | 8-2 | 1 |
| 31 | 8-3 | 1 |
| 32 | 8-4 | 1 |
| 33 | | |
| 34 | | |
| 35 | | |
| 36 | | |

DETECTOR LAYOUT

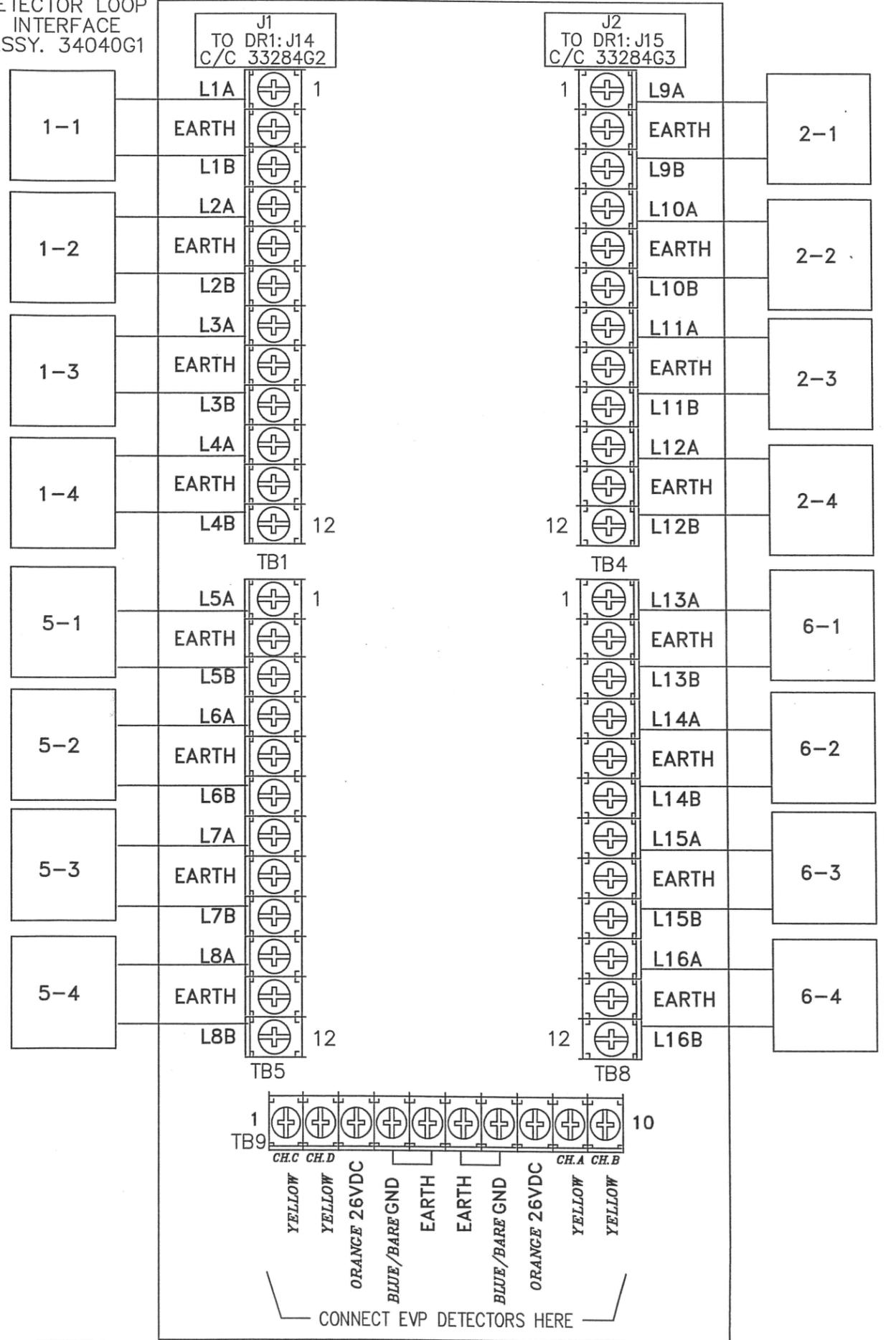


TH 242



| DETECTOR RACK PROGRAMMING JUMPERS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|-----|-----|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| DET. TYPE | JP1 | JP2 | SLOT 1/2 ① | | | | | SLOT 3/4 ① | | | | | SLOT 5/6 ① | | | | | SLOT 7/8 ① | | | | | | | | | | | |
| | | | JP3 | JP4 | JP5 | JP6 | JP7 | JP8 | JP9 | JP10 | JP11 | JP12 | JP13 | JP14 | JP15 | JP16 | JP17 | JP18 | JP19 | JP20 | JP21 | JP22 | JP23 | JP24 | JP25 | JP26 | JP27 | JP28 | JP29 |
| ① TS-1 | NO | NO | <input type="checkbox"/> |
| ② TS-2 | YES | YES | <input type="checkbox"/> |
| ③ LM-632T/262-FC | NO | NO | <input type="checkbox"/> |
| ④ MAG. | NO | NO | <input type="checkbox"/> |

DETECTOR LOOP
INTERFACE
ASSY. 34040G1



DET. LOOPS 9-16 (J15) C/C 33284G3

| PIN | SIGNAL | TO |
|-----|----------|--------------|
| 1 | LOOP 9+ | LPI2: TB4-1 |
| 2 | LOOP 9- | LPI2: TB4-3 |
| 3 | LOOP 10+ | LPI2: TB4-4 |
| 4 | LOOP 10- | LPI2: TB4-6 |
| 5 | LOOP 11+ | LPI2: TB4-7 |
| 6 | LOOP 11- | LPI2: TB4-9 |
| 7 | LOOP 12+ | LPI2: TB4-10 |
| 8 | LOOP 12- | LPI2: TB4-12 |
| 9 | LOOP 13+ | LPI2: TB8-1 |
| 10 | LOOP 13- | LPI2: TB8-3 |
| 11 | LOOP 14+ | LPI2: TB8-4 |
| 12 | LOOP 14- | LPI2: TB8-6 |
| 13 | LOOP 15+ | LPI2: TB8-7 |
| 14 | LOOP 15- | LPI2: TB8-9 |
| 15 | LOOP 16+ | LPI2: TB8-10 |
| 16 | LOOP 16- | LPI2: TB8-12 |
| 17 | ---- | |
| 18 | ---- | |
| 19 | ---- | |
| 20 | ---- | |

DET. RACK POWER
C/C 34842G5

| P1/ DR: J13 | P2/ DR: J17 | FUNCTION | TO |
|----------------|----------------|----------------------|-------|
| 1 | | +12 VDC (DET. POWER) | PB-3 |
| 2 | | +24 VDC (BIU POWER) | PB-2 |
| 3 | | LOGIC GROUND | PB-1 |
| 4 | | EARTH GROUND | PB-9 |
| 5 | | "KEY PIN" | |
| 6 | | LINE FREQUENCY REF. | PB-5 |
| | 1 | EARTH GROUND | ---- |
| | 2 | AC LINE | PB-12 |
| | 3 | AC NEUTRAL | PB-10 |
| | 4 | LOGIC GROUND | ---- |

DET. LOOPS 1-8 (J14) C/C 33284G2

| PIN | SIGNAL | TO |
|-----|---------------------|---------------|
| 1 | LOOP 1+ | LPI1: TB1-1 |
| 2 | LOOP 1- | LPI1: TB1-3 |
| 3 | LOOP 2+ | LPI1: TB1-4 |
| 4 | LOOP 2- | LPI1: TB1-6 |
| 5 | LOOP 3+ | LPI1: TB1-7 |
| 6 | LOOP 3- | LPI1: TB1-9 |
| 7 | LOOP 4+ | LPI1: TB1-10 |
| 8 | LOOP 4- | LPI1: TB1-12 |
| 9 | LOOP 5+ | LPI1: TB5-1 |
| 10 | LOOP 5- | LPI1: TB5-3 |
| 11 | LOOP 6+ | LPI1: TB5-4 |
| 12 | LOOP 6- | LPI1: TB5-6 |
| 13 | LOOP 7+ | LPI1: TB5-7 |
| 14 | LOOP 7- | LPI1: TB5-9 |
| 15 | LOOP 8+ | LPI1: TB5-10 |
| 16 | LOOP 8- | LPI1: TB5-12 |
| 17 | PMT. DET. CH. C | LPI1: TB9-1 |
| 18 | PMT. DET. CH. D | LPI1: TB9-2 |
| 19 | KEY PIN | |
| 20 | PMT. CH. C/D +26VDC | LPI1: TB9-3 |
| 21 | PMT. DC GROUND | LPI1: TB9-4,7 |
| 22 | PMT. CH. A/B +26VDC | LPI1: TB9-8 |
| 23 | PMT. DET. CH. A | LPI1: TB9-9 |
| 24 | PMT. DET. CH. B | LPI1: TB9-10 |
| 25 | ---- | |
| 26 | ---- | |

EXPANSION OUTPUTS
C/C 33284G8

| J16 | FUNCTION | TO |
|-----|----------------------|---------|
| 17 | DET. 17 / PMT. A OUT | MP: B19 |
| 18 | DET. 18 / PMT. B OUT | MP: B20 |
| 19 | PMT. C OUT | MP: B17 |
| 20 | PMT. D OUT | MP: B18 |

DETECTOR LOOP INTERFACE

DETECTOR RACK 34030G1

②

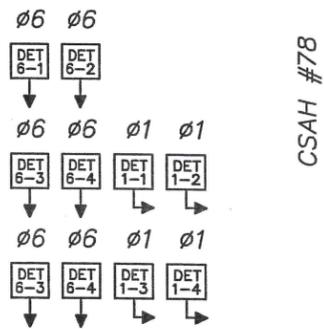
| | | | | | | | | | |
|------------------------|------------|--------------|------------|--------------|--------------|--------------|--------------|--------------|-----------|
| POWER SUPPLY OR B.I.U. | L19 | L17 | L23 | L21 | L27 | L25 | L31 | L29 | PGM. CARD |
| | ∅ | 3-1 | ∅ | 7-1 | 4-3 | 4-1 | 8-3 | 8-1 | |
| | □ 2CH ∅ | □ 2CH 3-2 | □ 2CH ∅ | □ 2CH 7-2 | □ 2CH 4-4 | □ 2CH 4-2 | □ 2CH 8-4 | □ 2CH 8-2 | |
| | L20 | L18 | L24 | L22 | L28 | L26 | L32 | L30 | |

| | | | | | | |
|--|---|--------------------------------------|---|---------------------------------------|---------------------------------------|---|
| J13 C/C 33284G10 DC POWER | J16 C/C 33284G8 EXP. OUTPUTS | J14 C/C 33284G2 LPS 1-8 | J18 C/C 33284G9 SYS. OUTPUTS | J15 C/C 33284G3 LPS 9-16 | J17 C/C 33284G6 AC POWER | J19 C/C 33284G17 PGM. CARD |
|--|---|--------------------------------------|---|---------------------------------------|---------------------------------------|---|

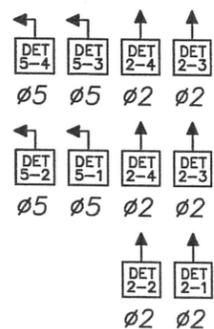
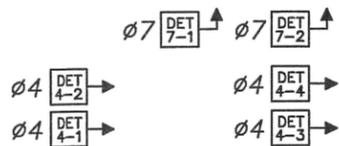
| RACK # | JMPR | DET. #'S | RACK # | JMPR | DET. #'S |
|--------|------|----------|--------|------|----------|
| 1 | | 1-16 | 5 | | 65-80 |
| 2 | | 17-32 | 6 | | 81-96 |
| 3 | | 33-48 | 7 | | 97-112 |
| 4 | | 49-64 | 8 | | 113-128 |

| CONT. INPUT | PHASE ASGN. | DETECTOR TYPE |
|-------------|-------------|---------------|
| 1 | 1-1 | 1 |
| 2 | 1-2 | 1 |
| 3 | 1-3 | 1 |
| 4 | 1-4 | 1 |
| 5 | 5-1 | 1 |
| 6 | 5-2 | 1 |
| 7 | 5-3 | 1 |
| 8 | 5-4 | 1 |
| 9 | 2-1 | 1 |
| 10 | 2-2 | 1 |
| 11 | 2-3 | 1 |
| 12 | 2-4 | 1 |
| 13 | 6-1 | 1 |
| 14 | 6-2 | 1 |
| 15 | 6-3 | 1 |
| 16 | 6-4 | 1 |
| 17 | 3-1 | 1 |
| 18 | 3-2 | 1 |
| 19 | | |
| 20 | | |
| 21 | 7-1 | 1 |
| 22 | 7-2 | 1 |
| 23 | | |
| 24 | | |
| 25 | 4-1 | 1 |
| 26 | 4-2 | 1 |
| 27 | 4-3 | 1 |
| 28 | 4-4 | 1 |
| 29 | 8-1 | 1 |
| 30 | 8-2 | 1 |
| 31 | 8-3 | 1 |
| 32 | 8-4 | 1 |
| 33 | | |
| 34 | | |
| 35 | | |
| 36 | | |

DETECTOR LAYOUT

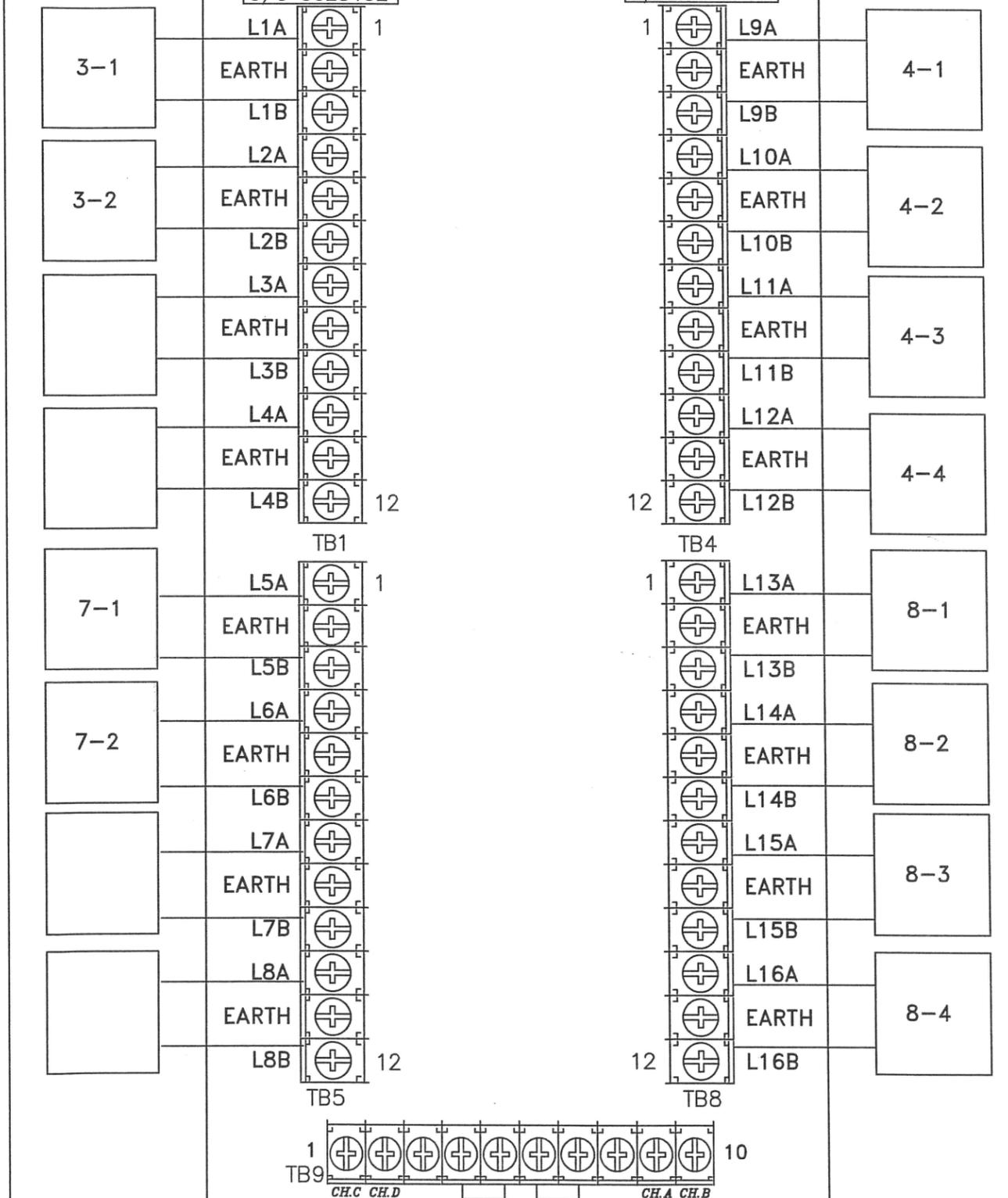


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| DET. TYPE | JP1 | JP2 | SLOT 1/2 ① | | | | SLOT 3/4 ① | | | | SLOT 5/6 ① | | | | SLOT 7/8 ① | | | | | | | | | | | | | | |
|---------------------|-----|-----|------------|-----|-----|-----|------------|-----|-----|------|------------|------|------|------|------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | | | JP3 | JP4 | JP5 | JP6 | JP7 | JP8 | JP9 | JP10 | JP11 | JP12 | JP13 | JP14 | JP15 | JP16 | JP17 | JP18 | JP19 | JP20 | JP21 | JP22 | JP23 | JP24 | JP25 | JP26 | JP27 | JP28 | JP29 |
| ① TS-1 | NO | NO | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ② TS-2 | YES | YES | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ③ LM-632T 262-FC | NO | NO | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ④ MAG. | NO | NO | | | | | | | | | | | | | | | | | | | | | | | | | | | |

DETECTOR LOOP
INTERFACE
ASSY. 34040G1



DET. LOOPS 9-16 (J15) C/C 33284G3

| PIN | SIGNAL | TO |
|-----|----------|--------------|
| 1 | LOOP 9+ | LPI2: TB4-1 |
| 2 | LOOP 9- | LPI2: TB4-3 |
| 3 | LOOP 10+ | LPI2: TB4-4 |
| 4 | LOOP 10- | LPI2: TB4-6 |
| 5 | LOOP 11+ | LPI2: TB4-7 |
| 6 | LOOP 11- | LPI2: TB4-9 |
| 7 | LOOP 12+ | LPI2: TB4-10 |
| 8 | LOOP 12- | LPI2: TB4-12 |
| 9 | LOOP 13+ | LPI2: TB8-1 |
| 10 | LOOP 13- | LPI2: TB8-3 |
| 11 | LOOP 14+ | LPI2: TB8-4 |
| 12 | LOOP 14- | LPI2: TB8-6 |
| 13 | LOOP 15+ | LPI2: TB8-7 |
| 14 | LOOP 15- | LPI2: TB8-9 |
| 15 | LOOP 16+ | LPI2: TB8-10 |
| 16 | LOOP 16- | LPI2: TB8-12 |
| 17 | ---- | |
| 18 | ---- | |
| 19 | ---- | |
| 20 | ---- | |

DET. RACK POWER
C/C 34842G5

| P1/ DR: J13 | P2/ DR: J17 | FUNCTION | TO |
|----------------|----------------|----------------------|-------|
| 1 | | +12 VDC (DET. POWER) | PB-3 |
| 2 | | +24 VDC (BIU POWER) | PB-2 |
| 3 | | LOGIC GROUND | PB-1 |
| 4 | | EARTH GROUND | PB-9 |
| 5 | | "KEY PIN" | |
| 6 | | LINE FREQUENCY REF. | PB-5 |
| | 1 | EARTH GROUND | ---- |
| | 2 | AC LINE | PB-12 |
| | 3 | AC NEUTRAL | PB-10 |
| | 4 | LOGIC GROUND | ---- |

DET. LOOPS 1-8 (J14) C/C 33284G2

| PIN | SIGNAL | TO |
|-----|---------------------|---------------|
| 1 | LOOP 1+ | LPI1: TB1-1 |
| 2 | LOOP 1- | LPI1: TB1-3 |
| 3 | LOOP 2+ | LPI1: TB1-4 |
| 4 | LOOP 2- | LPI1: TB1-6 |
| 5 | LOOP 3+ | LPI1: TB1-7 |
| 6 | LOOP 3- | LPI1: TB1-9 |
| 7 | LOOP 4+ | LPI1: TB1-10 |
| 8 | LOOP 4- | LPI1: TB1-12 |
| 9 | LOOP 5+ | LPI1: TB5-1 |
| 10 | LOOP 5- | LPI1: TB5-3 |
| 11 | LOOP 6+ | LPI1: TB5-4 |
| 12 | LOOP 6- | LPI1: TB5-6 |
| 13 | LOOP 7+ | LPI1: TB5-7 |
| 14 | LOOP 7- | LPI1: TB5-9 |
| 15 | LOOP 8+ | LPI1: TB5-10 |
| 16 | LOOP 8- | LPI1: TB5-12 |
| 17 | PMT. DET. CH. C | LPI1: TB9-1 |
| 18 | PMT. DET. CH. D | LPI1: TB9-2 |
| 19 | KEY PIN | |
| 20 | PMT. CH. C/D +26VDC | LPI1: TB9-3 |
| 21 | PMT. DC GROUND | LPI1: TB9-4,7 |
| 22 | PMT. CH. A/B +26VDC | LPI1: TB9-8 |
| 23 | PMT. DET. CH. A | LPI1: TB9-9 |
| 24 | PMT. DET. CH. B | LPI1: TB9-10 |
| 25 | ---- | |
| 26 | ---- | |

EXPANSION OUTPUTS
C/C 33284G8

| J16 | FUNCTION | TO |
|-----|----------------------|---------|
| 17 | DET. 17 / PMT. A OUT | MP: B19 |
| 18 | DET. 18 / PMT. B OUT | MP: B20 |
| 19 | PMT. C OUT | MP: B17 |
| 20 | PMT. D OUT | MP: B18 |

DETECTOR LOOP INTERFACE

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------|-------|----|---|-----|-----|-----|-------|----|---|-----|-----|-----|-------|----|---|-----|-----|-----|-------|----|---|-----|-----|-----|--------------------------|-----|--------|-----------|
| B.I.U | DET | PH | F | DET | DLY | EXT | DET | PH | F | DET | DLY | EXT | DET | PH | F | DET | DLY | PSG | DET | PH | F | DET | DLY | PSG | EVP | PH | POLE # | CONT CH # |
| | CH 1 | 1 | 1 | 1-1 | | | CH 5 | 5 | 1 | 5-1 | | | CH 9 | 2 | 1 | 2-1 | | | CH 13 | 6 | 1 | 6-1 | | | CH 1 | 1-6 | 2 | 3 |
| | CH 2 | 1 | 1 | 1-2 | | | CH 6 | 5 | 1 | 5-2 | | | CH 10 | 2 | 1 | 2-2 | | | CH 14 | 6 | 1 | 6-2 | | | CH 2 | 2-5 | 4 | 4 |
| | CH 3 | 1 | 1 | 1-3 | | | CH 7 | 5 | 1 | 5-3 | | | CH 11 | 2 | 2 | 2-3 | | 3.0 | CH 15 | 6 | 2 | 6-3 | | 3.0 | CH 3 | 3-8 | 3 | 5 |
| | CH 4 | 1 | 1 | 1-4 | | | CH 8 | 5 | 1 | 5-4 | | | CH 12 | 2 | 2 | 2-4 | | 3.0 | CH 16 | 6 | 2 | 6-4 | | 3.0 | CH 4 | 4-7 | 1 | 6 |
| B.I.U | DET | PH | F | DET | DLY | EXT | DET | PH | F | DET | DLY | EXT | DET | PH | F | DET | DLY | PSG | DET | PH | F | DET | DLY | PSG | PSG = P Detectors | | | |
| | CH 17 | 3 | 1 | 3-1 | | | CH 21 | 7 | 1 | 7-1 | | | CH 25 | 4 | 1 | 4-1 | | | CH 29 | 8 | 1 | 8-1 | | | | | | |
| | CH 18 | 3 | 1 | 3-2 | | | CH 22 | 7 | 1 | 7-2 | | | CH 26 | 4 | 1 | 4-2 | | | CH 30 | 8 | 2 | 8-2 | | | | | | |
| | CH 19 | | | | | | CH 23 | | | | | | CH 27 | 4 | 2 | 4-3 | | 3.0 | CH 31 | 8 | 2 | 8-3 | | 3.0 | | | | |
| | CH 20 | | | | | | CH 24 | | | | | | CH 28 | 4 | 2 | 4-4 | | 3.0 | CH 32 | 8 | 2 | 8-4 | | 3.0 | | | | |

EVP SENSORS

| CABLE | DISCR. CHAN. | PHASES | POLE# | TERMINAL TB9 | | |
|-------|-----------------|--------|-------|--------------|-------|-----|
| | | | | SIGNAL | DC(+) | GND |
| 20 | 1 | 1-6 | 2 | A | 26+ | GND |
| 97 | 2 | 2-5 | 4 | B | 26+ | GND |
| 80 | 3 | 3-8 | 3 | C | 26+ | GND |
| 36 | 4 | 4-7 | 1 | D | 26+ | GND |
| | | | | | | |

EVP VERIFY LIGHTS

| CABLE | CONTR CHAN. | PHASES | POLE# | TERM. |
|-------|----------------|--------|-------|-------|
| 19 | 3 | 1-6 | 2 | 13R |
| 96 | 4 | 2-5 | 4 | 14R |
| 79 | 5 | 3-8 | 3 | 15R |
| 35 | 6 | 4-7 | 1 | 16R |
| | | | | |

VEHICLE SIGNALS

| CABLE | SIGNAL | TERMINAL | | | | | | |
|--------|---------|----------|-----|----|----|----|----|----|
| | | G | FLA | Y | R | G | Y | R |
| 15,31 | 1-1,1-3 | 1 | 51 | 3 | 5 | | | |
| 17 | 1-2 | 2 | 52 | 4 | 6 | | | |
| 65,93 | 2-1,2-3 | | | | | 7 | 9 | 11 |
| 92 | 2-2,2-4 | | | | | 8 | 10 | 12 |
| 87,17 | 3-1,3-3 | 13 | 57 | 15 | 17 | | | |
| 76 | 3-2 | 14 | 58 | 16 | 18 | | | |
| 67,87 | 4-1,4-3 | | | | | 19 | 21 | 23 |
| 32,31 | 4-2,4-4 | | | | | 20 | 22 | 24 |
| 94,77 | 5-1,5-3 | 25 | 63 | 27 | 29 | | | |
| 93 | 5-2 | 26 | 64 | 28 | 30 | | | |
| 108,16 | 6-1,6-3 | | | | | 31 | 33 | 35 |
| 15 | 6-2,6-4 | | | | | 32 | 34 | 36 |
| 77,94 | 7-1,7-3 | 37 | 69 | 39 | 41 | | | |
| 32 | 7-2 | 38 | 70 | 40 | 42 | | | |
| 99,76 | 8-1,8-3 | | | | | 43 | 45 | 47 |
| 75 | 8-2,8-4 | | | | | 44 | 46 | 48 |

VEH DETECTORS

| CABLE | DET | SLOT | FUNC | RACK | TERMINAL |
|-------|-----|------|------|------|----------|
| 104 | 1-1 | 1 | 1 | 1 | L1 |
| 105 | 1-2 | 2 | 1 | 1 | L2 |
| 106 | 1-3 | 3 | 1 | 1 | L3 |
| 107 | 1-4 | 4 | 1 | 1 | L4 |
| 9 | 2-1 | 9 | 1 | 1 | L9 |
| 10 | 2-2 | 10 | 1 | 1 | L10 |
| 7 | 2-3 | 11 | 1 | 1 | L11 |
| 8 | 2-4 | 12 | 1 | 1 | L12 |
| 88 | 3-1 | 17 | 1 | 2 | L1 |
| 89 | 3-2 | 18 | 1 | 2 | L2 |
| 70 | 4-1 | 25 | 1 | 2 | L9 |
| 71 | 4-2 | 26 | 1 | 2 | L10 |
| 69 | 4-3 | 27 | 1 | 2 | L11 |
| 72 | 4-4 | 28 | 1 | 2 | L12 |
| 11 | 5-1 | 5 | 1 | 1 | L5 |
| 12 | 5-2 | 6 | 1 | 1 | L6 |
| 13 | 5-3 | 7 | 1 | 1 | L7 |
| 14 | 5-4 | 8 | 1 | 1 | L8 |
| 112 | 6-1 | 13 | 1 | 1 | L13 |
| 113 | 6-2 | 14 | 1 | 1 | L14 |
| 110 | 6-3 | 15 | 1 | 1 | L15 |
| 111 | 6-4 | 16 | 1 | 1 | L16 |
| 73 | 7-1 | 21 | 1 | 2 | L5 |
| 74 | 7-2 | 22 | 1 | 2 | L6 |
| 102 | 8-1 | 29 | 1 | 2 | L29 |
| 103 | 8-2 | 30 | 1 | 2 | L30 |
| 101 | 8-3 | 31 | 1 | 2 | L31 |
| 91 | 8-4 | 32 | 1 | 2 | L32 |

PED PUSHBUTTONS

| CABLE | PPB | TERMINAL | RETURN |
|-------|-----|----------|--------|
| 33 | 2-1 | PC2 | GB1 |
| 100 | 2-2 | PC2 | GB1 |
| 18 | 4-1 | PC4 | GB1 |
| 66 | 4-2 | PC4 | GB1 |
| 78 | 6-1 | PC6 | GB1 |
| 68 | 6-2 | PC6 | GB1 |
| 95 | 8-1 | PC8 | GB1 |
| 109 | 8-2 | PC8 | GB1 |
| | | | |

PED SIGNALS

| CABLE | SIGNAL | TERMINAL | |
|-------|--------|----------|----|
| | | WK | DW |
| 34 | 2-1 | 49 | 53 |
| 93 | 2-2 | 50 | 54 |
| 16 | 4-1 | 55 | 59 |
| 32 | 4-2 | 56 | 60 |
| 75 | 6-1 | 61 | 65 |
| 16 | 6-2 | 62 | 66 |
| 92 | 8-1 | 67 | 71 |
| 76 | 8-2 | 68 | 72 |
| | | | |