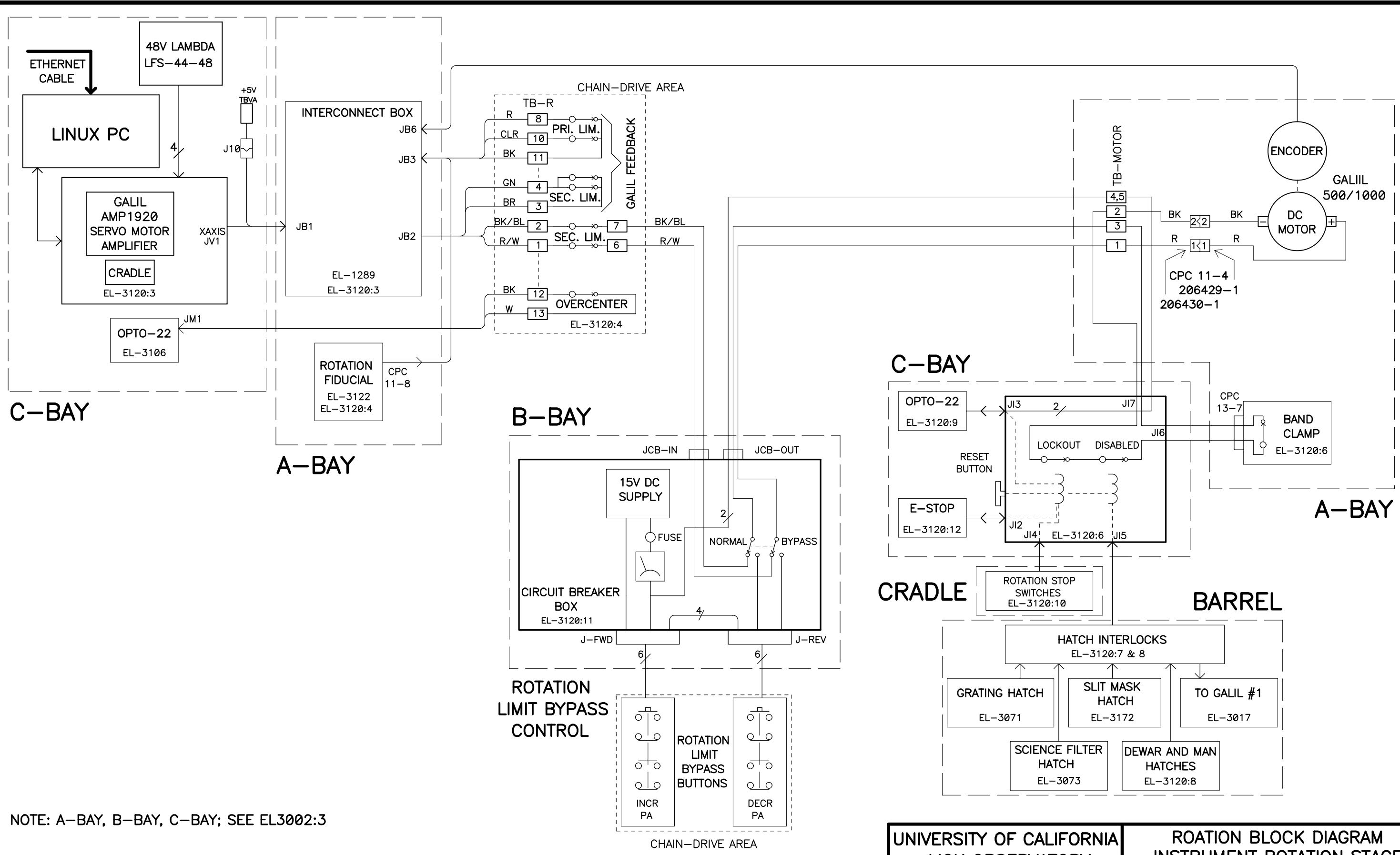


| REVISION | |
|----------|--|
| 09-04-01 | ADDED ESTOP SIGNAL TO CHANNEL 20 OF INPUT BOARD #9 (SHEET 9) |
| 09-10-01 | ADDED ESTOP TO SHEET 1 |
| 10-23-01 | UPDATES TO SHEETS 2, 6, 7, 8, 9, 10, 11 AND ADDED SHEET 12 |
| 11-21-01 | CORRECTED 48V POWER SUPPLY PART NUMBER ON SHEETS 2 AND 3 |
| 01-29-02 | REMOVED "TV FILTER HATCH" SWITCH AND ADDED SHIELD ON CABLE FROM TBHATCH3 (SHEET 8) |
| 04-14-03 | ADDED E-STOP SIGNAL BACK TO OPTO-22 BOARD |
| 04-14-03 | ADDED SHEET 13 FOR ECO OVERFLOW |

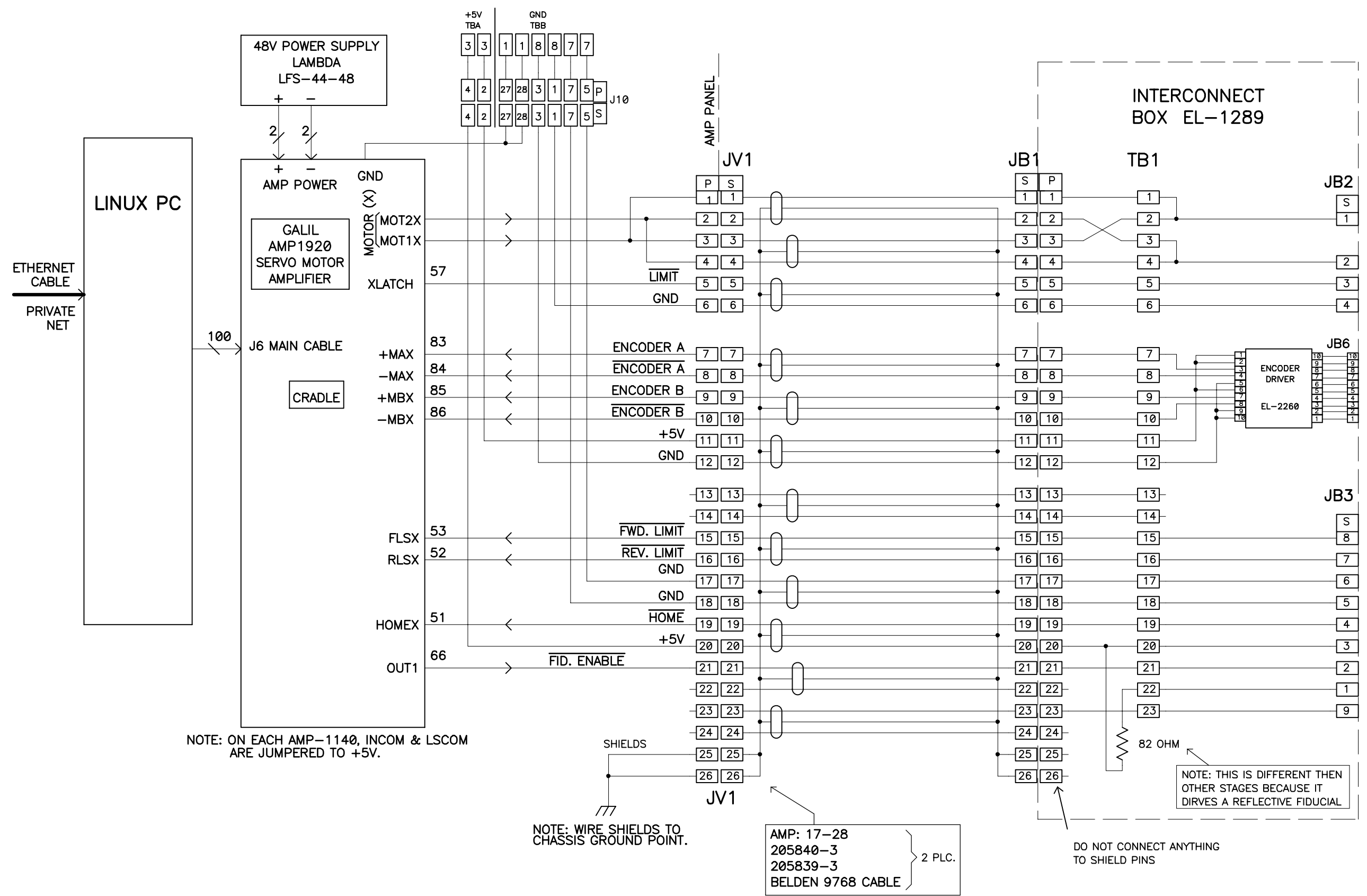
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|--|-----------------------|--|--------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | INSTRUMENT ROTATION STAGE DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 1 OF 13 |
| Last SN | MODIFY DATE: 04-17-02 | EL-3120 | |
| PATH: DEIMOS\ROTATION | REV.C | | |



NOTE: A-BAY, B-BAY, C-BAY; SEE EL3002:3

| REVISION | |
|----------|--|
| 05-01-01 | ADDED TB-ROTATE 5 & 6, CHANGED TB-MOTOR & CORRECTED +15V FEEDBACK PATH FROM JCB-OUT TO JI7 |
| 06-06-01 | REDESIGNED LAYOUT ADDING COMPONENT LOCATIONS |
| 08-17-01 | UPDATED SHEET NUMBERS ABOVE 7, CHANGED THE TERM 'DOOR' TO 'HATCH'. |
| 09-13-01 | ADDED E-STOP BLOCK AND CORRECTED 48V PS TYPE |
| 11-21-01 | CORRECTED 48V POWER SUPPLY PART NUMBER |
| 04-17-02 | REMOVED TV FILTER AND ADDED DEWAR AND MAN HATCHES AT BOTTOM RIGHT CORNER OF SHEET |

| | | | |
|--|-----------------------|---|--------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | ROATION BLOCK DIAGRAM INSTRUMENT ROTATION STAGE DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 2 OF 13 |
| Last SN | MODIFY DATE: 04-17-02 | EL-3120 | |
| PATH: DEIMOS\ROTATION | REV.C | | |



NOTE: ON EACH AMP-1140, INCOM & LSCOM ARE JUMPERED TO +5V.

NOTE: WIRE SHIELDS TO CHASSIS GROUND POINT.

AMP: 17-28
205840-3
205839-3
BELDEN 9768 CABLE } 2 PLC.

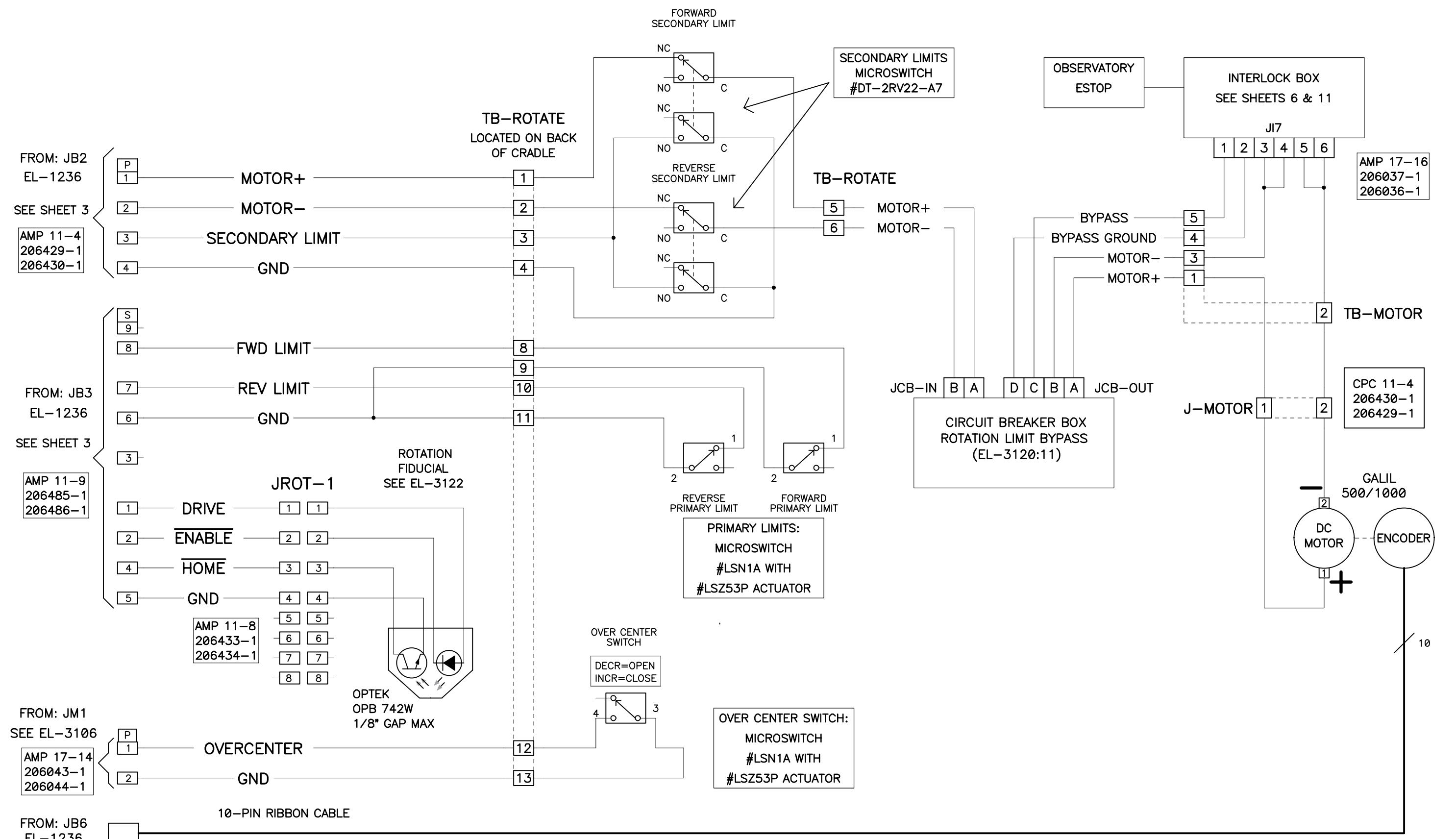
NOTE: THIS IS DIFFERENT THEN OTHER STAGES BECAUSE IT DIRVES A REFLECTIVE FIDUCIAL

DO NOT CONNECT ANYTHING TO SHIELD PINS

SEE SHEET 4

| REVISION | |
|----------|---|
| 01-12-01 | ADDED SHEET 5 - ROTATION MOTOR AND LIMIT WIRING |
| 02-26-01 | CORRECTED SHEET NUMBERS AND FIDUCIAL |
| 04-06-01 | MOVED PANIC SWITCH WIRING FROM SHEET 4 TO NEW PAGE 7 to |
| 04-23-01 | REMOVED INTERLOCK BOX FROM THIS SHEET - SEE SHEET 10 |
| 04-24-01 | CHANGED STAGE DESIGNATION FROM 'A' TO 'X' AND ADDED SHIELD CONNECTIONS AT JB1 |
| 06-15-01 | CORRECTED LOGIC SUPPLY CONNECTION LABELS |
| 11-21-01 | CORRECTED 48V POWER SUPPLY PART NUMBER |
| 04-17-02 | REMOVED REFERENCE TO UNUSED CABLE BETWEEN THE PC AND THE AMP-1820 AND ADDED BLOCK DESCRIBING 82 OHM RESISTOR. |

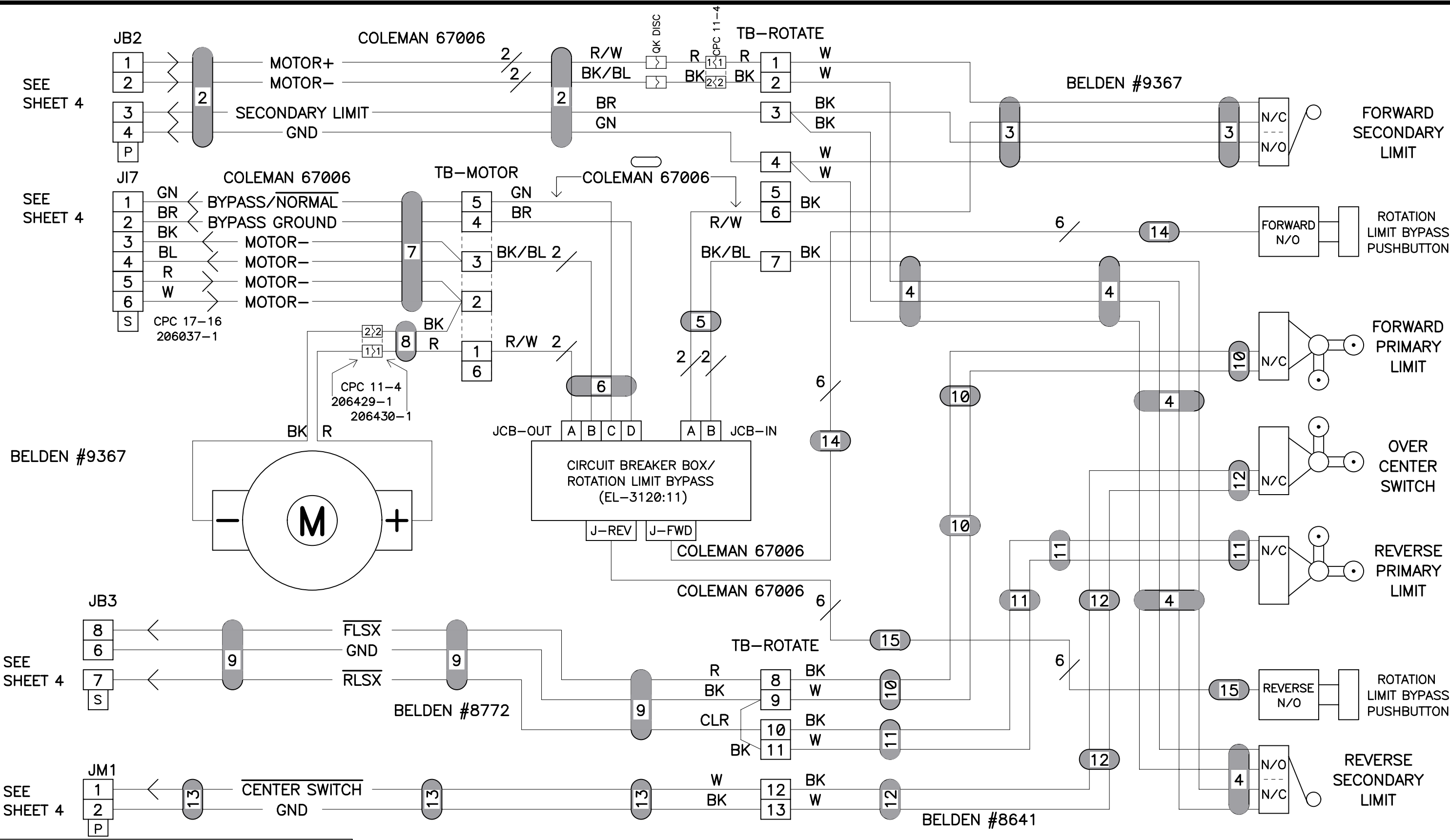
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|--|-----------------------|--|--------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | INSTRUMENT ROTATION STAGE DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 3 OF 13 |
| Last SN | MODIFY DATE: 04-17-02 | EL-3120 | |
| PATH: DEIMOS\ROTATION | REV.C | | |



* USE ONLY OPB 742W OR TIL139 REFLECTIVE OPTICAL SENSORS. THESE UNITS HAVE A SMALLER APETURE FOR HIGHER RESOLUTION.

| REVISION | |
|----------|---|
| 02-15-01 | REMOVED INTERMEDIATE CONNECTOR AND CLARIFIED PRIMARY LIMIT WIRING |
| 02-26-01 | CORRECTED SHEET NUMBERS |
| 03-01-01 | CORRECTED SECONDARY "SIGNAL" LIMITS |
| 03-30-01 | REMOVED LOCKOUT REFERENCE - LOCKOUT CIRCUIT IS BETWEEN AMPLIFIER AND THE INTERCONNECT BOX (EL-1236) AND ADDED J-MOTOR |
| 04-24-01 | ADDED TB-MOTOR AND BYPASS SWITCH WIRING |
| 05-01-01 | ADDED NOTE ON REFLECTIVE OPTICAL SWITCH |
| 06-05-01 | CORRECTED PIN NUMBERS AND CABLING FOR ROTATION FIDUCIAL AND ADDED CONNECTOR INFORMATION |
| 04-17-02 | CLERIFIED SECONDARY LIMIT LABELS |

| | | | |
|--|-----------------------|--|--------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | INSTRUMENT ROTATION STAGE DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 4 OF 13 |
| Last SN | MODIFY DATE: 04-17-02 | EL-3120 | |
| PATH: DEIMOS\ROTATION | REV.C | | |

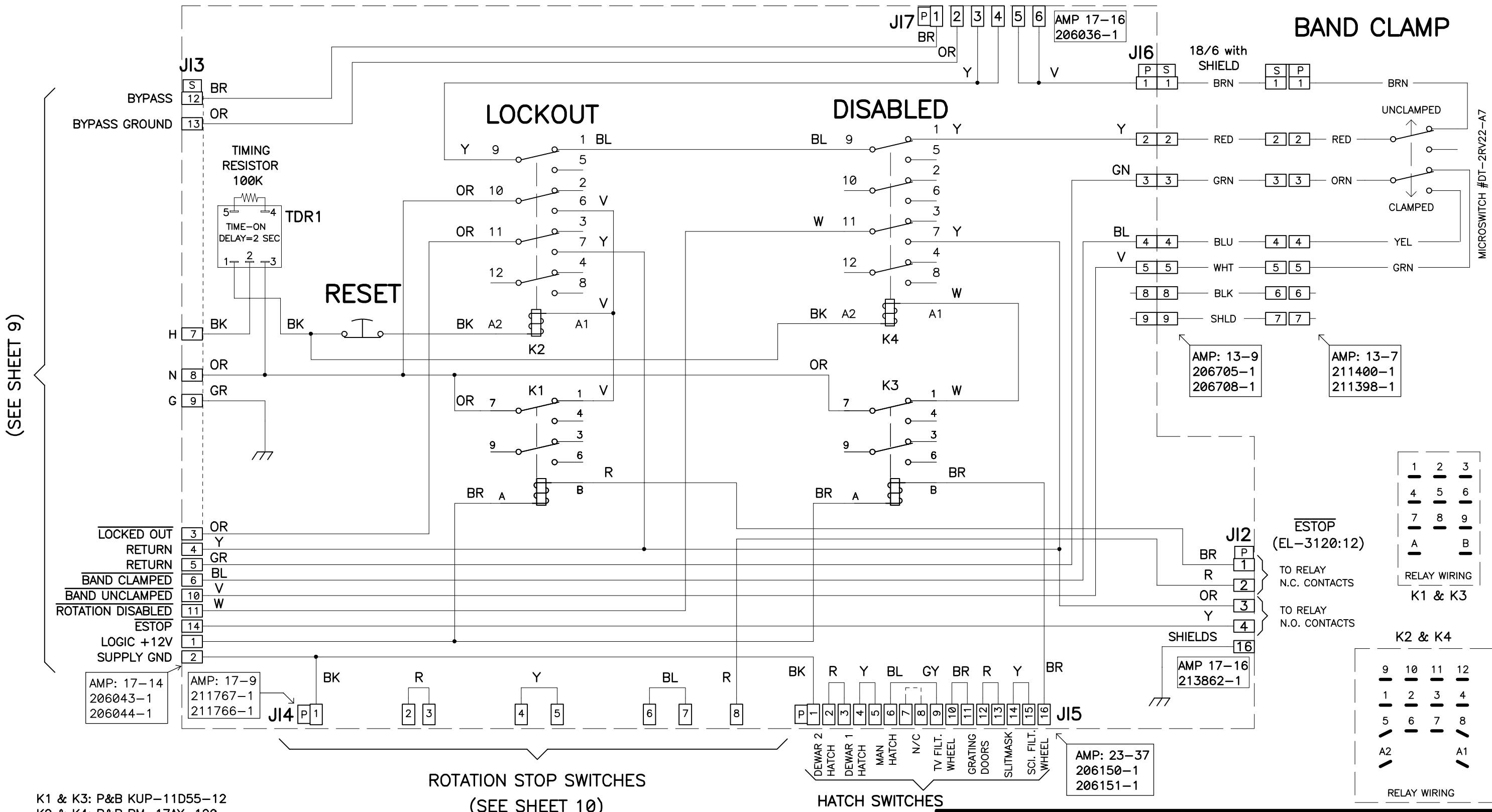


99 CABLE NUMBER, I.E., ROT-99

| REVISION | |
|----------|---|
| 01-12-01 | ADDED SHEET 5 - ROTATION MOTOR AND LIMIT WIRING |
| 02-26-01 | CORRECTED SHEET NUMBERS |
| 03-01-01 | CORRECTED SECONDARY "SIGNAL" LIMITS |
| 03-28-01 | ADDED AND CORRECTED CONNECTION TO JB2, JB3, AND JM1 |
| 04-23-01 | ADDED SECONDARY LIMIT OVERRIDE SWITCHES AND ADDED CONNECTOR JI7 |
| 04-24-01 | CHANGED LAYOUT OF DRAWING TO REFLECT CHANGES AND ADDITIONS TO INCORPORATE SECONDARY LIMIT OVERRIDE SWITCHES |
| 05-04-01 | ADDED CABLE TYPES AND WIRE COLORS |
| 05-14-01 | CORRECTED J-REV AND J-FWD LABELS AT CIRCUIT BREAKER BOX |

| | | | |
|--|-----------------------|--|--------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | MISCELLANEOUS INTERLOCK LOGIC DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 5 OF 13 |
| Last SN | MODIFY DATE: 05-14-01 | EL-3120 | |
| PATH: DEIMOS\ROTATION | | | |

MOTOR POWER IN/OUT
(SEE SHEET 4)



(SEE SHEET 9)

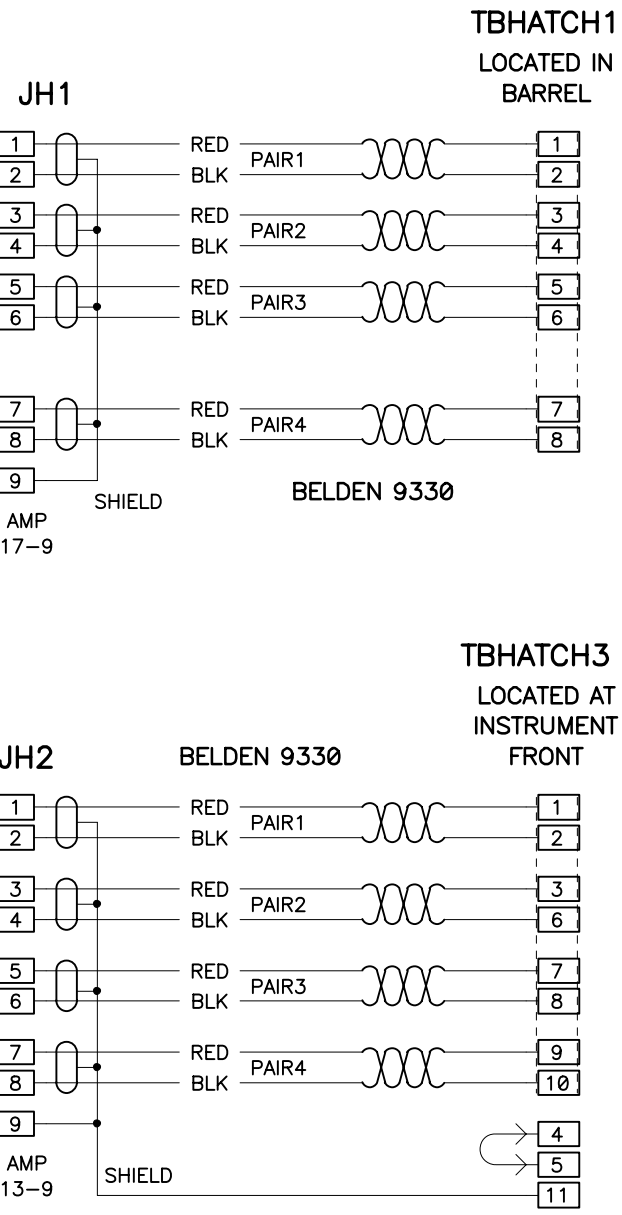
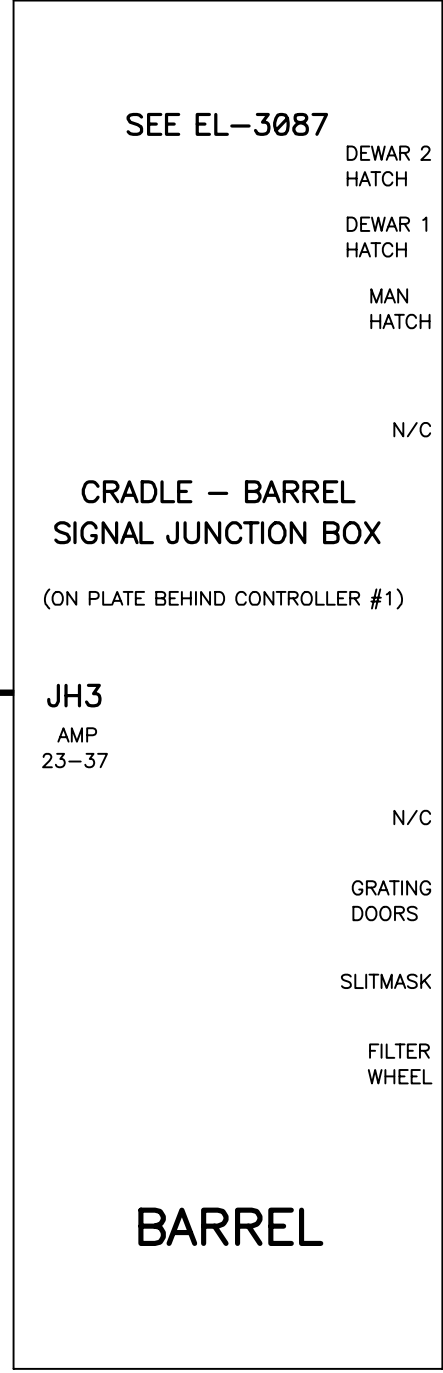
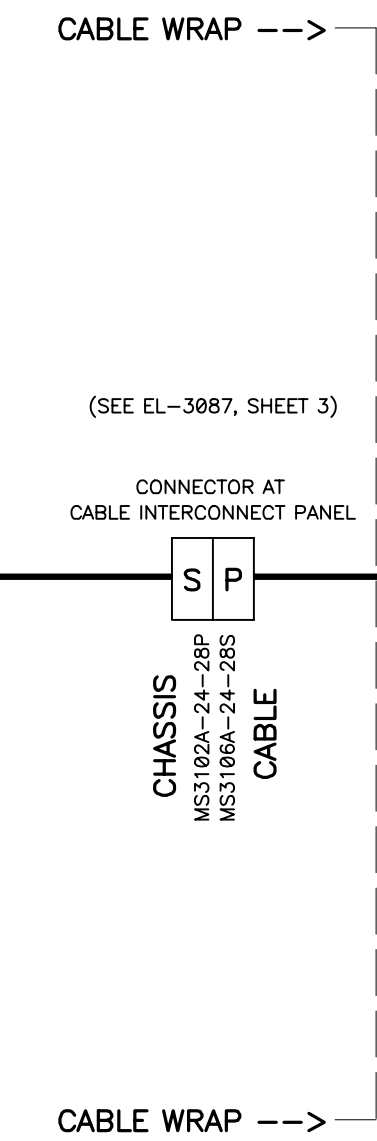
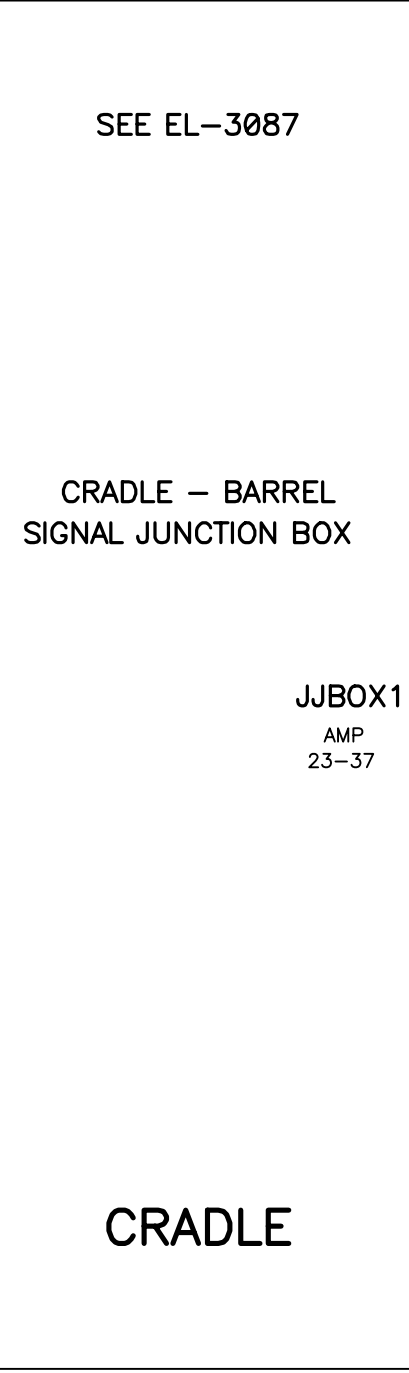
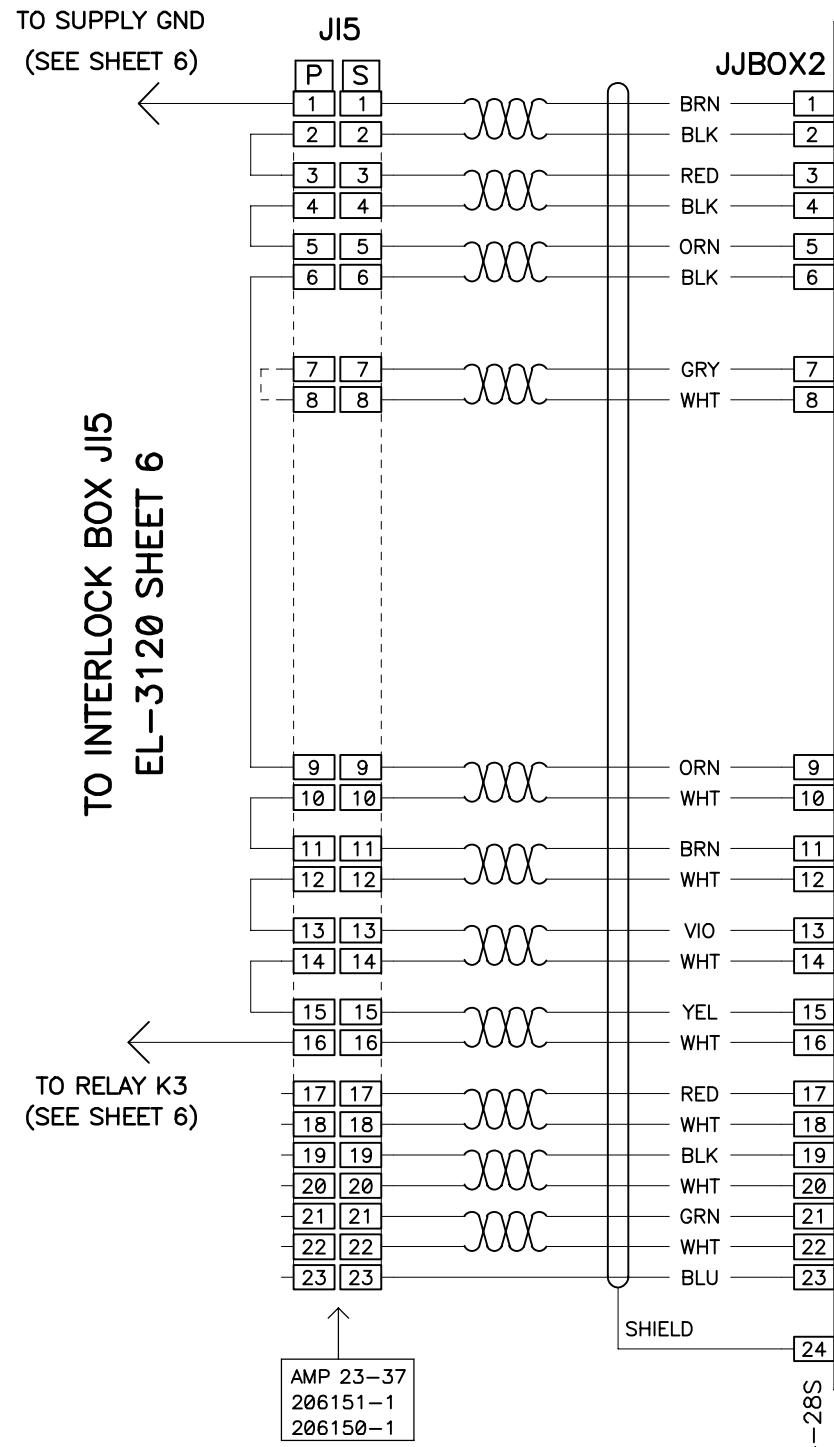
ROTATION STOP SWITCHES
(SEE SHEET 10)

HATCH SWITCHES
(SEE SHEET 7)

K1 & K3: P&B KUP-11D55-12
 K2 & K4: P&B PM-17AY-120
 TDR1: AMPERITE 120A.2-20SST1A

| | | | |
|--|------------------------------|--|--------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | MISCELLANEOUS INTERLOCK LOGIC DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 6 OF 13 |
| Last SN | MODIFY DATE: 09-21-01 | EL-3120 | |
| PATH: DEIMOS\ROTATION | REV.C | | |

- REVISION**
- 02-15-98 CHANGED J54 TO J53. ADDED CONNECTOR P/N. CHANGED *POSSIBLE EXPANSION JUMPERS.
 - 03-19-98 ADDED TV FILTER DOOR SWITCH AND MOVED ELECTRONICS HATCH SWITCHES TO SHEET 3.
 - 04-16-00 ADDED BAND UNCLAMPED SIGNAL - CHANGED J16 FROM 4-PIN TO 9-PIN CONNECTOR AND CHANGED J13 FROM 9-PIN TO 14-PIN CONNECTOR
 - 04-04-00 ADDED RELAYS 3 AND 4 TO CREATE SEPERATE LOCKOUT AND DISABLE FUNCTIONS
 - 08-07-00 CORRECTED PIN NUMBERS ON J13-7 AND J13-8. CHANGED SIGNAL LABELS TO: LOCKED OUT, BAND CLAMPED, BAND UNCLAMPED, AND ROTATION DIRABLED
 - 02-27-01 CORRECTED SHEET NUMBERS. ADDED BAND CLAMP INTERMEDIATE CABLE & CONN
 - 04-23-01 REMOVED J11 AND J12 - MOTOR POWER NOW ENTERS VIA J17
 - 07-03-01 ADDED TDR1 TO PREVENT RACE CONDITION BETWEEN K1 & K2. ADDED WIRE COLORS. CHANGED *PANIC* TO *ROTATION STOP*.
 - 08-06-01 CHANGED SHEET NUMBER FOR "ROTATION STOP SWITCHES"
 - 09-21-01 ADDED J12 FOR ESTOP FUNCTION, ADDED RELAY PATTERNS



TO INTERLOCK BOX JI5
EL-3120 SHEET 6

TO RELAY K3
(SEE SHEET 6)

TO SHEET 8

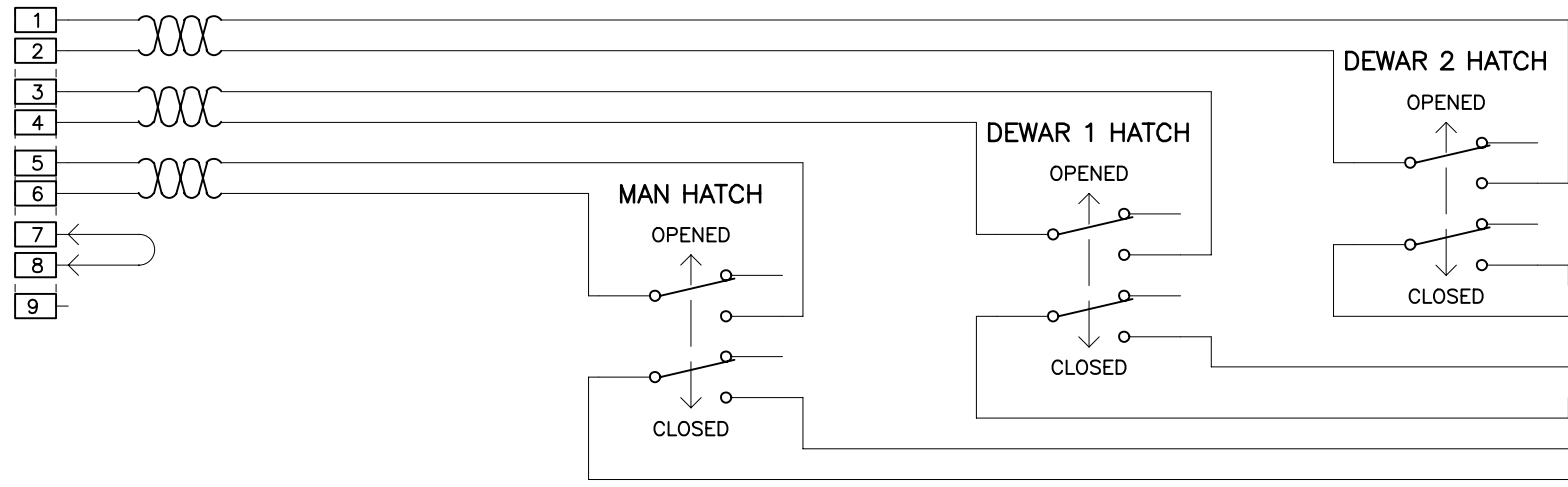
TO SHEET 8

| REVISION | |
|----------|--|
| 03-16-00 | ADDED BAND UNCLAMPED SIGNAL TO CHANNEL 23 |
| 03-20-00 | INSERTED NEW SHEET 3. OLD SHEET 3 NOW SHEET 4 |
| 04-04-00 | REDREW SHEET |
| 02-26-01 | CORRECTED SHEET NUMBERS AND ADDED SHEET/SCHEMATIC NUMBERS FOR REFERENCE |
| 07-03-01 | ADDED EL-3087 BLOCK AND HATCH TERMINAL STRIPS. ADDED WIRE COLORS. CORRECTED JI5 PIN ASSIGNMENTS. |
| 08-16-01 | BROKE SHEET 7 INTO TWO SHEETS - 7 AND 8. ADDED CABLING DETAILS |
| 09-18-01 | UPDATED CONNECTOR INFO |

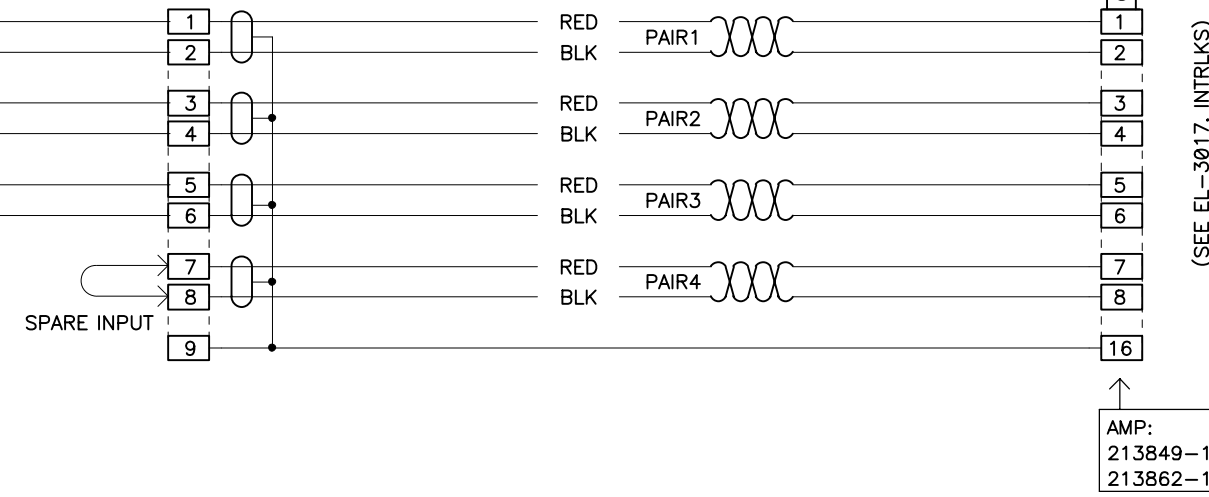
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|--|-----------------------|--|--------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | MISCELLANEOUS INTERLOCK LOGIC DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 7 OF 13 |
| Last SN | MODIFY DATE: 09-18-01 | EL-3120 | |
| PATH: DEIMOS\ROTATION | | | |

TBHATCH1
LOCATED IN
BARREL

SEE SHEET 7

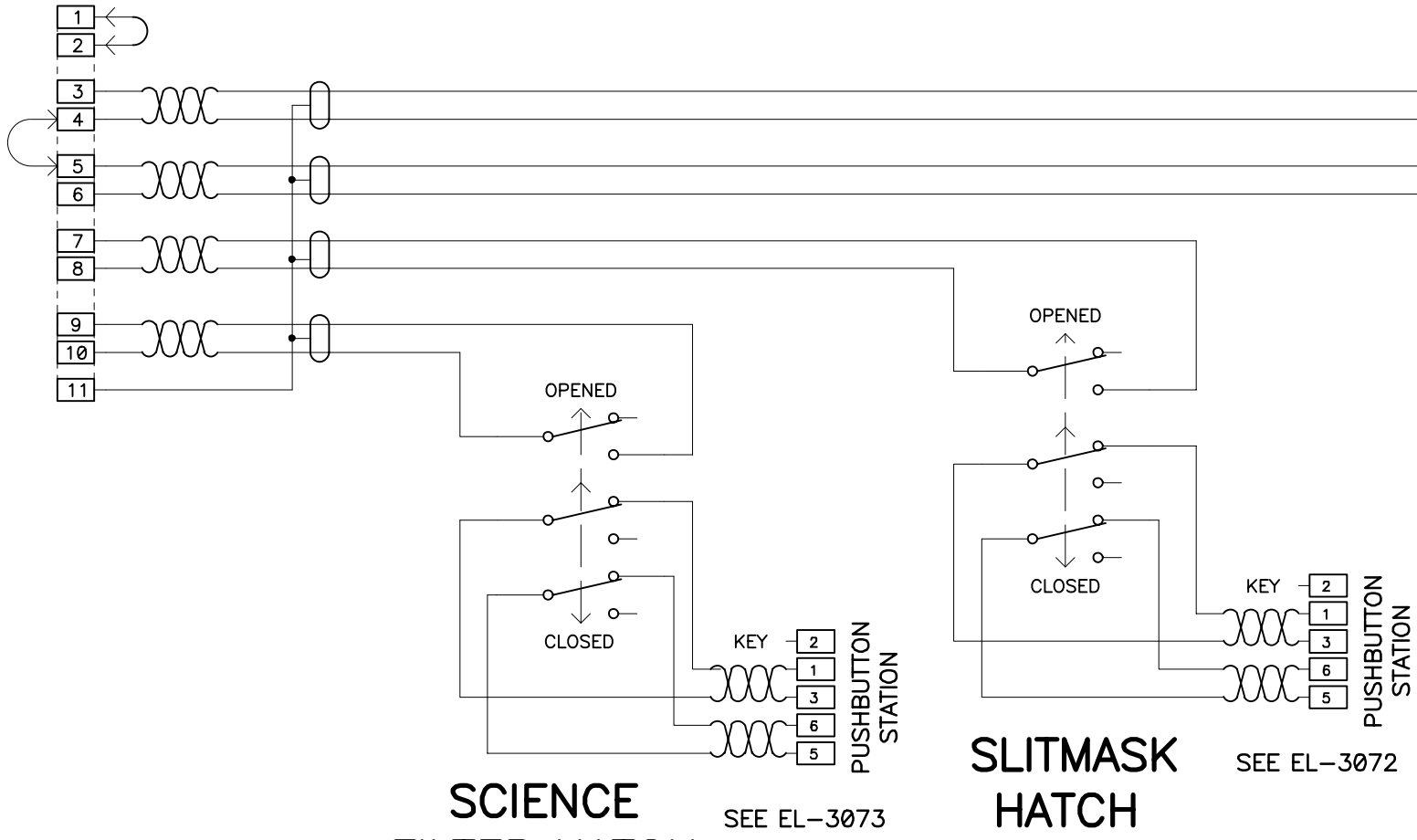


TBHATCH2
LOCATED IN
BARREL



TBHATCH3
LOCATED AT
INSTRUMENT
FRONT

SEE SHEET 7



SCIENCE
FILTER HATCH

SLITMASK
HATCH

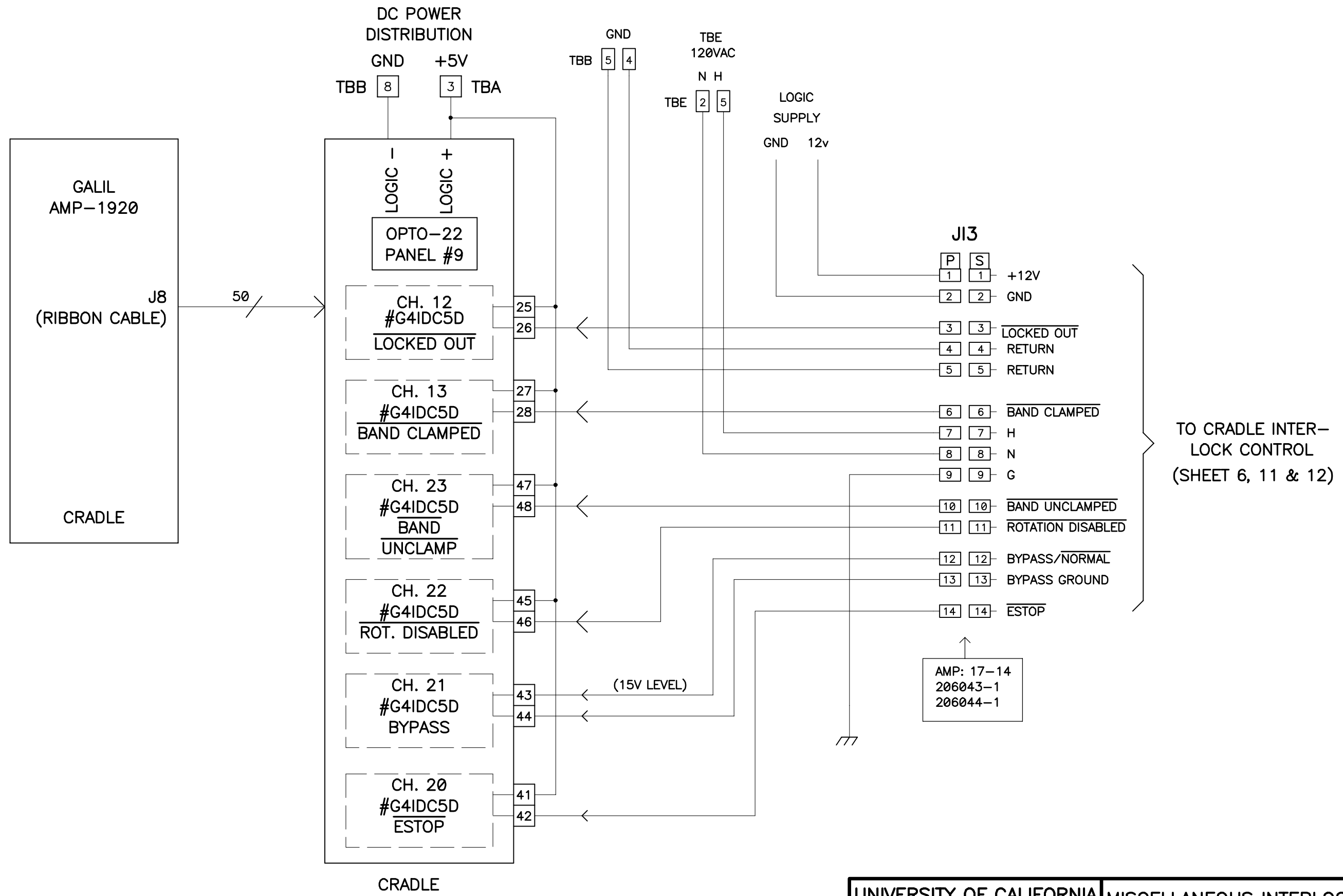
GRATING
HATCH 2

GRATING
HATCH 1

SEE EL-3071

| | | | |
|--|-----------------------|--|--------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | MISCELLANEOUS INTERLOCK LOGIC DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 8 OF 13 |
| Last SN | MODIFY DATE: 01-29-02 | EL-3120 | |
| PATH: DEIMOS\ROTATION | REV.C | | |

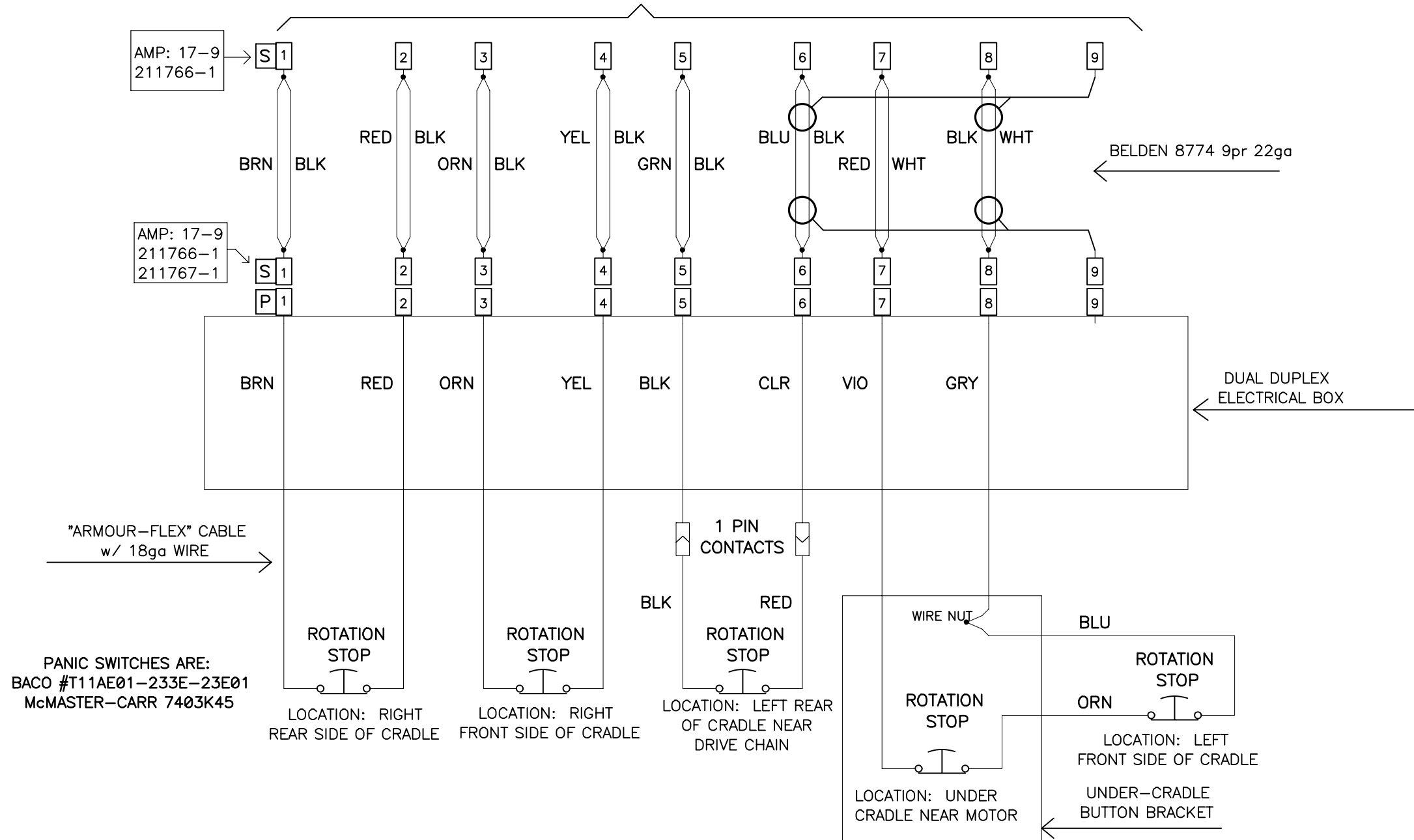
| REVISION | DESCRIPTION |
|----------|--|
| 07-09-01 | BROKE SHEET 7 INTO TWO SHEETS - 7 AND 8 |
| 08-28-01 | REMOVED "ELECTRONICS ENCLOSURE COVER" INPUTS AT J53,9&10. REMOVED COLLIMATOR HATCH WIRING FROM "TBHATCH1:7&8" AND "TBHATCH2:7&8" |
| 09-14-01 | REMOVED "TV FILTER HATCH" PUSHBUTTON STATION REFERENCES |
| 01-29-02 | REMOVED "TV FILTER HATCH" SWITCH AND ADDED SHIELD ON CABLE FROM TBHATCH3 |



| REVISION | |
|----------|--|
| 03-20-00 | INSERTED NEW SHEET 3. OLD SHEET 3 NOW SHEET 4 |
| 04-26-00 | ENLARGED DRAWING |
| 08-07-00 | ADDED ROTATION DISABLED SIGNAL AND RELAY. CORRECTED LABELS FOR BAND CLAMP AND LOCKOUT. CORRECTED PIN NUMBER FOR GND TO PANEL #9. |
| 02-26-01 | CORRECTED SHEET NUMBERS |
| 03-14-01 | REMOVED BOARD 8. MOVED 'ROTATION DISABLED' TO PANEL9 CHANNEL 22 |
| 03-21-01 | CORRECTED POWER SUPPLY AND AC TERMINAL CONNECTIONS |
| 04-23-01 | ADDED BYPASS SIGNAL TO CHANNEL 21 |
| 09-17-01 | ADDED ESTOP SIGNAL TO CHANNEL 20 OF INPUT BOARD #9 |

| | | | |
|--|-----------------------|--|--------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | MISCELLANEOUS INTERLOCK LOGIC DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 9 OF 13 |
| Last SN | MODIFY DATE: 09-17-01 | EL-3120 | |
| PATH: DEIMOS\ROTATION | | | |

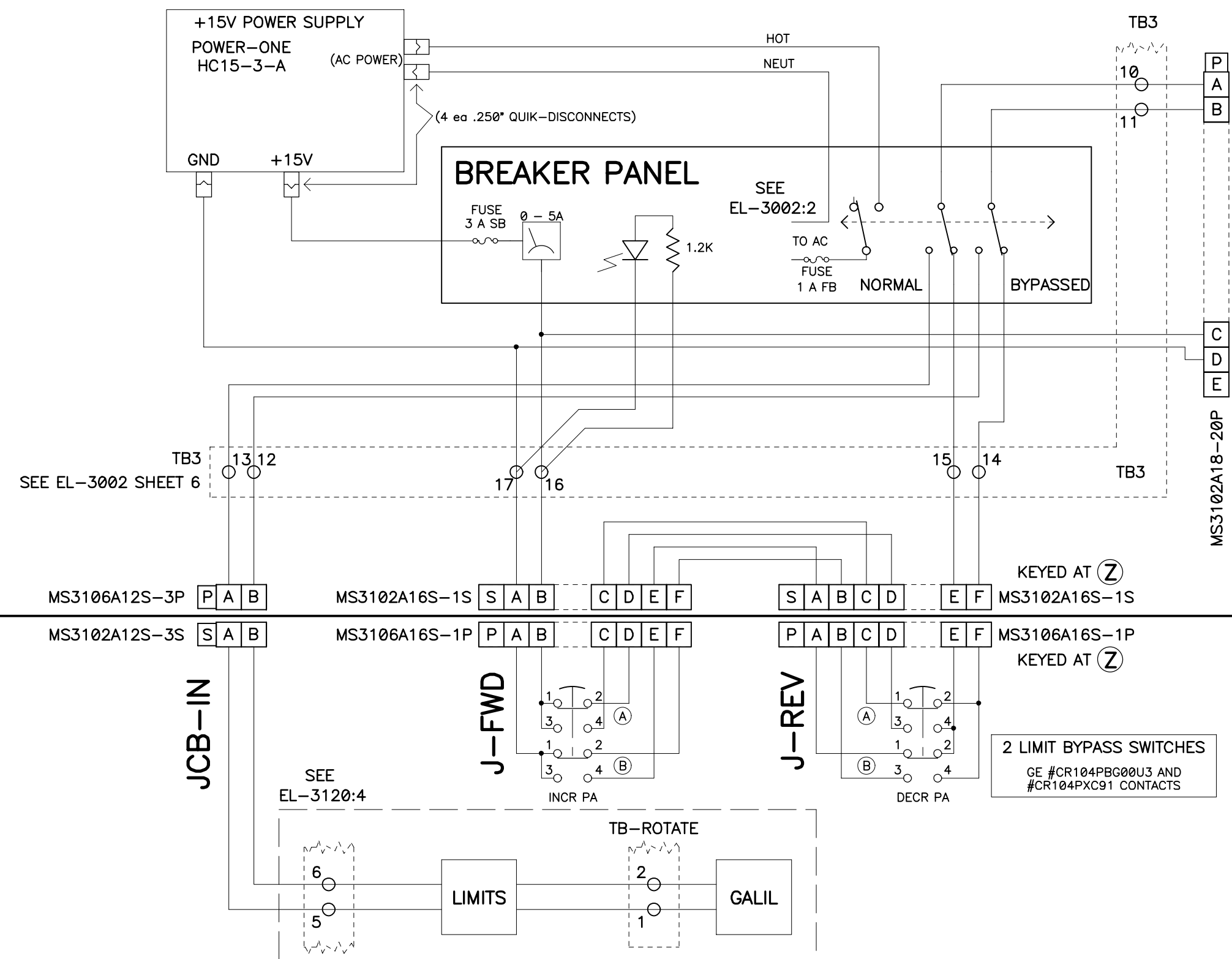
(SEE SHEET 6, J14)



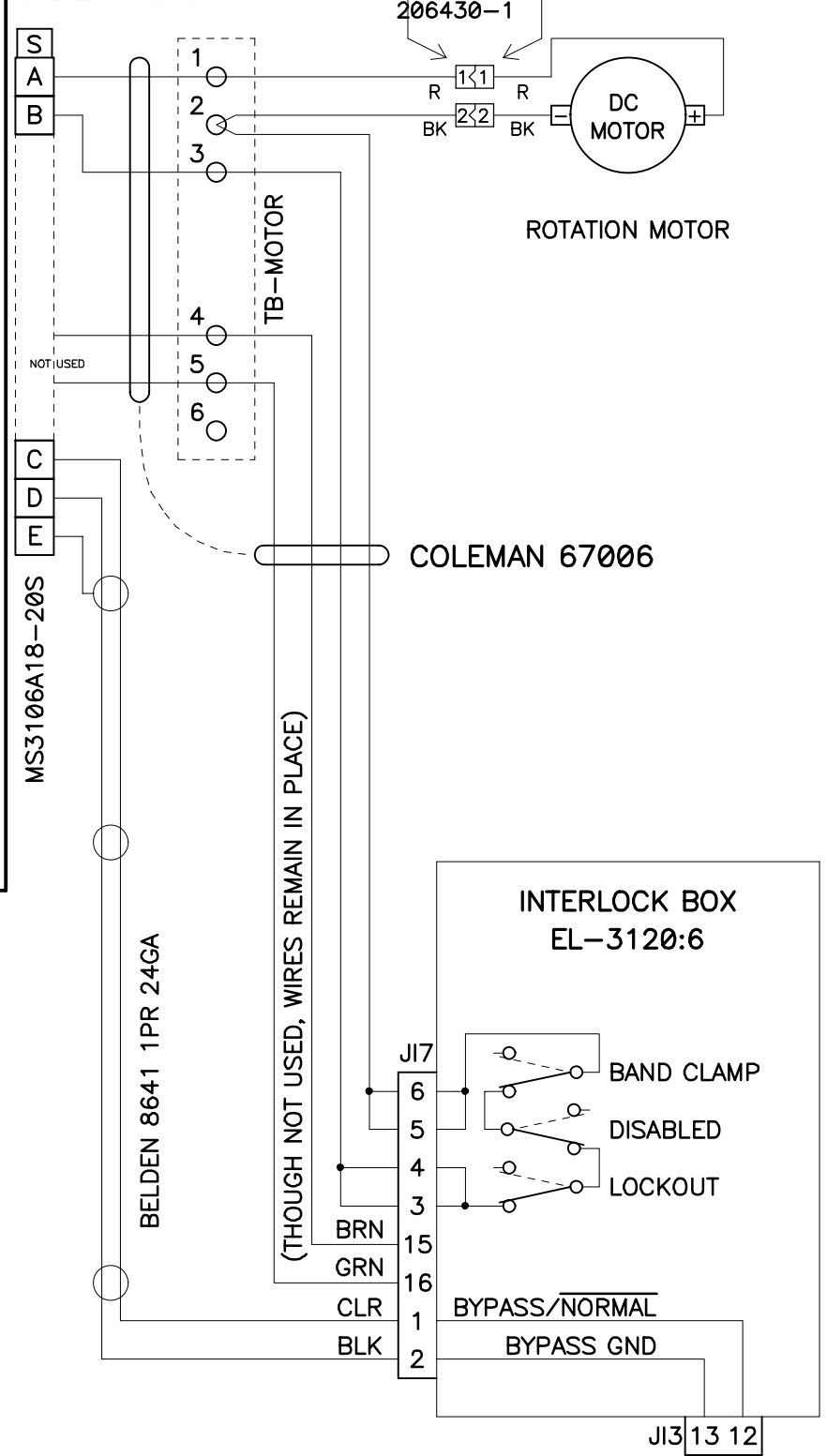
| | | | |
|--|-----------------------|--|---------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | ROTATION STOP SWITCH WIRING DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 10 OF 13 |
| Last SN | MODIFY DATE: 10-23-01 | EL-3120 | |
| PATH: DEIMOS\ROTATION | | | |

| REVISION |
|--|
| 04-06-01 MOVED PANIC SWITCH WIRING FROM SHEET 4 TO NEW PAGE 7 to |
| 08-06-01 CHANGED SHEET TITLE FROM "PANIC" TO "ROTATION STOP" |
| 10-23-01 ADDED "1 PIN CONTACTS" |

CIRCUIT BREAKER BOX



JCB-OUT

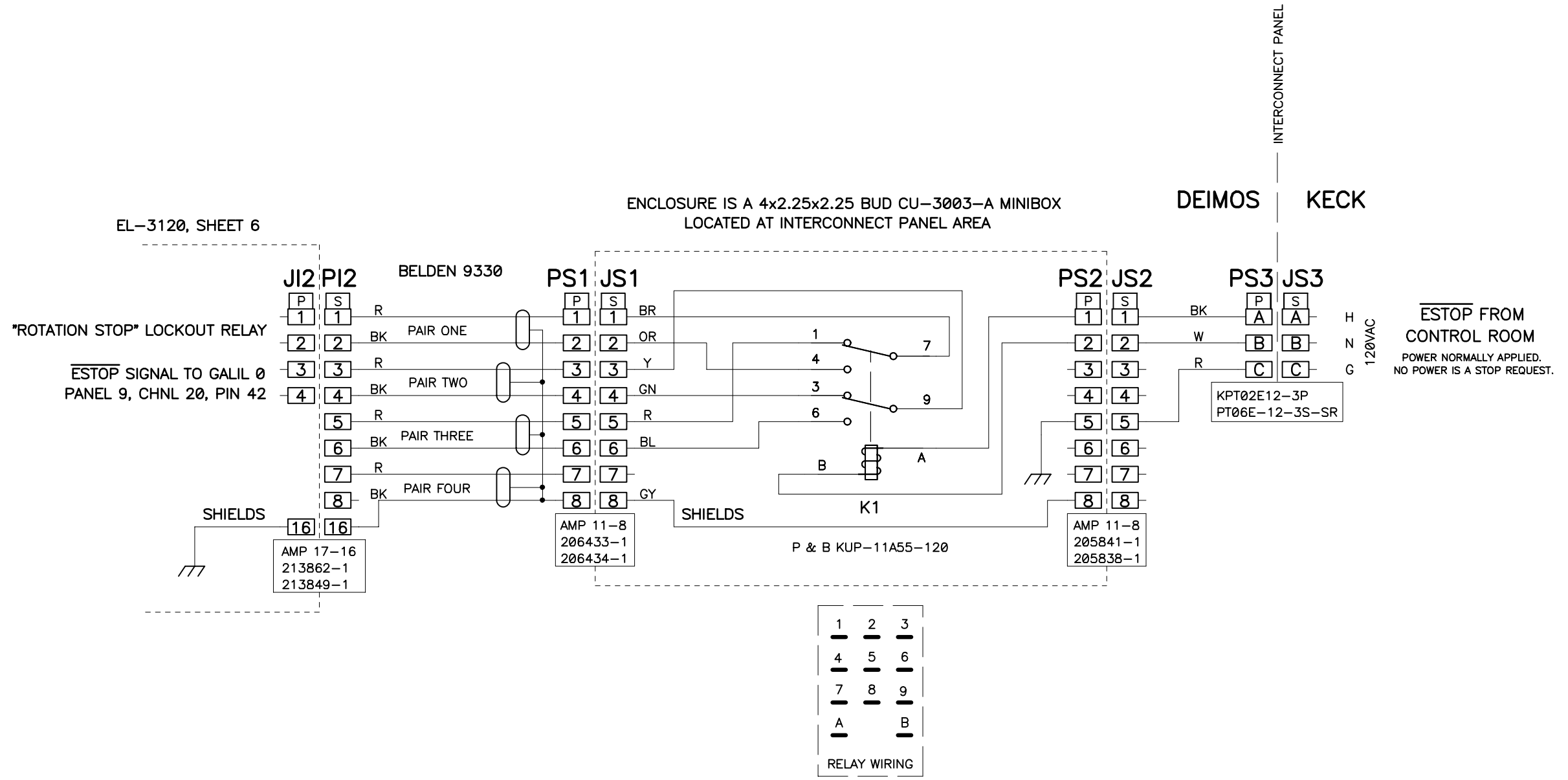


| REVISION |
|---|
| 06-01-01 COMPLETELY REDONE to |
| 08-20-01 CHANGED TO SEPERATE, SHIELDED PAIR TO CURE NOISE PROBLEM WITH LIMIT BYPASS SIGNAL. CORRECTED ERRORS IN JCB-IN & JCB-OUT WIRING |

| | | | |
|--|-----------------------|--|---------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | LIMIT BYPASS WIRING DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 11 OF 13 |
| Last SN | MODIFY DATE: 08-20-01 | EL-3120 | |
| PATH: DEIMOS\ROTATION | REV.C | | |

ROTATION STAGE ROTATION LIMIT BYPASS WIRING EL-3120 (11 OF 13)

EL-3120, SHEET 6



| REVISION |
|----------|
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| | | | |
|--|-----------------------|--|---------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | ROTATION STOP FROM CONTROL ROOM DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 12 OF 13 |
| Last SN | MODIFY DATE: 09-21-01 | EL-3120 | |
| PATH: DEIMOS\ROTATION | | | |

06-29-01 ADDED EL-3087 BLOCK AND HATCH TERMINAL STRIPS. ADDED WIRE COLORS. (SHEET 7) (SHEET 1)
 07-06-01 BROKE SHEET 7 INTO SHEETS 7 AND 8. REV C (SHEET 1)
 07-09-01 BROKE SHEET 7 INTO TWO SHEETS - 7 AND 8 (SHEET 1)
 07-10-00 ADDED SECONDARY LIMIT BYPASS SWITCHES (SHEET 3)

EL-3120 (13 OF 13)

ECO'S

ROTATION STAGE

REVISION

| | | | |
|--|-----------------------|--|---------------|
| UNIVERSITY OF CALIFORNIA LICK OBSERVATORY | | INSTRUMENT ROTATION STAGE DEIMOS SPECTROGRAPH | |
| DES'N BY: B. Alcott | ORIGIN DATE: 04-22-97 | DWG. NO. | NUM. 13 OF 13 |
| Last SN | MODIFY DATE: 04-14-02 | EL-3120 | |
| PATH: DEIMOS\ROTATION | REV.C | | |