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07

LIGHTWAVE ELECTRONICS
4-2451 REV B

JFAN2

M9

GND6

JPS1

C98 C99 C100

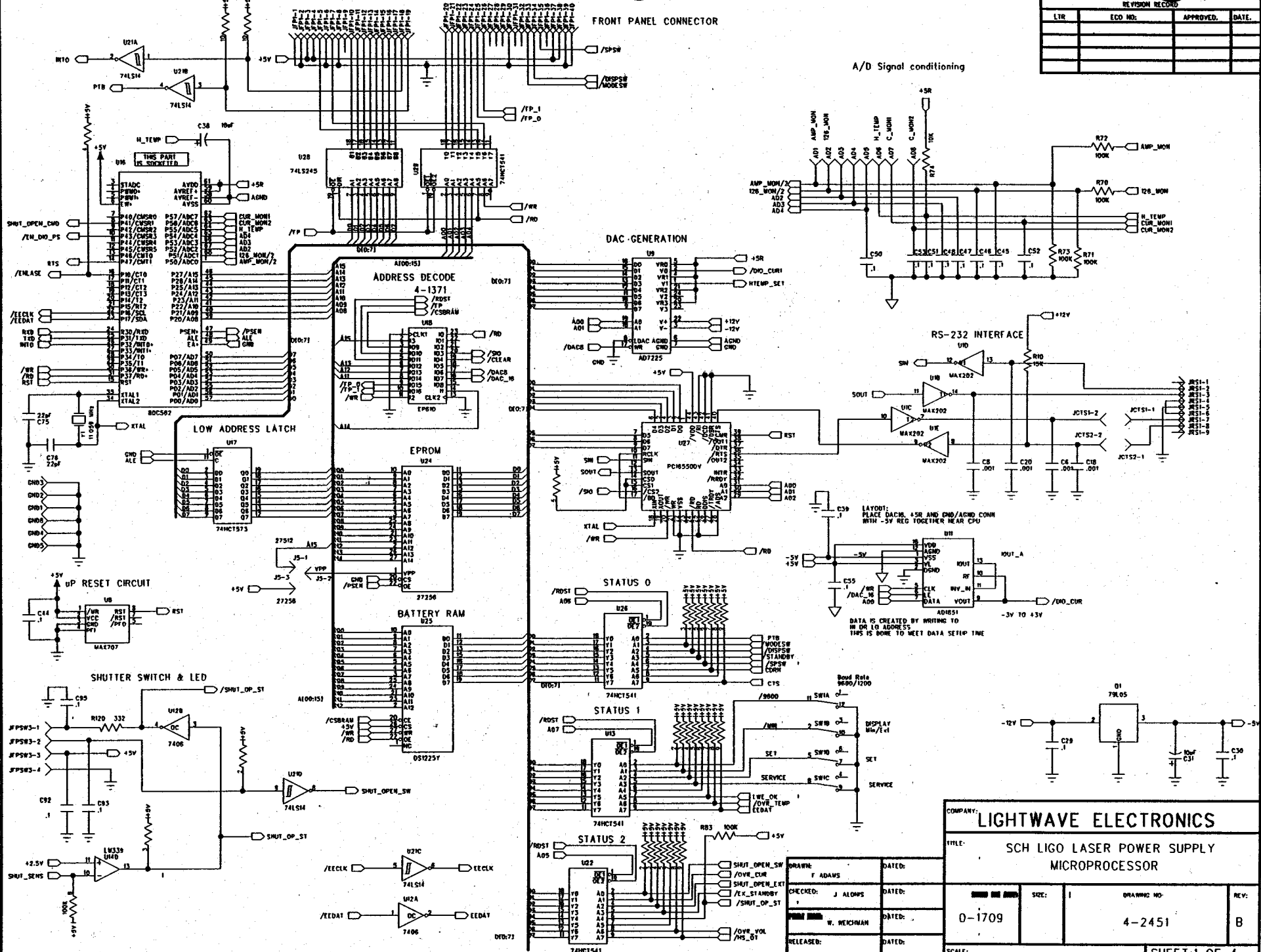
M8

GND5

JFAN1

M7

| REVISION RECORD | | | |
|-----------------|---------|----------|------|
| LTR | ECO NO. | APPROVED | DATE |
| | | | |
| | | | |
| | | | |



COMPANY: **LIGHTWAVE ELECTRONICS**

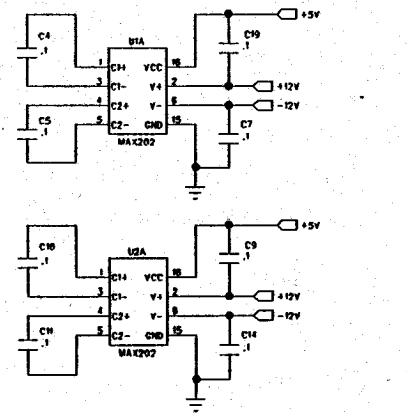
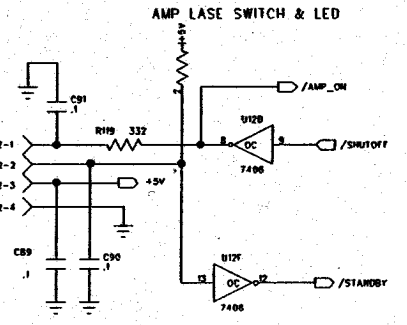
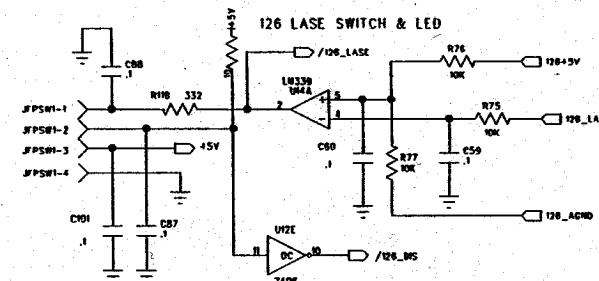
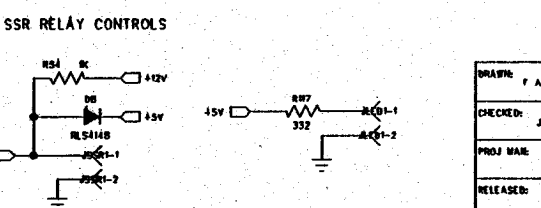
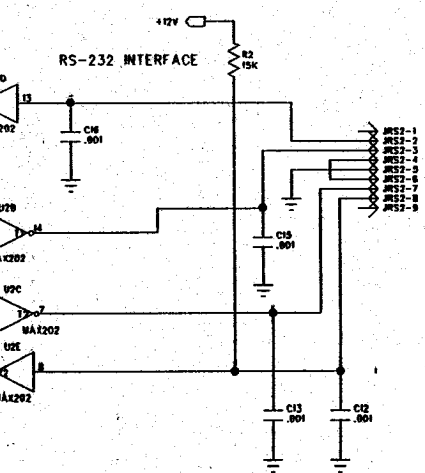
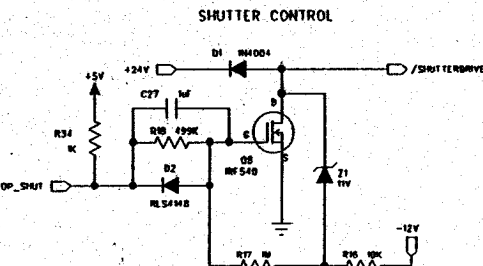
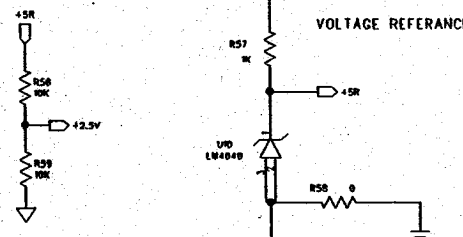
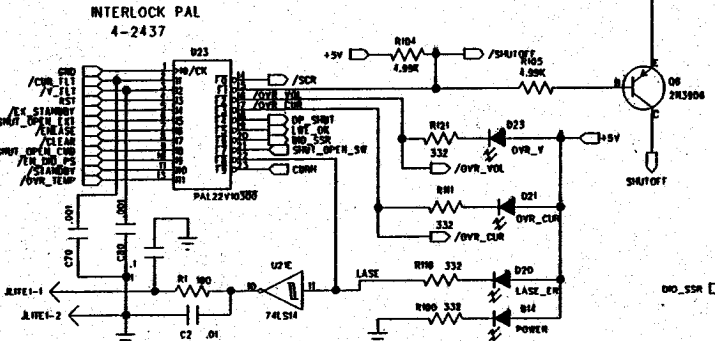
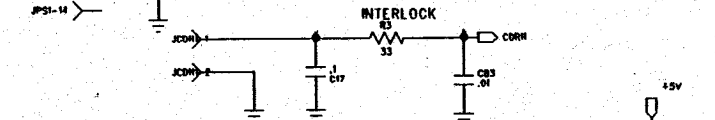
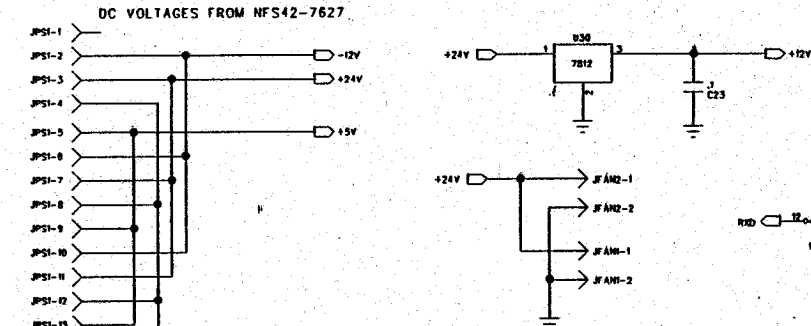
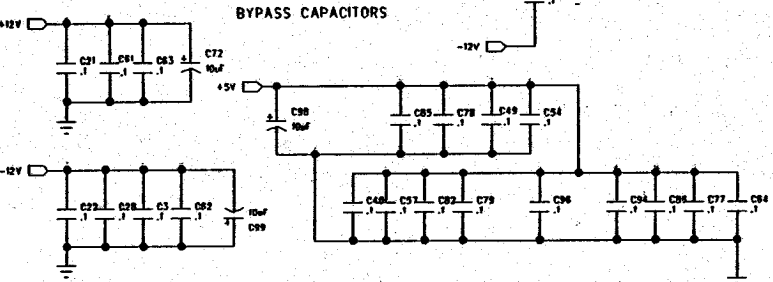
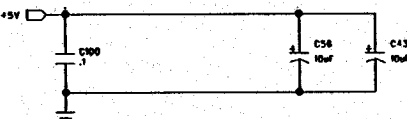
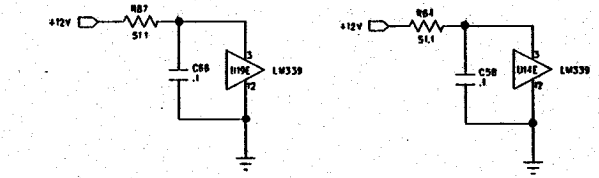
TITLE: **SCH LIGO LASER POWER SUPPLY MICROPROCESSOR**

DRAWN: F ADAMS DATED: CHECKED: J ALOWS DATED: RELEASED: W. WERCHAN DATED: SCALE: SHEET: 1 OF 4

REV: B

0-1709 SIZE: I DRAWING NO: 4-2451

| REVISION RECORD | | | |
|-----------------|---------|----------|------|
| LTR | ECO NO. | APPROVED | DATE |
| | | | |
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|---|--------|--------|--------------------|
| COMPANY: LIGHTWAVE ELECTRONICS | | | |
| TITLE: SCH LIGO LASER POWER SUPPLY MISC CIRCUITRY | | | |
| DRAWN: F ADAMS | DATED: | ASY # | SIZE: |
| CHECKED: J. ALDMS | DATED: | 0-1709 | DRAWING NO: 4-2451 |
| PROJ MAN: W. WENGMAN | DATED: | | REV: B |
| RELEASED: | DATED: | SCALE: | SHEET: 3 OF 4 |

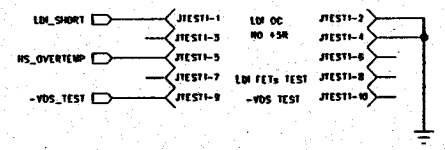
| LTR | ECO NO. | APPROVED. | DATE. |
|-----|---------|-----------|-------|
| | | | |
| | | | |
| | | | |

126 LASER CONTROL/STATUS DB15F CONN

| | | |
|-------------|-------|-------------|
| 126+5V | J1-1 | 126+5V |
| 126_AGND | J1-2 | 126_HD_GND |
| 126_01MP | J1-3 | D1mp |
| 126_L1MP | J1-4 | L1mp |
| 126_DMON | J1-5 | Dmon |
| 126_NE | J1-6 | NE |
| 126_LASE | J1-7 | 126_LASE |
| 126_LMON | J1-8 | Lmon |
| 126_SLOW | J1-9 | SLOW |
| 126_CUR_MON | J1-10 | 126_CUR_MON |
| 126_CUR_ADJ | J1-11 | 126_ADJ |
| 126_DTEC | J1-12 | Diec |
| 126_LTEC | J1-13 | Ltec |
| PZT+ | J1-14 | PZT+ |
| PZT- | J1-15 | PZT- |

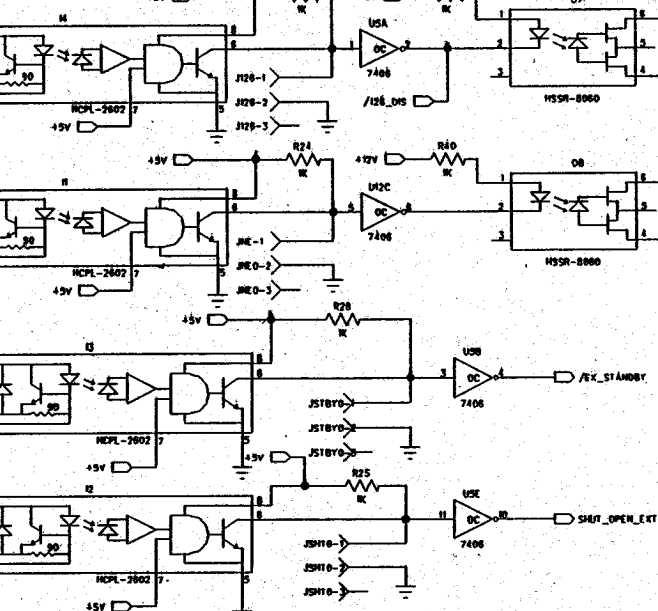
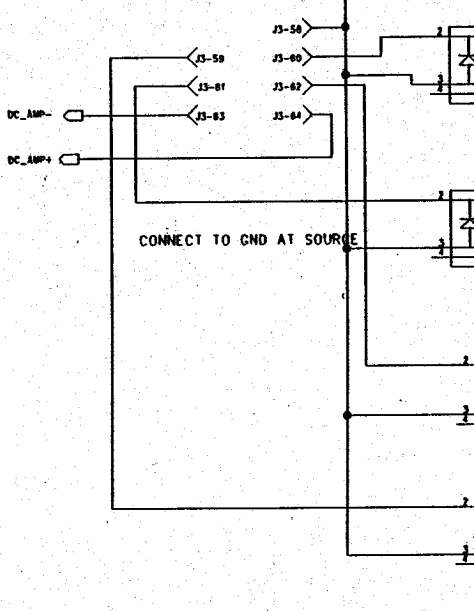
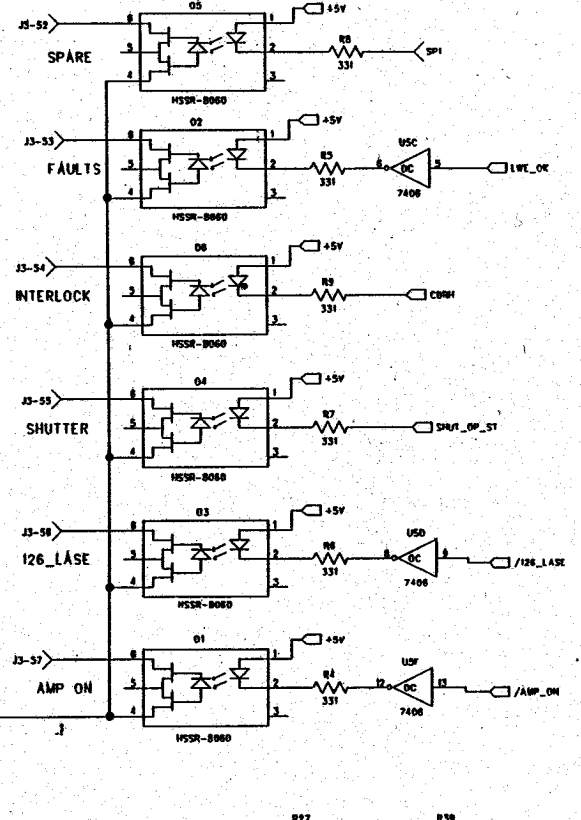
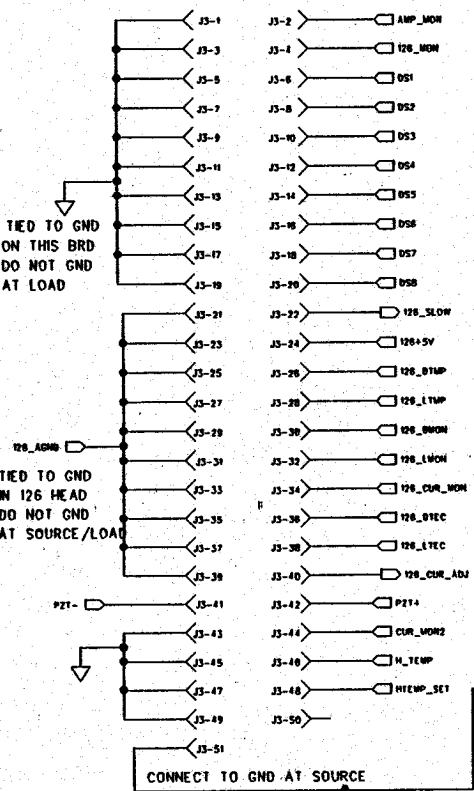
AMPLIFIER AC CURRENT CONTROL

| | |
|------|---------|
| J4-1 | AC_AMP+ |
| J4-2 | |
| J4-3 | AC_AMP- |



HEAD CONTROL & DATA DB25F CONN

| | | |
|-----------------|-------|-----------------|
| AMP_MON | J2-1 | AMP MON |
| HEAD_AGND | J2-2 | HEAD AGND |
| DIO SENS 1 | J2-3 | DIO SENS 1 |
| DIO SENS 2 | J2-4 | DIO SENS 2 |
| DIO SENS 3 | J2-5 | DIO SENS 3 |
| DIO SENS 4 | J2-6 | DIO SENS 4 |
| EECLK | J2-7 | EECLK |
| HEAD_TEMP_SENSE | J2-8 | HEAD TEMP SENSE |
| SHUT_SENSE | J2-9 | SHUTTER SENSE |
| /SHUT DRIVE | J2-10 | /SHUT DRIVE |
| +24V | J2-11 | +24V |
| 126_MON | J2-12 | 126 MON |
| GND | J2-13 | GND |
| SP | J2-14 | SP |
| DIO SENS 5 | J2-15 | DIO SENS 5 |
| DIO SENS 6 | J2-16 | DIO SENS 6 |
| DIO SENS 7 | J2-17 | DIO SENS 7 |
| DIO SENS 8 | J2-18 | DIO SENS 8 |
| EEDAT | J2-19 | EEDAT |
| HEAD_TEMP_RET | J2-20 | HEAD TEMP RET |
| SP | J2-21 | SP |
| -12V | J2-22 | -12V |
| /SHUTDRIVE | J2-23 | /SHUT DRIVE |
| +24V | J2-24 | +24V |
| GND | J2-25 | GND |



COMPANY: LIGHTWAVE ELECTRONICS

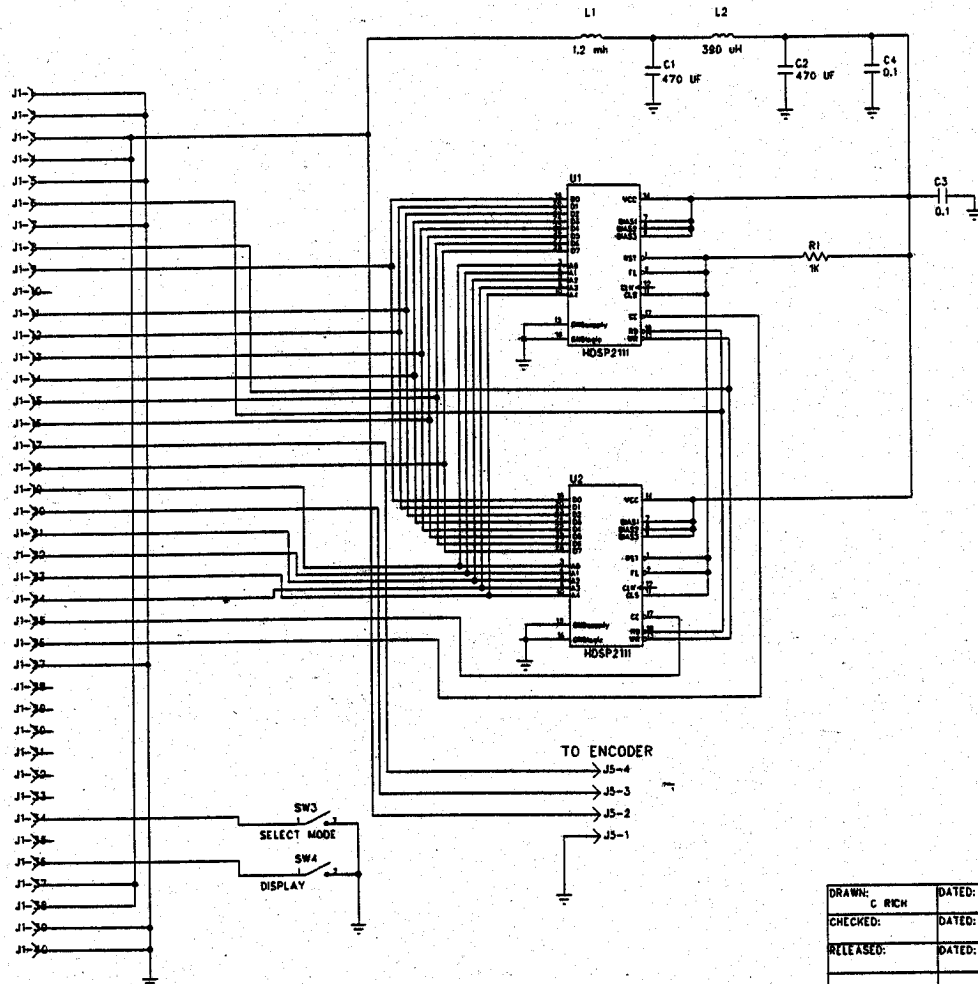
TITLE: SCH LIGO LASER POWER SUPPLY INTERFACE CIRCUITRY

| | |
|---------------------|-------|
| DRAWN: F. ADAMS | DATE: |
| CHECKED: J. ALONIS | DATE: |
| PROJ MAN: W. WEICHA | DATE: |
| RELEASE: | DATE: |

| | | | |
|--------|---------------|-------------|------|
| ASY # | SIZE: | DRAWING NO. | REV: |
| 0-1709 | | 4-2451 | B |
| SCALE: | SHEET: 4 OF 4 | | |

| REVISION RECORD | | |
|-----------------|---------|---------------|
| LTR | ECO NO. | APPROVED/DATE |
| B | 1094 | |
| | | |
| | | |

REV C --MOVED ONE MT HOLE --NO DESIGN CHANGE

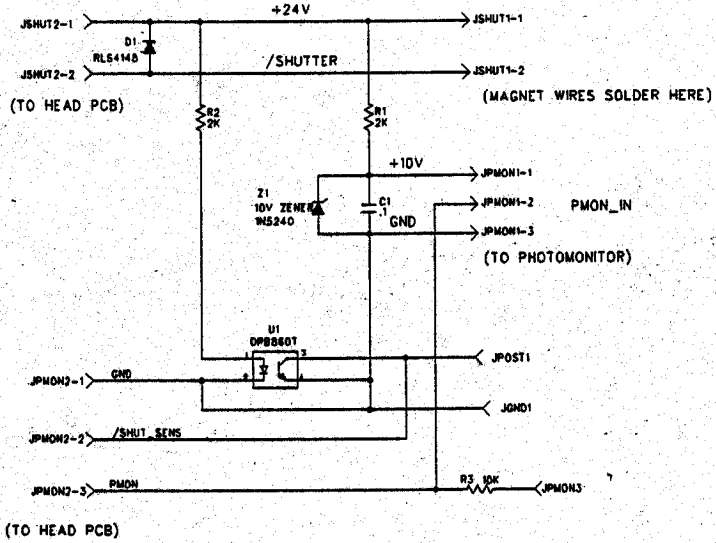


USED IN FOLLOWING ASY:
 0-1266, 0-1267, 0-1405

| LIGHTWAVE ELECTRONICS | | | | |
|--------------------------|--------|-------|-------|---------------|
| SCH, 2XX FRONT PANEL PCB | | | | |
| DRAWN: C RICH | DATED: | CODE: | SIZE: | DRAWING NO: |
| CHECKED: | DATED: | | | 4-1753 |
| RELEASED: | DATED: | | | |
| SCALE: | | | | SHEET: 1 OF 1 |

| | | | | | |
|---------------|--------|-------|-------|---------------|------|
| DRAWN: C RICH | DATED: | CODE: | SIZE: | DRAWING NO: | REV: |
| CHECKED: | DATED: | | | 4-1753 | C |
| RELEASED: | DATED: | | | | |
| SCALE: | | | | SHEET: 1 OF 1 | |

| REVISION RECORD | | | |
|-----------------|---------|----------|-------|
| LTR | ECO NO: | APPROVED | DATE: |
| | | | |
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| | | | |



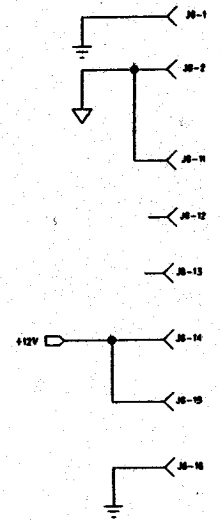
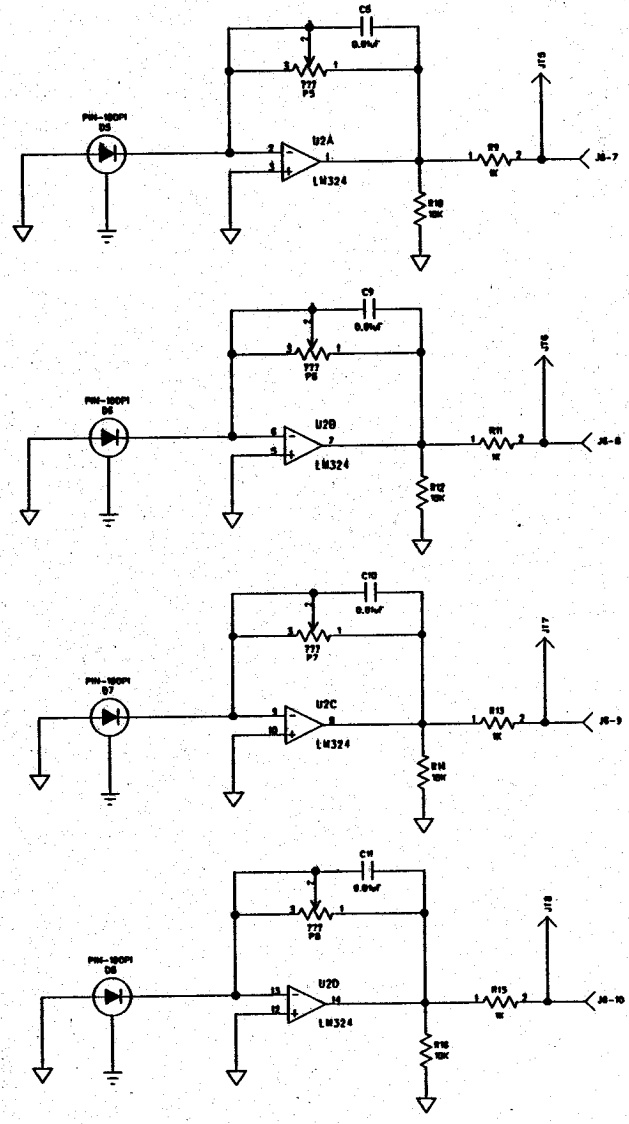
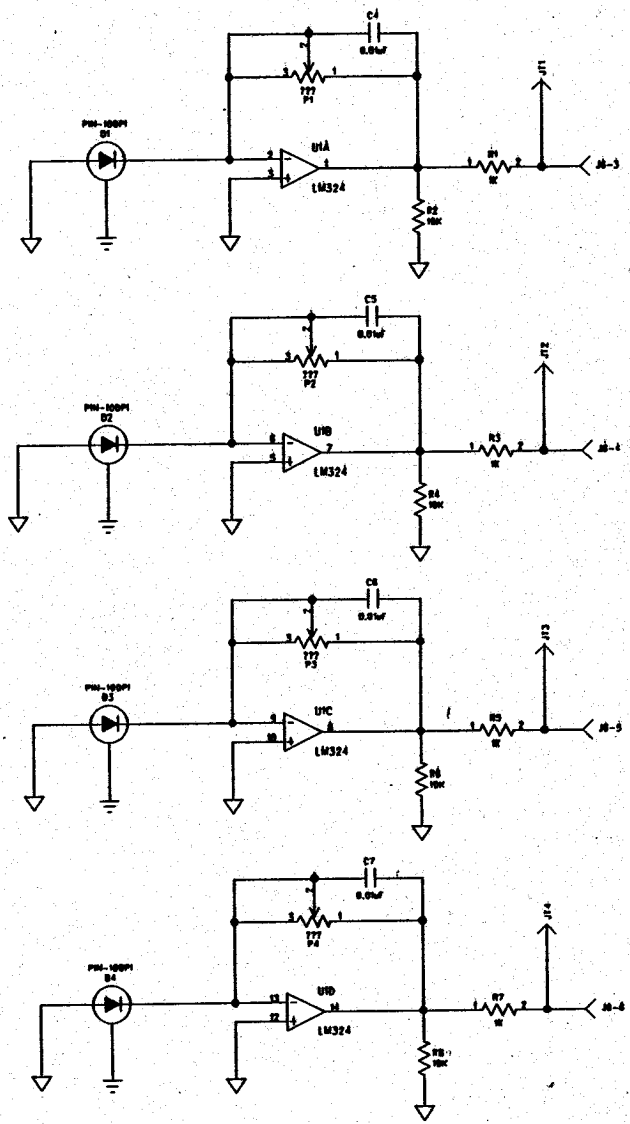
COMPANY: LIGHTWAVE ELECTRONICS

TITLE: PCB, MAGNET SHUTTER, 2XX
(USED IN ASY 0-1505)

| | |
|------------------|--------|
| DRAWN: f. Adams | DATED: |
| CHECKED: | DATED: |
| QUALITY CONTROL: | DATED: |
| RELEASED: | DATED: |

| | | | |
|--------|-------|-------------|---------------|
| CODE: | SIZE: | DRAWING NO: | REV: |
| | | 4-2042 | B |
| SCALE: | | | SHEET: 1 OF 1 |

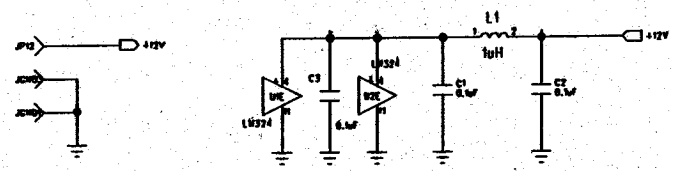
| REVISION RECORD | | | |
|-----------------|---------|-----------|-------|
| LTB | ECN NO. | APPROVED: | DATE: |
| | | | |
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SET POTS FOR 8V NOMINAL OUTPUT

SENSOR ANALOG GND
 J602-2 J602-1

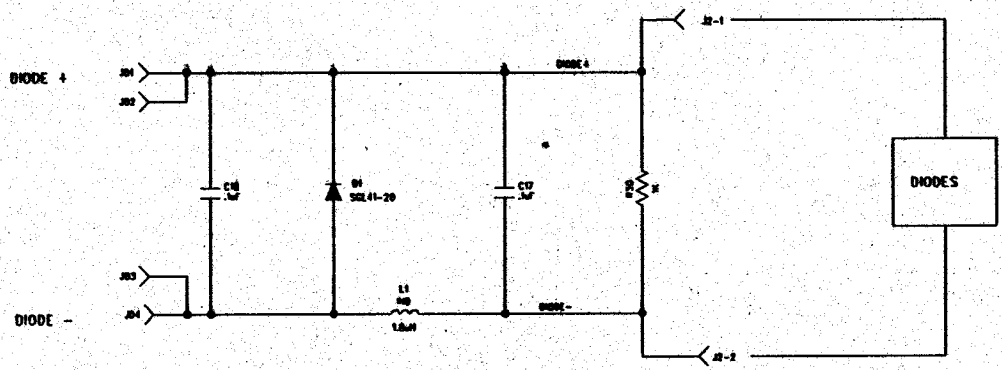
 JUMPER FOR TEST
 OR
 FOR GND & S_AGND CONN ON THIS PCB



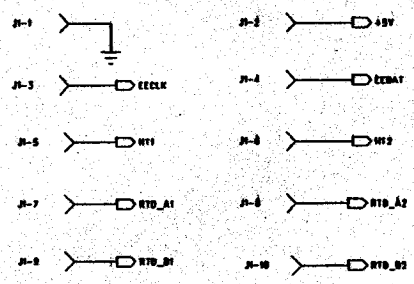
| | | | |
|------------------------------|--------|----------------|-------------|
| LIGHTWAVE ELECTRONICS | | | |
| TITLE: SCH LIGO DIODE SENSOR | | | |
| DRAWN: F. ADAMS | DATED: | USED ON ASY #: | DRAWING NO: |
| DESIGN BY: F. ADAMS | DATED: | 0-169B | 4-2429 |
| REV ENG: J. ALOMS | DATED: | | REV: X |
| PROD ENG: W. WIECH | DATED: | | |
| SHEET: 1 OF 1 | | | |

| REVISION RECORD | | |
|-----------------|---------|----------------|
| LTR | ECO NO: | APPROVED DATE: |
| | | |
| | | |
| | | |

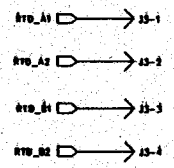
DIODE CURRENT FILTER & ESD SUPPRESSION CIRCUIT



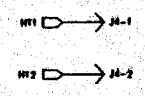
TO HEAD INTERFACÉ



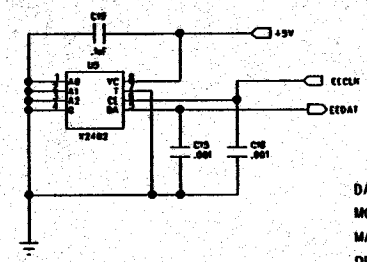
CHILLER TEMP SENSE



HEAD TEMP SENSE



EEPROM



DATA STORED:
 MODEL #
 MAX DIO CUR
 OP DIO CUR
 HEAD TEMP
 HOURS

COMPANY: **LIGHTWAVE ELECTRONICS**

TITLE: **SCH LIGO AMPLIFIER FEED THRU**

| | |
|--------------------------|--------|
| DRAWN: F. Adams | DATED: |
| CHECKED: J. ALONIS | DATED: |
| PROJ MAN W. WEICHMANN | DATED: |
| RELEASED: | DATED: |

| | | | |
|--------|-------|-----------------------|------------|
| CODE: | SIZE: | DRAWING NO: 4-2435 | REV: X2 |
| SCALE: | | SHEET: 1 OF 1 | |

| REVISION RECORD | | |
|-----------------|---------|----------------|
| LTR | ECO NO: | APPROVED DATE: |
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CHILLER SENSE CONN

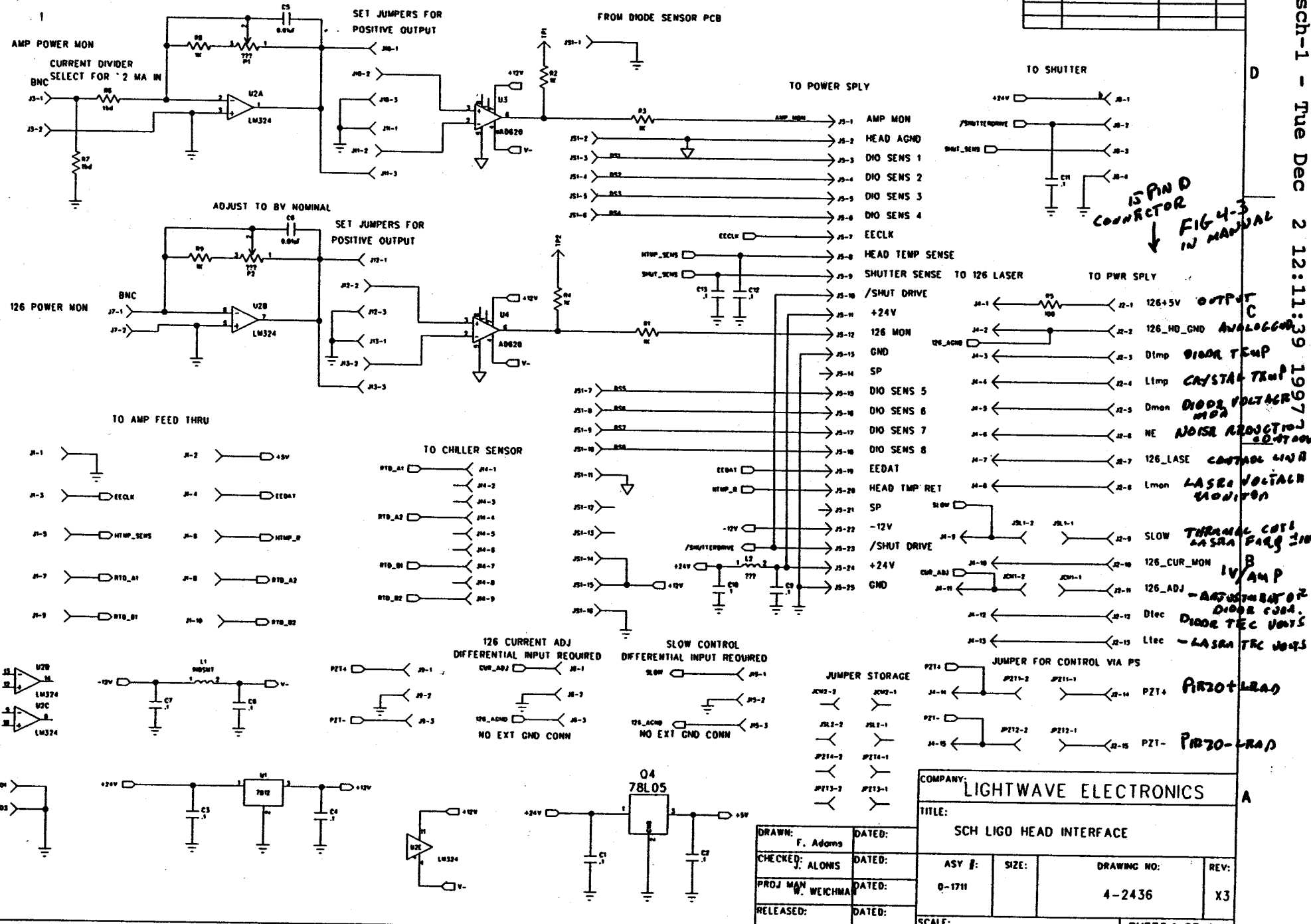
ADJUST TO 8V NOMINAL

SET JUMPERS FOR POSITIVE OUTPUT

FROM DIODE SENSOR PCB

TO POWER SPLY

TO SHUTTER

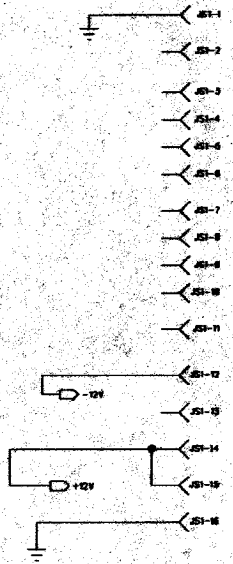


15 PIN D CONNECTOR
 ↓
 FIG 4-3
 IN MANUAL

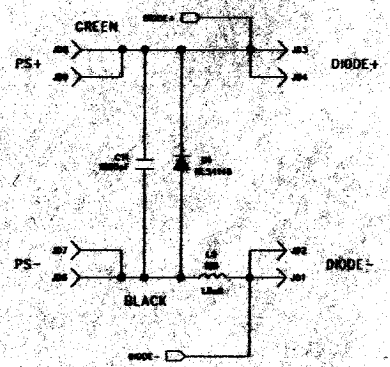
OUTPUT C
 ANALOG
 DIODE TEMP
 CRYSTAL TEMP
 DIODE VOLTAGE
 MPA
 NOISE REDUCTION
 CONTROL W/ R
 LASER VOLTAGE
 MONITOR
 THERMAL COIL
 LASER FREQ 310V
 1V/AMP
 - ADJUSTMENT OF
 DIODE CURR.
 DIODE TEC UNITS
 - LASER TEC UNITS

| | | | |
|--------------------------------|--------|--------|--------------------|
| COMPANY: LIGHTWAVE ELECTRONICS | | | |
| TITLE: SCH LIGO HEAD INTERFACE | | | |
| DRAWN: F. Adams | DATED: | ASY #: | SIZE: |
| CHECKED: J. ALOWS | DATED: | 0-1711 | DRAWING NO: 4-2436 |
| PROJ MAN: R. WECHMAN | DATED: | | REV: X3 |
| RELEASED: | DATED: | SCALE: | SHEET: 1 OF 1 |

| REVISION RECORD | | | |
|-----------------|---------|-----------|-------|
| LYR | ECO NO. | APPROVED: | DATE: |
| | | | |
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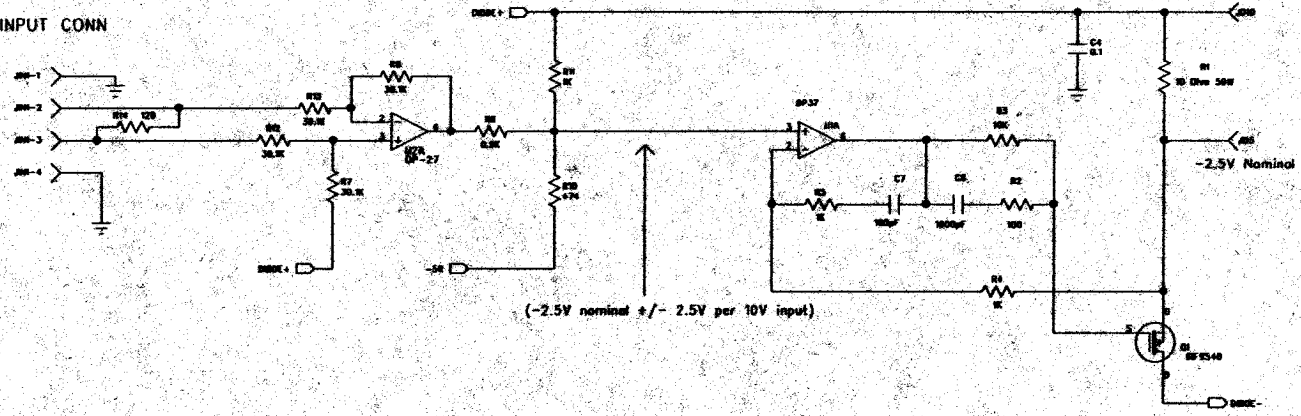


+/- 10V input for +/- 250mA output

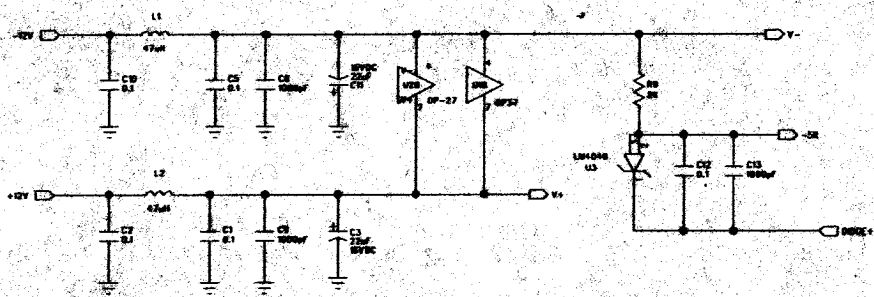


NOTE: $Rf/Rin = Rg/Rin$ for CMR

INPUT CONN



(-2.5V nominal +/- 2.5V per 10V input)



| | | | |
|------------------------------------|-------|----------------|--------------|
| LIGHTWAVE ELECTRONICS | | | |
| TITLE: SCH LIGO FAST DIODE INPUT | | | |
| DESIGN BY: F. ALONIS / S. COMES | DATE: | USED ON ASY E: | DRAWING NO.: |
| REV ENG: S. COMES | DATE: | 4-3278 | 4-3278 |
| PHOTO ENG: | DATE: | | REV: B |

6

5

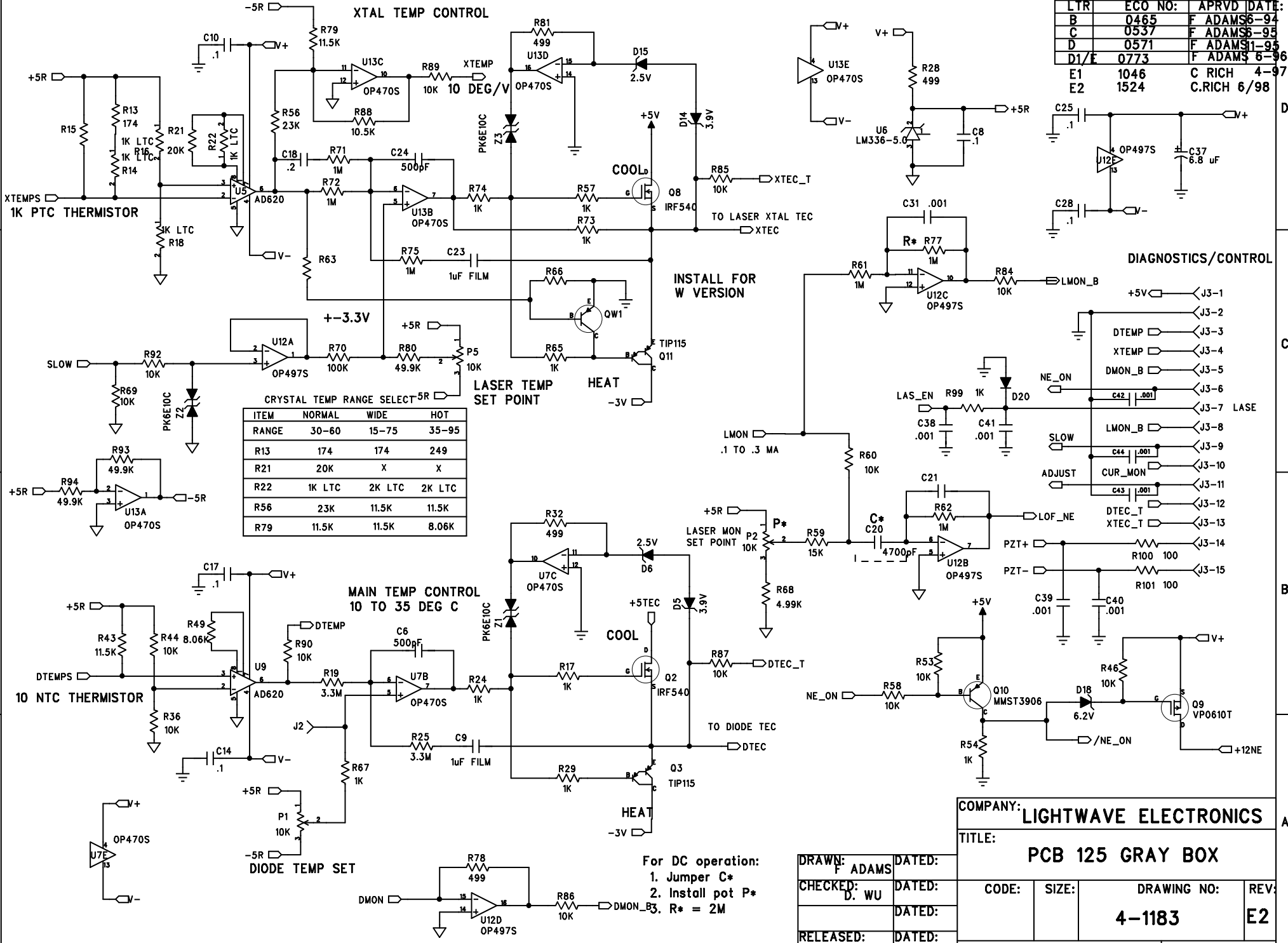
4

3

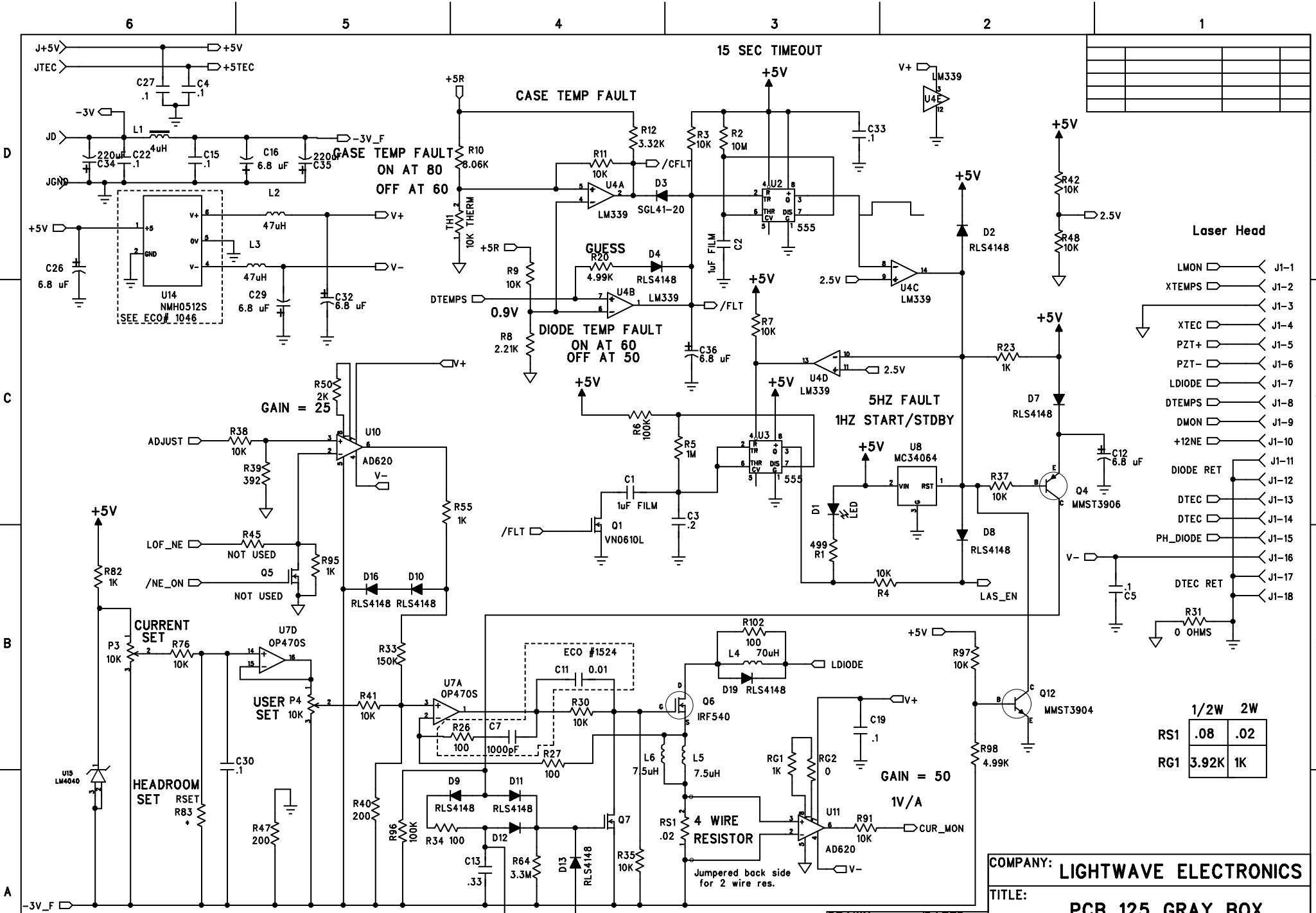
2

1

| REVISION RECORD | | | |
|-----------------|---------|---------|-------|
| LTR | ECO NO: | APRVD | DATE: |
| B | 0465 | F ADAMS | 6-94 |
| C | 0537 | F ADAMS | 6-95 |
| D | 0571 | F ADAMS | 1-96 |
| D1/E | 0773 | F ADAMS | 6-96 |
| E1 | 1046 | C RICH | 4-97 |
| E2 | 1524 | C.RICH | 6/98 |



| | | | |
|--------------------------------|--------|---------------|-------|
| COMPANY: LIGHTWAVE ELECTRONICS | | | |
| TITLE: PCB 125 GRAY BOX | | | |
| DRAWN: F ADAMS | DATED: | CODE: | SIZE: |
| CHECKED: D. WU | DATED: | DRAWING NO: | REV: |
| RELEASED: | DATED: | 4-1183 | E2 |
| SCALE: | | SHEET: 1 OF 2 | |



| | | | | | | | | | |
|-----------|------|------|------|-----|------|-----|------|-----|-----|
| MAX | 1 | 5 | 4.75 | 4.5 | 4.25 | 4.0 | 3.75 | 3.5 | 3.0 |
| RSET OPEN | 200K | 100K | 57K | 40K | 30K | 23K | 15K | | |

| | | |
|-----|-------|-----|
| | 1/2W | 2W |
| RS1 | .08 | .02 |
| RG1 | 3.92K | 1K |

COMPANY: **LIGHTWAVE ELECTRONICS**

TITLE: **PCB 125 GRAY BOX**

| | | | | | |
|-----------------|--------|--------|---------------|-------------|------|
| DRAWN: F. ADAMS | DATED: | CODE: | SIZE: | DRAWING NO: | REV: |
| CHECKED: B. WU | DATED: | | | 4-1183 | E2 |
| RELEASED: | DATED: | SCALE: | SHEET: 2 OF 2 | | |