

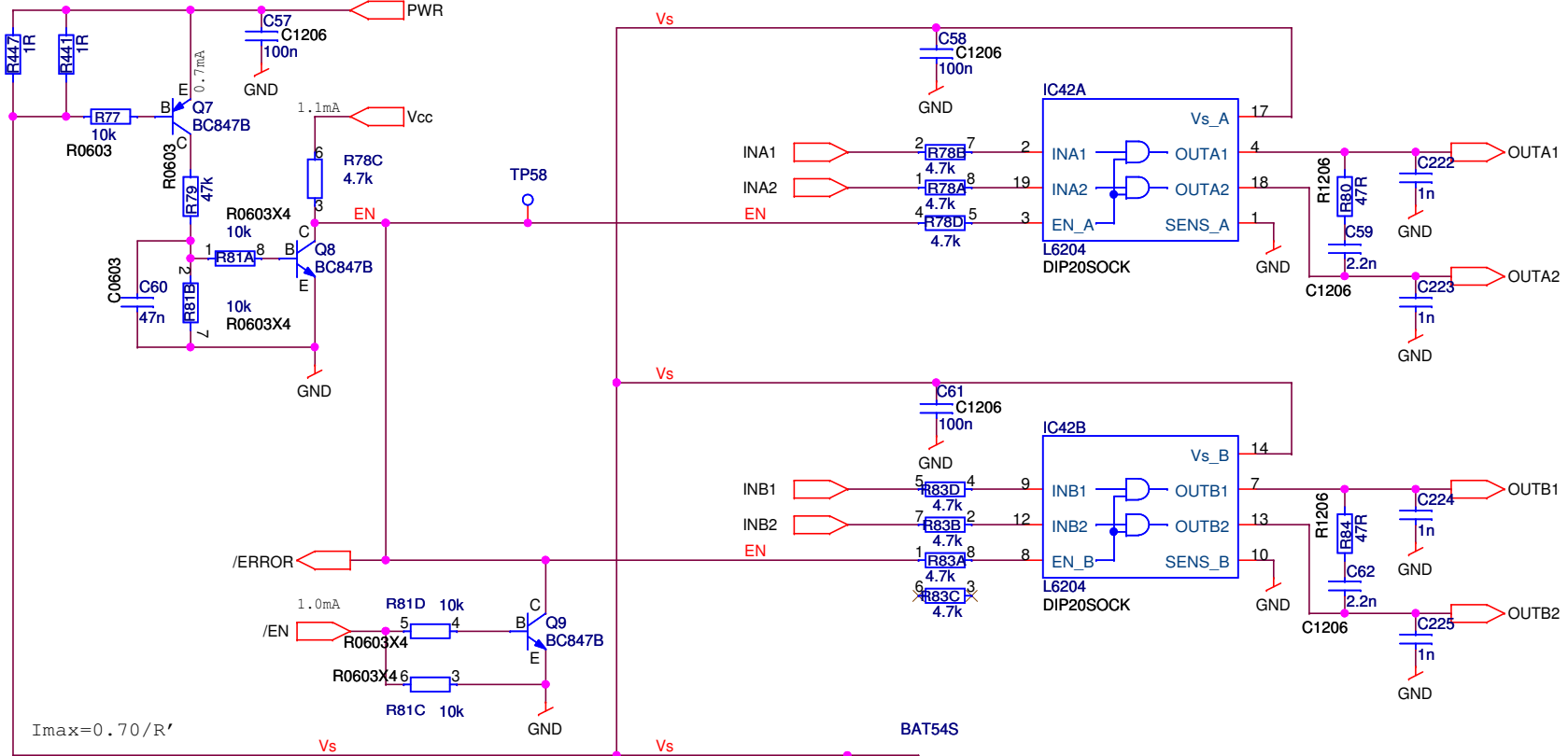
MODULE I/Omax:  
+5V: 1.0A,  
+3.3V: 1.0A,  
+1.8V: 1.0A.

MODULE I<sub>Qmax</sub>:

+VCC: 2.1mA.  
 +PWR: 10.7mA.  
 I<sub>in</sub>(+3.3v): 1.5mA.

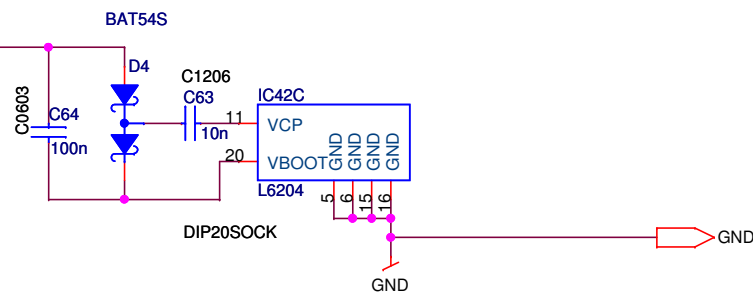
Snubber:  
 $R = V_s / I_{peak}$ ,  
 $C = I_{peak} / 200 [V/us]$ .

OVERLOAD DETECTION  
 WITH DELAYED SHUTDOWN



$I_{max} = 0.70 / R'$

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.



Changes from Prototype:  
 Capacitor over enable transistor is changed from 100n to 47n (minimun X7R)  
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

|                          |           |                     |  |          |  |
|--------------------------|-----------|---------------------|--|----------|--|
|                          |           | Project Title       |  | Drawn By |  |
|                          |           | MAC200              |  | JOH      |  |
| Size A4                  | PCB Title |                     |  | Rev C    |  |
| L6204_DRIVER             |           |                     |  |          |  |
| Date:                    |           | Product Baan Number |  |          |  |
| Monday, October 20, 2003 |           | 01001527            |  |          |  |
| 2 of 21                  |           |                     |  |          |  |
| Sheet                    |           |                     |  |          |  |

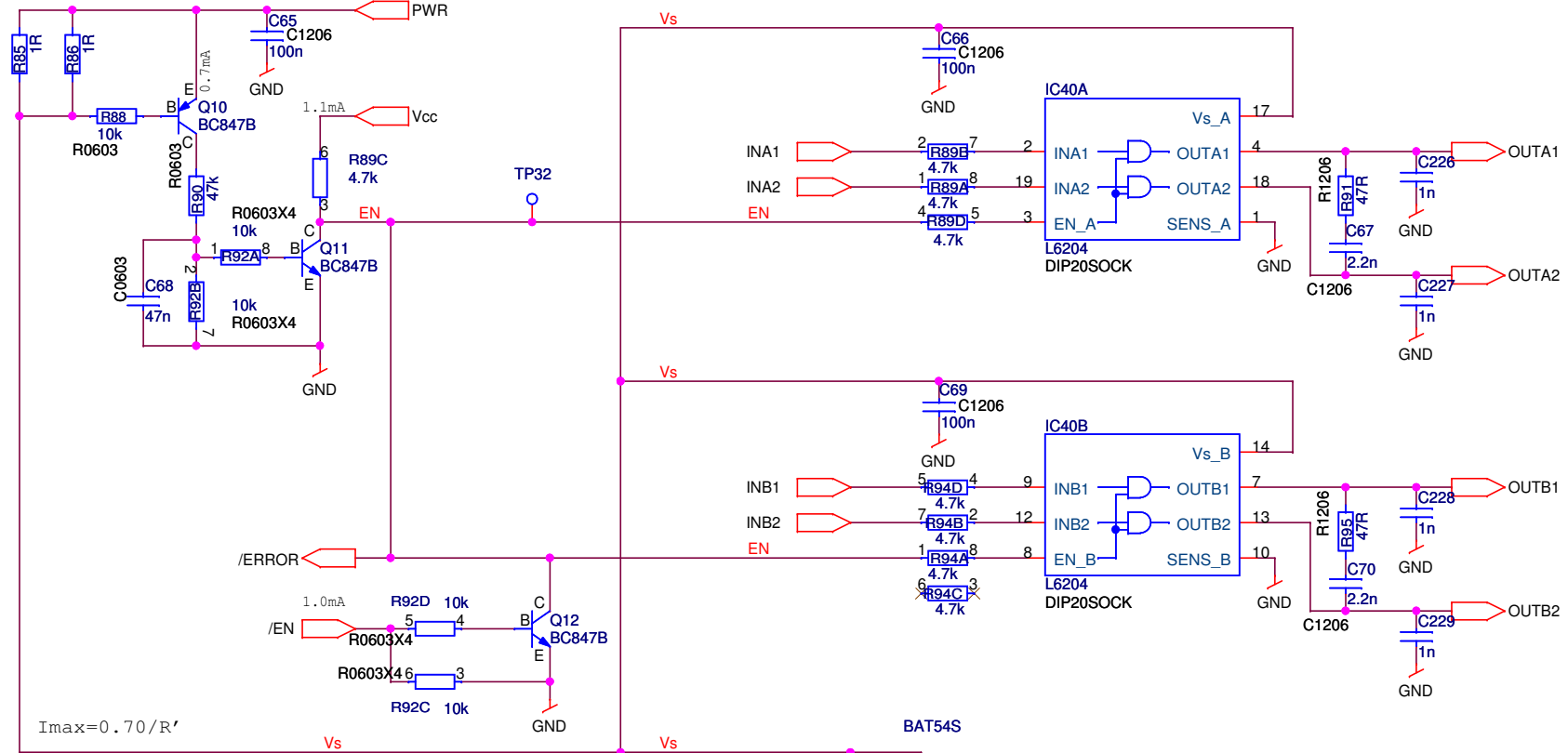
CX 10 LEA og SMD

MODULE I<sub>Qmax</sub>:

+VCC: 2.1mA.  
 +PWR: 10.7mA.  
 I<sub>in</sub>(+3.3v): 1.5mA.

Snubber:  
 $R = V_s / I_{peak}$ ,  
 $C = I_{peak} / 200 [V/us]$ .

OVERLOAD DETECTION  
 WITH DELAYED SHUTDOWN



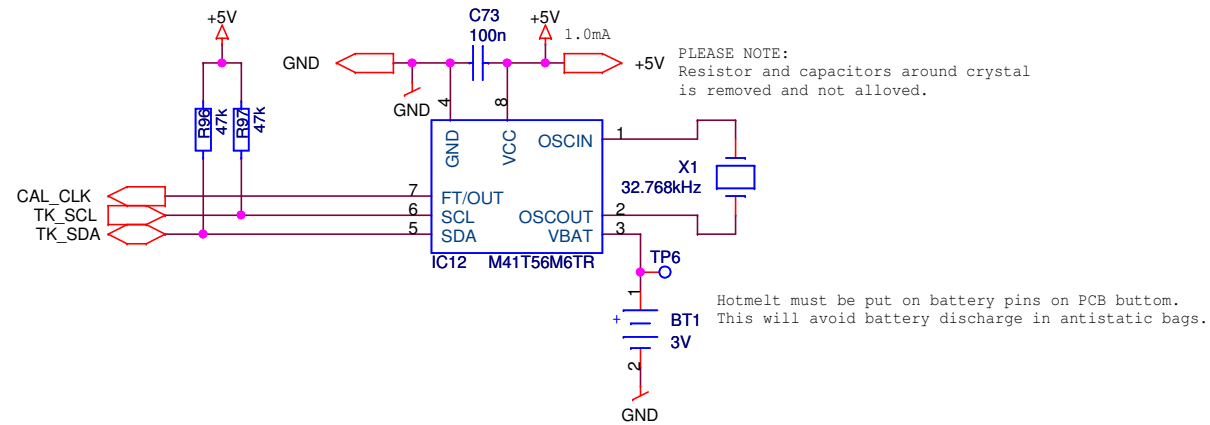
$I_{max} = 0.70 / R'$

Motor short circuit will result in chopping with a frequency dependant of propagation delay in L6204 and the RC combination in shut down circuit.

Changes from Prototype:  
 Capacitor over enable transistor is changed from 100n to 47n (minimun X7R)  
 Sense resistors is changed from two 1.0 ohm to tree 1.5 ohms.

CX 10 LEA og SMD

|                                   |                                |                                  |                        |
|-----------------------------------|--------------------------------|----------------------------------|------------------------|
| <b>Martin</b>                     | Project Title<br><b>MAC200</b> |                                  | Drawn By<br><b>JOH</b> |
|                                   | Size<br>A4                     | PCB Title<br><b>L6204_DRIVER</b> |                        |
| Date:<br>Monday, October 20, 2003 |                                | Product Baan Number<br>01001527  |                        |
| 3<br>Sheet of 21                  |                                |                                  |                        |

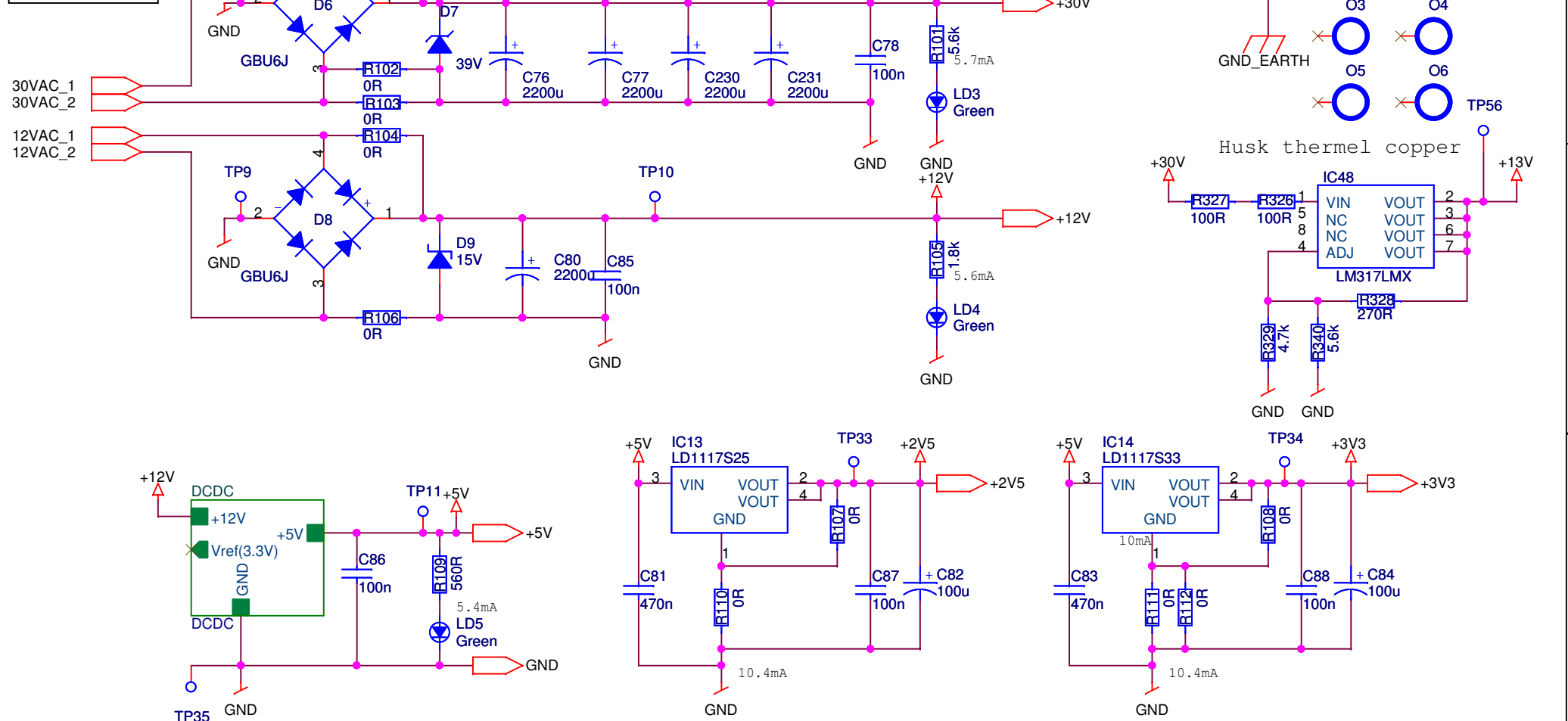


CX 10 LEA og SMD

|                                   |                                |                                     |                        |
|-----------------------------------|--------------------------------|-------------------------------------|------------------------|
| <b>Martin</b>                     | Project Title<br><b>MAC200</b> |                                     | Drawn By<br><b>JOH</b> |
|                                   | Size<br><b>A4</b>              | PCB Title<br><b>REAL TIME CLOCK</b> | Rev<br><b>C</b>        |
| Date:<br>Monday, October 20, 2003 |                                | Product Baan Number<br>01001527     |                        |
| Sheet <b>4</b> of <b>21</b>       |                                |                                     |                        |

MODULE I<sub>Q</sub>max:

- +5V: 5.7mA
- +12V: 5.6mA
- +30V: 5.7mA
- +2.5V: 10.4mA
- +3.3V: 10.4mA



Changes from prototype:

Not mounted:  
R107, R108, R112, R99, R100, R102, R103, R104, R106

Footprint changes:  
R105, R107, R108, R109, R110, R111, C81, C83

Value:  
R81, C83

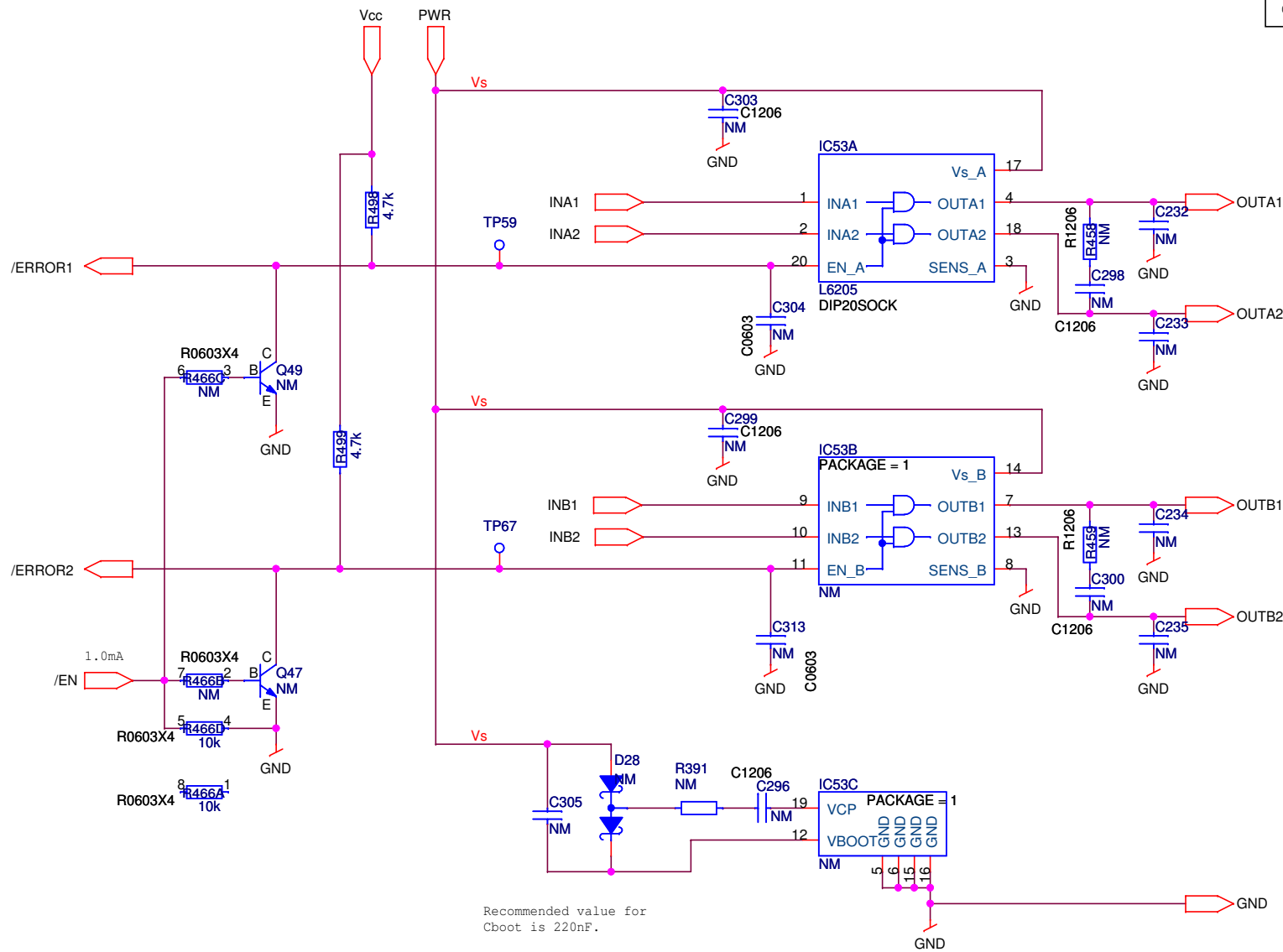
NET:  
VRP for flash boot blok write enable.

Deleted:  
IC15.

CX 10 LEA og SMD

|                             |            |                          |                     |            |  |
|-----------------------------|------------|--------------------------|---------------------|------------|--|
| <b>Martin</b>               |            | Project Title            |                     | Drawn By   |  |
|                             |            | <b>MAC200</b>            |                     | <b>JOH</b> |  |
| Size                        | PCB Title  | Date:                    | Product Baan Number |            |  |
| A                           | <b>PSU</b> | Monday, October 20, 2003 | 01001527            |            |  |
| Sheet <b>5</b> of <b>21</b> |            |                          |                     |            |  |

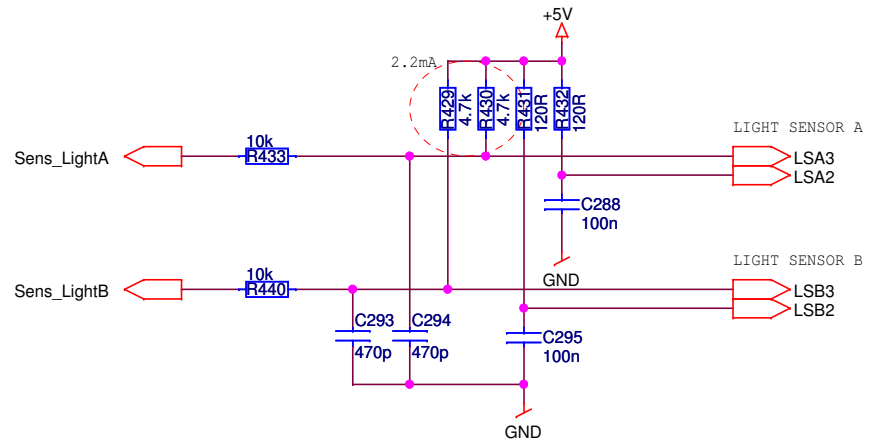
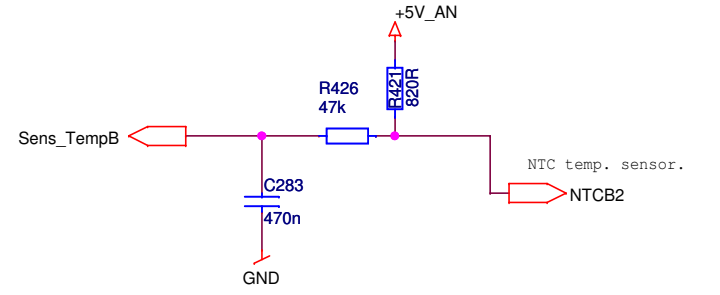
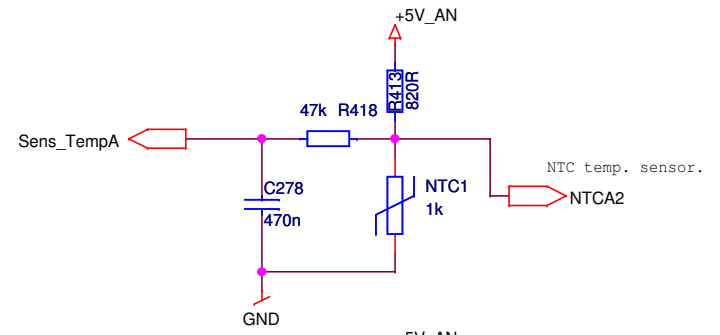
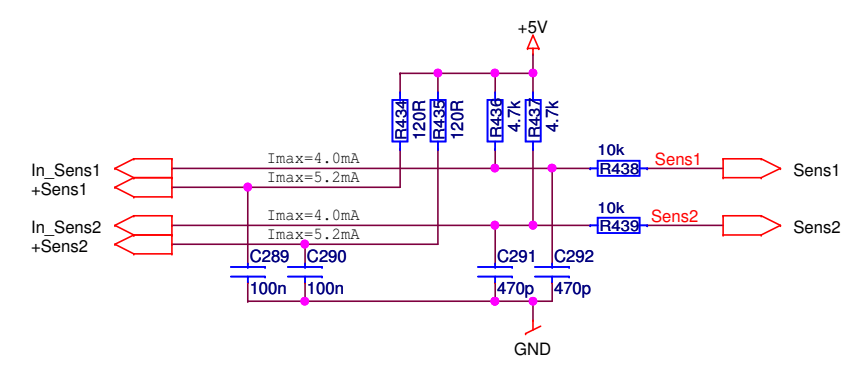
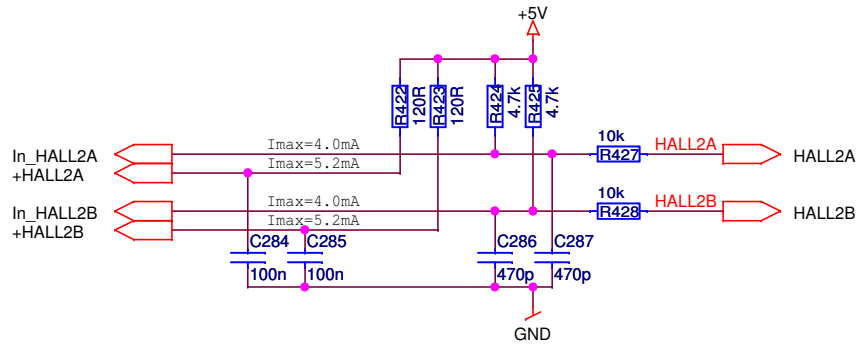
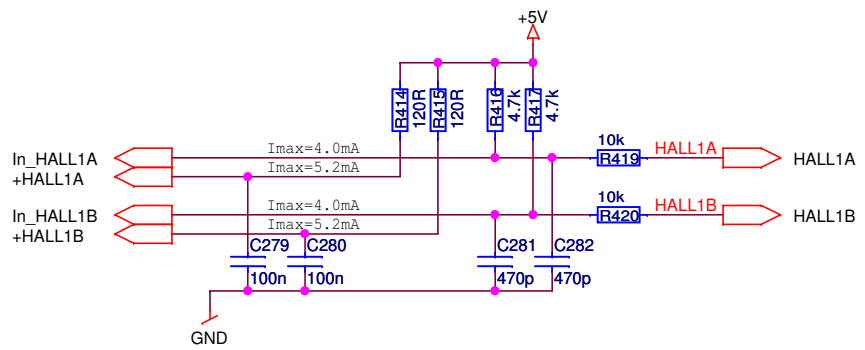
Snubber:  
 $R = V_s / I_{peak}$   
 $C = I_{peak} / 200 [V/us]$



Recommended value for  
 Cboot is 220nF.

<Variant Name>

|                             |                                   |                                  |                                 |
|-----------------------------|-----------------------------------|----------------------------------|---------------------------------|
|                             | Project Title<br><b>MAC200</b>    |                                  | Drawn By<br><b>JOH</b>          |
|                             | Size<br>A4                        | PCB Title<br><b>L6205_DRIVER</b> | Rev<br>C                        |
|                             | Date:<br>Monday, October 20, 2003 |                                  | Product Baan Number<br>01001527 |
| Sheet <b>6</b> of <b>21</b> |                                   |                                  |                                 |



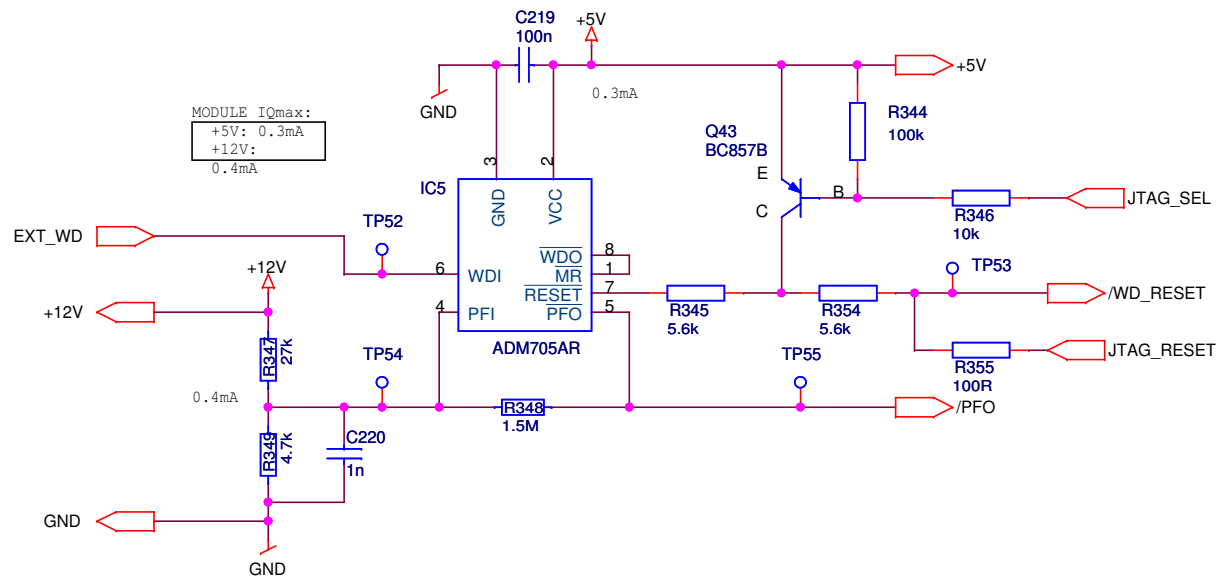
5V FAN with speed sensor compatibility (TURN 3 PIN CONNECTOR 180 DEGREES!).

PLACE CONNECTORS CLOSE TOGETHER.  
Hall sensor compatibility! (turn 6 pin connector 180 degrees).

5V FAN with speed sensor compatibility (TURN 3 PIN CONNECTOR 180 DEGREES!).

CX 10 LEA og SMD

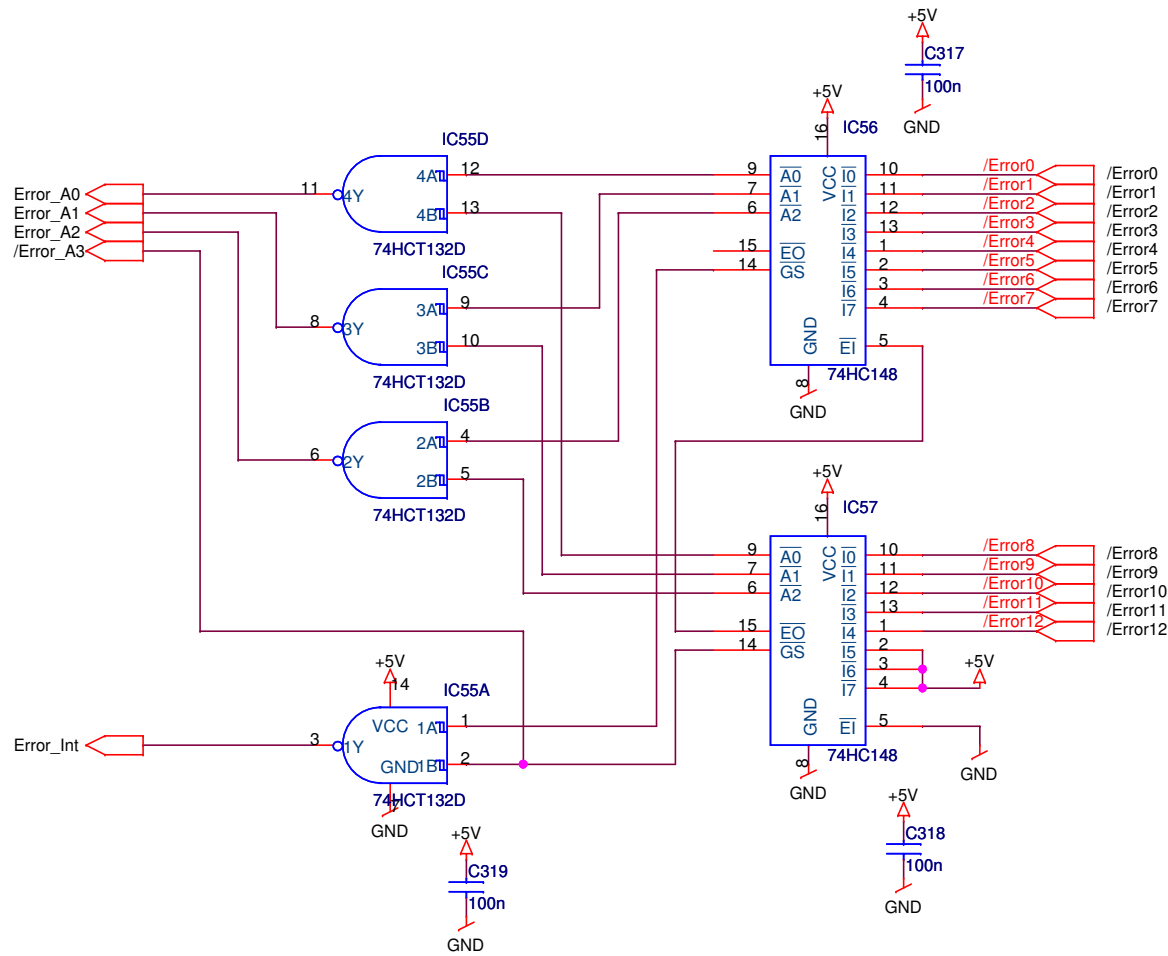
|                                   |                                |                                   |                        |
|-----------------------------------|--------------------------------|-----------------------------------|------------------------|
|                                   | Project Title<br><b>MAC200</b> |                                   | Drawn By<br><b>JOH</b> |
|                                   | Size<br>A4                     | PCB Title<br><b>SENSOR MODULE</b> |                        |
| Date:<br>Monday, October 20, 2003 |                                | Product Baan Number<br>01001527   |                        |
| Sheet <b>8</b> of <b>21</b>       |                                |                                   |                        |



CX 10 LEA og SMD

|                             |                                 |                                   |                                 |
|-----------------------------|---------------------------------|-----------------------------------|---------------------------------|
| <b>Martin</b>               | Project Title<br><b>MAC2000</b> |                                   | Drawn By<br><b>JOH</b>          |
|                             | Size<br><b>A4</b>               | PCB Title<br><b>WATCH_DOG</b>     | Rev<br><b>C</b>                 |
| Sheet <b>9</b> of <b>21</b> |                                 | Date:<br>Monday, October 20, 2003 | Product Baan Number<br>01001527 |

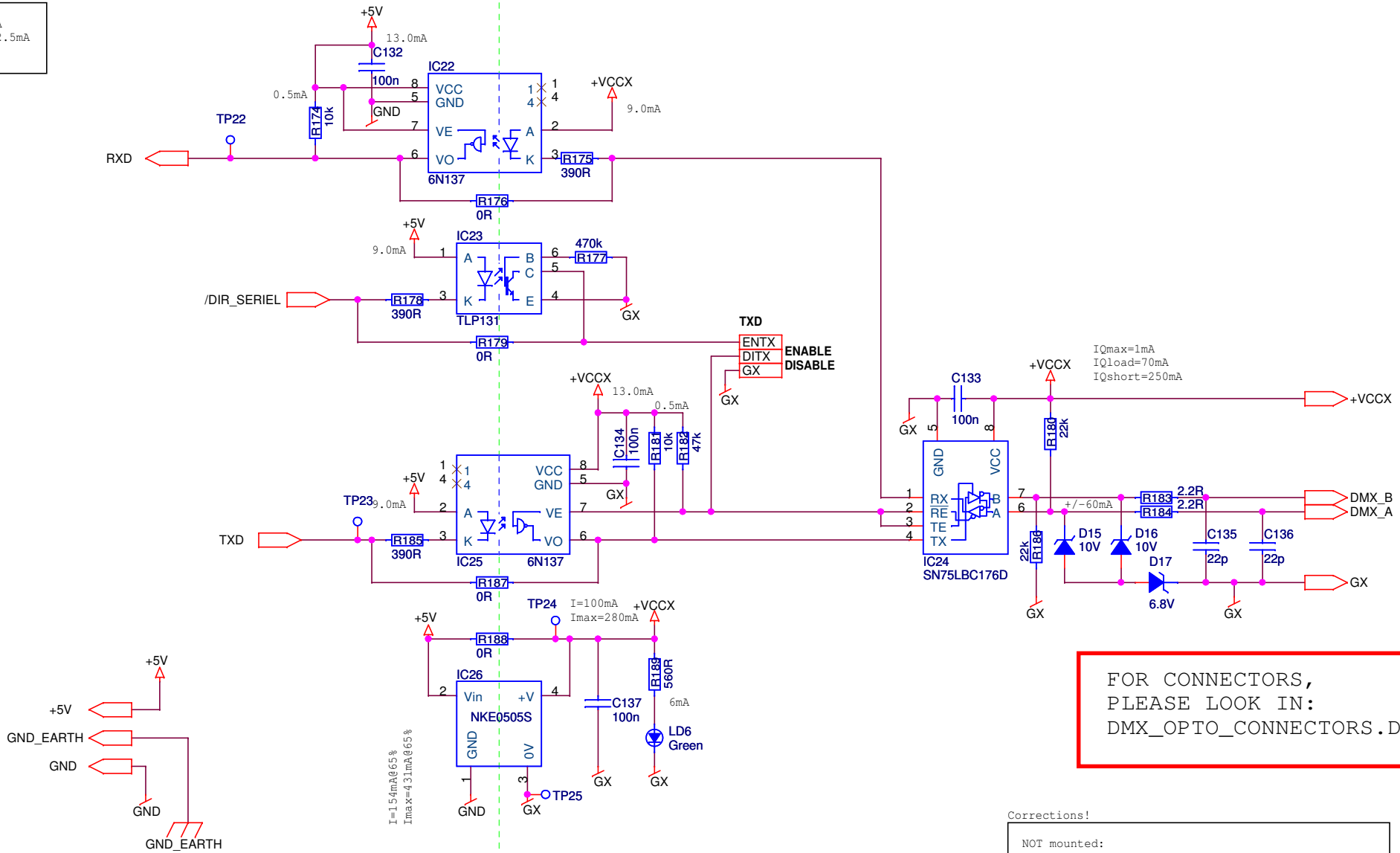




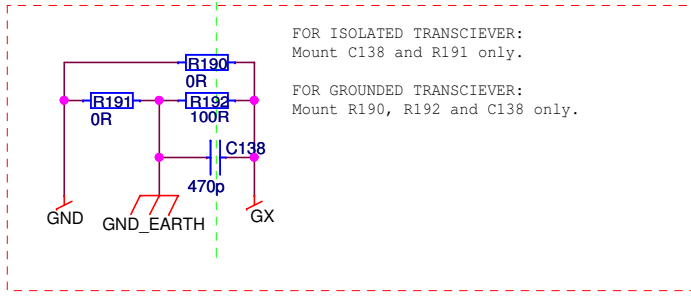
<Variant Name>

|                                   |                                |                                  |                        |
|-----------------------------------|--------------------------------|----------------------------------|------------------------|
| <b>Martin</b>                     | Project Title<br><b>MAC200</b> |                                  | Drawn By<br><b>JOH</b> |
|                                   | Size<br><b>A4</b>              | PCB Title<br><b>Driver_Error</b> | Rev<br><b>C</b>        |
| Date:<br>Monday, October 20, 2003 |                                | Product Baan Number<br>01001527  |                        |
| Sheet <b>10</b> of <b>21</b>      |                                |                                  |                        |

MODULE IQmax:  
 +5V: 185.5mA  
 +5V: max 462.5mA  
 VCCX: 100mA



FOR CONNECTORS,  
 PLEASE LOOK IN:  
 DMX\_OPTO\_CONNECTORS.DSN



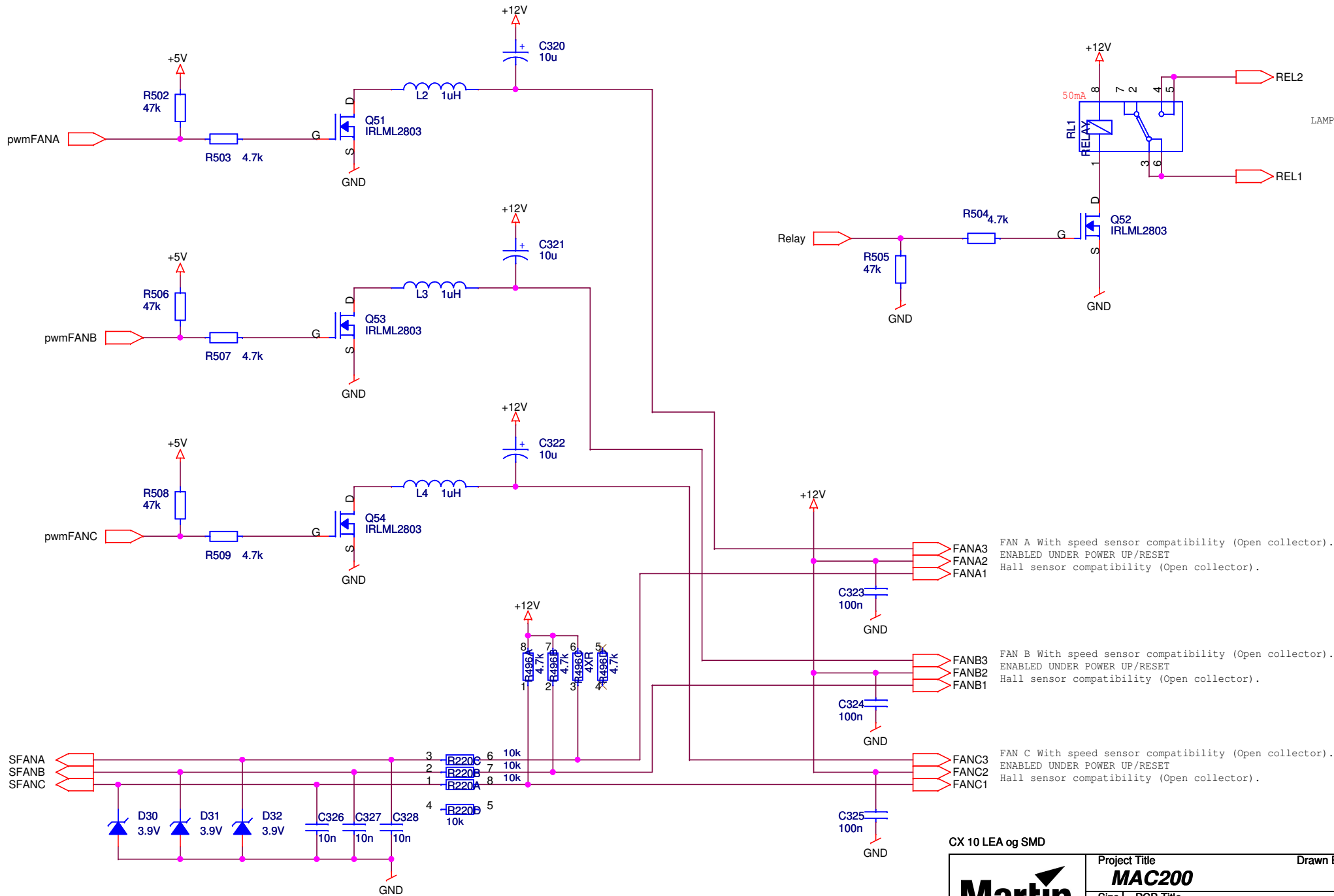
Corrections!

NOT mounted:  
 C132, R175, IC22, R177, IC23, R178, C134,  
 IC25, R185, IC188, C137, R191

Footprint changes:  
 R175, R178, R185, R189, C138, C135, C136.  
 Value:  
 C135, C136.

CX 10 LEA og SMD

|                                   |                                |                                 |                        |
|-----------------------------------|--------------------------------|---------------------------------|------------------------|
| <b>Martin</b>                     | Project Title<br><b>MAC200</b> |                                 | Drawn By<br><b>JOH</b> |
|                                   | Size<br><b>A4</b>              | PCB Title<br><b>DMX_OPTO</b>    |                        |
| Date:<br>Monday, October 20, 2003 |                                | Product Baan Number<br>01001527 |                        |
| Sheet <b>11</b> of <b>21</b>      |                                |                                 |                        |



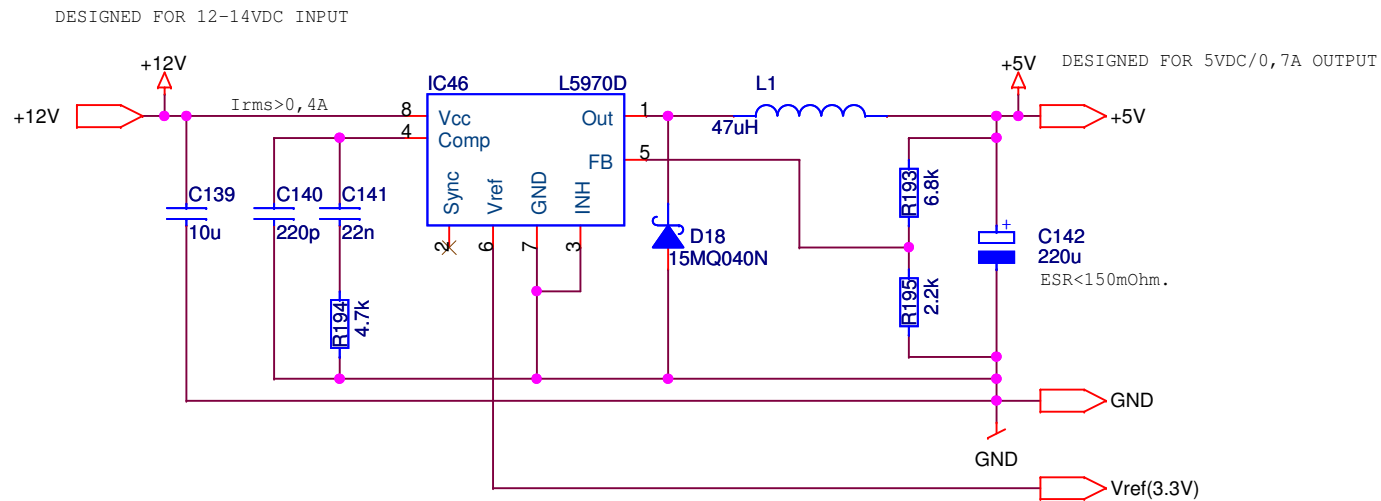
FAN A With speed sensor compatibility (Open collector).  
 ENABLED UNDER POWER UP/RESET  
 Hall sensor compatibility (Open collector).

FAN B With speed sensor compatibility (Open collector).  
 ENABLED UNDER POWER UP/RESET  
 Hall sensor compatibility (Open collector).


FAN C With speed sensor compatibility (Open collector).  
 ENABLED UNDER POWER UP/RESET  
 Hall sensor compatibility (Open collector).

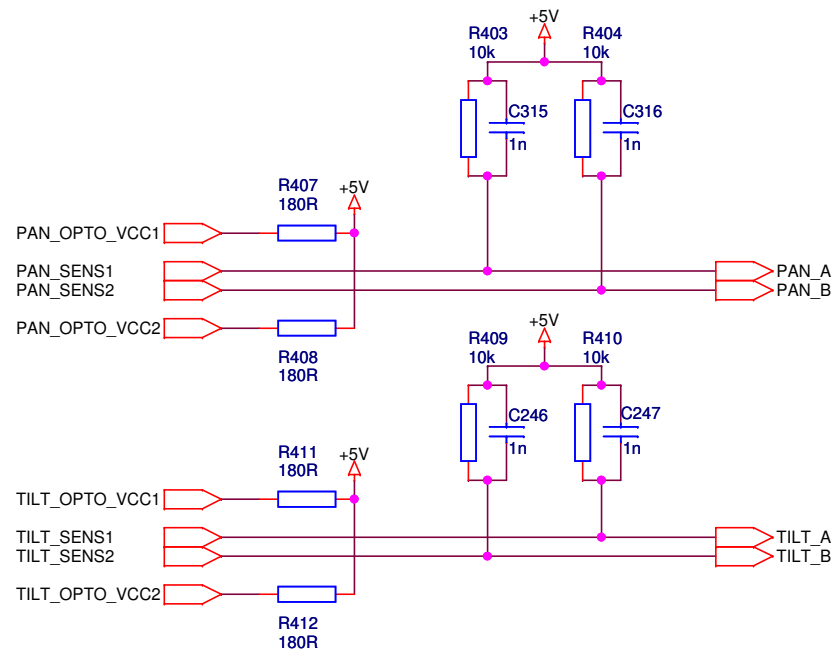
CX 10 LEA og SMD

|                                   |                                |                                 |                        |
|-----------------------------------|--------------------------------|---------------------------------|------------------------|
|                                   | Project Title<br><b>MAC200</b> |                                 | Drawn By<br><b>JOH</b> |
|                                   | Size<br>A4                     | PCB Title<br><b>AUX_LATCH</b>   |                        |
| Date:<br>Monday, October 20, 2003 |                                | Product Baan Number<br>01001527 |                        |
| Sheet <b>12</b> of <b>21</b>      |                                |                                 |                        |



<Variant Name>

|   |                        |                     |            |
|---|------------------------|---------------------|------------|
|  | Project Title          |                     | Drawn By   |
|   | <b>MAC200</b>          |                     | <b>JOH</b> |
| Size<br>A   | PCB Title              |                     | Rev        |
|   | <b>12V to 5V DC/DC</b> |                     | <b>C</b>   |
| Date:   |                        | Product Baan Number |            |
| <b>Monday, October 20, 2003</b>   |                        | <b>none</b>         |            |



<Variant Name>

|                              |                                   |                              |                                 |
|------------------------------|-----------------------------------|------------------------------|---------------------------------|
|                              | Project Title<br><b>MAC200</b>    |                              | Drawn By<br><b>JOH</b>          |
|                              | Size<br><b>A4</b>                 | PCB Title<br><b>Feedback</b> | Rev<br><b>C</b>                 |
|                              | Date:<br>Monday, October 20, 2003 |                              | Product Baan Number<br>01001527 |
| Sheet <b>14</b> of <b>21</b> |                                   |                              |                                 |