

# Fax

**To :** Neil Rollins,  
PM Electronics.

**From :** Simon Watmough.

**Fax :** 01274 720788.

**Pages :** 1.

**Phone :**

**Date :** 7-2-01.

**Re :** "Quick Ox" prototype.

**CC :**

☐ **Urgent**   ☐ **For Review**   ☐ **Please Comment**   ☐ **Please Reply**   ☐ **Please Recycle**

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## ● **Comments :**

Dear Neil,

I am in the process of carrying out a detailed evaluation of the prototype you have left with us.

I have the following few queries on the circuit :-

1. The spec of the oxygen sensor is  $10 \pm 3\text{mV}$ . The only indication to the user that a cell is out of tolerance is the display on the DPM. Therefore, we cannot allow any cell with a out of tolerance output to be able to be cal'd with RV1, deriving a valid display. I have calculated the values of RV1 : R4 to be a ratio of 10 : 11.66 or thereabouts. Have you any objections to changing the values of RV1/R4 to 10k & 12k respectively ?
2. Is R1 fitted purely to balance the inputs to IC1A ?
3. Gain of IC1A – currently set to 276 (measured at 337.5). The output of the cell will increase when in 100% O<sub>2</sub> by roughly a factor of 5. With the mod in (1) incorporated, the voltage on IC1A pin 3 will be 7mV in air and 35mV in 100% O<sub>2</sub>. Will the latter not saturate the amp ? We would ideally like a design which can have high/low alarms at any level (high alarm subject to fit).

I will be in touch with any further "problems" as the day goes on.

With regards,

Simon.

February 7, 2001