

# ► *Trio Motion Technology* ◀

## Technical Bulletin

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**Doc No.:** TN20-14  
**Version:** 1.0  
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**Subject:** Short Circuit between the 5V plane and case of the axis expansion unit.

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**Applicability:** MC2 AXIS EXPANSION UNITS, P300 **Version C** boards shipped prior to 6/6/1997. Probable serial numbers < **P300-00040**

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### Details:

The 5 Volt back plane on the axis expansion unit can be shorted to the case via the stand-off printed circuit board mount.

### Symptoms:

Irrational operation.  
Intermittent operation of controlled axis fitted in expansion unit.  
Failures of power supply.  
Problems when using Analogue Inputs

### Solution:

Remove expansion Unit P.C.B. and do the following:

The problem is with the mounting hole in the top left-hand corner of the P.C.B. near to the address selection switch. On the reverse side of the PCB the 5V plane continues around the mounting hole and the hole is plated-through thus shorting 5V to the case.

The recommended solution is to fit a thin mica insulation washer (as used to isolate TO220 packages), to provide an additional barrier between PCB and stand-off, and to replace the metal screw with a nylon screw to ensure there is no contact to the plated through hole.